# IBM

System i

# Programming
# i5/OS commands
# Starting with CHGDNSA (Change Domain Name System Server Attributes)

*Version 6 Release 1*

IBM

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> **Note**
>
> Before using this information and the product it supports, be sure to read the information in "Notices," on page 861.

This edition applies to version 6, release 1, modification 0 of IBM i5/OS (product number 5761-SS1) and to all subsequent releases and modifications until otherwise indicated in new editions. This version does not run on all reduced instruction set computer (RISC) models nor does it run on CICS models.

# Contents

# Change DNS Server Attributes (CHGDNSA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change DNS Server Attributes (CHGDNSA) command can be used to set or change the Domain Name System (DNS) server attributes.

If multiple DNS servers are configured on the same system, you can specify whether you want the attributes changed for all of the configured DNS server instances, or just for a particular DNS server instance.

The changes take effect the next time the DNS server is started.

**Restrictions:**

- You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| DNSSVR | Server instance | *Character value*, **\*ALL** | Optional, Key, Positional 1 |
| AUTOSTART | Autostart server | **\*SAME**, \*YES, \*NO | Optional |
| DBGLVL | Debug level | 0-11, **\*SAME**, \*DFT | Optional |

## Server instance (DNSSVR)

Specifies which DNS server should have its attributes changed.

**\*ALL**    All of the DNS server instances that are currently configured on the system will have their attributes values changed to those specified in the other parameters of this command.

*character-value*
    Specify the name of the DNS server instance which will have its attributes values changed to those specified in the other parameters of this command.

## Autostart server (AUTOSTART)

Specifies whether or not the DNS server starts automatically when TCP/IP is started when the Start TCP/IP (STRTCP) command is run or the Start TCP/IP Server (STRTCPSVR) command is run with SERVER(*AUTOSTART) specified.

If the STRTCPSVR command is run with SERVER(*DNS) or SERVER(*ALL) specified, the DNS server will be started regardless of the value specified for this attribute.

**\*SAME**
The autostart attribute is not changed from its previous setting. If you specify *SAME and this value was not previously set, the value *NO will be used.

**\*YES** The DNS server will start automatically each time TCP/IP is started by the STRTCP command, or each time the TCP/IP servers are started by the STRTCPSVR command with SERVER(*AUTOSTART).

**\*NO** The DNS server will not start automatically each time TCP/IP is started by the STRTCP command, or each time the TCP/IP servers are started by the STRTCPSVR command with SERVER(*AUTOSTART) specified.

When *NO is specified, only the STRTCPSVR command with SERVER(*DNS) or SERVER(*ALL) specified will start the DNS server.

If you do not intend to use the DNS server, set AUTOSTART to *NO.

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# Debug level (DBGLVL)

Specifies how much diagnostic (debug) information the DNS server gathers and writes to a log file. The debug information is used by IBM Service for DNS problem determination.

It is recommended that you normally run your DNS server with a DBGLVL value of 0. DBGLVL 0 means that the debug function is turned off and no debug information is logged.

If you have a DNS problem that you cannot solve and an IBM service representative determines that debug information is needed to help solve the problem, the IBM representative will assist you to set the DBGLVL value.

As the debug level value increases from 1 to 11, the amount of debug information written to the DBGLVL log also increases. High values also cause the DNS server to take a greater amount of time to initialize.

Debug information is written to an integrated file system stream file. The name and location of the file depends on how DNS is configured on the system. The file continues to grow as long as the DNS server continues to run, and can use large amounts of disk storage space. Therefore, care should be taken to set this value back to 0 as soon as there is no further need for debug information.

If the DBGLVL is changed for a DNS server that is already running, that DNS server will need to end and be started again for the new value to be used.

**\*SAME**
The value does not change, if it was previously set. Otherwise, a value of 0 (debug off) is used.

**\*DFT** Use a debug level of 0 (off).

*0-11* Specify a number within the range of 0-11 to specify how much diagnostic information you want the DNS server to log. The amount of debug information stored in the debug log increases as the DBGLVL value increases. 0 equals no debug information. 11 equals maximum debug information.

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## Examples

```
CHGDNSA   DNSSVR(*ALL)   AUTOSTART(*YES)
```

This command indicates that the next time the STRTCP command is issued to start up TCP/IP and to automatically start the TCP/IP applications, the DNS server will be automatically started.

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## Error messages

**\*ESCAPE Messages**

**DNS0013**
Error processing command parameters.

**DNS0016**
Server instance &1 could not be processed.

**DNS0017**
Configuration migration to BIND format &1 is required.

**DNS0019**
Installed server version cannot be determined.

**DNS0058**
\*IOSYSCFG authority required to use &1.

**TCP7124**
Program &1 in library &2 type \*PGM ended abnormally.

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# Change Document Description (CHGDOCD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Document Description (CHGDOCD) command allows you to change the information describing a document that was filed previously.

**Restrictions:**

- To change the document profile values, you must have at least change (*CHANGE) authority to the document, all object (*ALLOBJ) special authority, or be working on behalf of a user who is authorized to the document.
- To change the security values (for example, ACC, USRAUT, PERSONAL, AUTL), the checkout flag, and the allow replacement flag, you must be the owner of the document, have all (*ALL) authority to the object, or *ALLOBJ special authority, or be working on behalf of a user who is authorized to the document.
- Authority to work on behalf of others is granted with the Grant User Permission (GRTUSRPMN) command.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **DOC** | Document | *Character value*, *DOCID | Required, Positional 1 |
| **FLR** | Folder | *Character value*, **\*NONE** | Optional, Positional 3 |
| **USRID** | User identifier | Single values: **\*CURRENT**<br>Other values: *Element list* | Optional, Positional 2 |
| | Element 1: User ID | *Character value* | |
| | Element 2: Address | *Character value* | |
| **DOCID** | Document identifier | *Character value*, **\*NONE** | Optional |
| **SENSITIV** | Sensitivity | **\*SAME**, *NONE, *PERSONAL, *PRIVATE, *CONFIDENTIAL | Optional |
| **DOCD** | Document description | *Character value*, **\*SAME** | Optional |
| **DOCDATE** | Document date | *Date*, **\*SAME**, *RMV | Optional |
| **EXPDATE** | Expiration date | *Date*, **\*SAME**, *RMV | Optional |
| **ACTDATE** | Action due date | *Date*, **\*SAME**, *RMV | Optional |
| **CMPDATE** | Completion date | *Date*, **\*SAME**, *RMV | Optional |
| **REFERENCE** | Reference | *Character value*, **\*SAME**, *RMV | Optional |
| **STATUS** | Status | *Character value*, **\*SAME**, *RMV | Optional |
| **PROJECT** | Project | *Character value*, **\*SAME**, *RMV | Optional |
| **ACC** | Access code | Single values: **\*SAME**, *RMVALL<br>Other values (up to 50 repetitions): *Element list* | Optional |
| | Element 1: Access code | 1-2047 | |
| | Element 2: Add or remove access code | *ADD, *RMV | |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| AUTL | Authorization list | *Name*, **\*SAME**, *RMV | Optional |
| USRAUT | User authority | Single values: **\*SAME**, *RMVALL<br>Other values (up to 50 repetitions): *Element list* | Optional |
| | Element 1: User profile | *Name*, *PUBLIC | |
| | Element 2: Authority level | *USE, *CHANGE, *ALL, *EXCLUDE, *AUTL, *RMV | |
| MARK | Mark for offline | Single values: **\*SAME**, *NO<br>Other values: *Element list* | Optional |
| | Element 1: Mark for offline | *YES | |
| | Element 2: Offline type | **\*KEEP**, *RMVTXT, *RMVALL | |
| ALWRPL | Allow replacement | **\*SAME**, *NO | Optional |
| CHKOUT | Check out | **\*SAME**, *NO | Optional |
| AUTHOR | Author | Single values: **\*SAME**, *RMVALL<br>Other values (up to 50 repetitions): *Element list* | Optional |
| | Element 1: Author | *Character value* | |
| | Element 2: New author | *Character value*, *ADD, *RMV | |
| DOCCLS | Document class | *Character value*, **\*SAME**, *RMV | Optional |
| KWD | Keyword | Single values: **\*SAME**, *RMVALL<br>Other values (up to 50 repetitions): *Element list* | Optional |
| | Element 1: Keyword | *Character value* | |
| | Element 2: New keyword | *Character value*, *ADD, *RMV | |
| SUBJECT | Subject | Single values: **\*SAME**, *RMVALL<br>Other values (up to 50 repetitions): *Element list* | Optional |
| | Element 1: Subject | *Character value* | |
| | Element 2: New subject | *Character value*, *ADD, *RMV | |
| FILCAB | File cabinet location | *Character value*, **\*SAME**, *RMV | Optional |
| CPYLST | Copy list | Single values: **\*SAME**, *RMVALL<br>Other values (up to 50 repetitions): *Element list* | Optional |
| | Element 1: Copy list | *Character value* | |
| | Element 2: New copy list | *Character value*, *ADD, *RMV | |
| CMDCHRID | Command character identifier | Single values: **\*SYSVAL**, *DEVD<br>Other values: *Element list* | Optional |
| | Element 1: Graphic character set | *Integer* | |
| | Element 2: Code page | *Integer* | |
| DOCCHRID | Document character identifier | Single values: **\*SAME**, *SYSVAL, *DEVD<br>Other values: *Element list* | Optional |
| | Element 1: Graphic character set | *Integer* | |
| | Element 2: Code page | *Integer* | |
| DOCLANGID | Language ID | *Character value*, **\*SAME**, *JOB | Optional |
| DOCCNTRYID | Country or region ID | *Character value*, **\*SAME**, *JOB | Optional |
| PERSONAL | Personal | **\*SAME**, *NO, *YES | Optional |

# Document (DOC)

Specifies the name of the document for which descriptive information is to be changed on the local system.

This is a required parameter.

**\*DOCID**

> The document being changed is identified by the library-assigned document name specified on the **Document identifier (DOCID)** parameter.

*name*    Specify the user-assigned name of the document being changed. A maximum of 12 characters can be specified.

# Folder (FLR)

Specifies the name of the folder that contains the document to be changed. This parameter must be specified if a user-assigned document name is specified on the **Document (DOC)** parameter.

**\*NONE**

> No folder is specified when the document is identified on the **Document identifier (DOCID)** parameter.

*name*    Specify the user-assigned name of the folder that contains the document to be changed. The folder name can consist of a series of folder names (FLR1/FLR2/etc.) if the document is located in a folder that is contained in another folder. A maximum of 63 characters can be specified. This value is required when DOC(name) is specified.

# User identifier (USRID)

Specifies which user ID and user ID address should be associated with the request.

**Single values**

**\*CURRENT**

> You are performing the request for yourself.

**Element 1: User ID**

*character*

> Specify another user's user ID or your user ID. You must have been given permission to work on behalf of another user or have all object (\*ALLOBJ) special authority.

**Element 2: Address**

*character*

> Specify another user's address or your address. You must have been given permission to work on behalf of another user or have \*ALLOBJ authority.

# Document identifier (DOCID)

Specifies the library-assigned name of the document. This is the name assigned to the document by the system when it was created. Documents filed outside the local system have only library-assigned document names. The library-assigned document names can be determined by using the Query Document Library (QRYDOCLIB) command or by the message returned from the File Document (FILDOC) command.

Library-assigned document names are 24 characters in length with the following format:

YYYYMMDDHHMNSSHSSNSNSNSN

where:

```
     YYYY = year
       MM = month
       DD = day
       HH = hour
       MN = minute
       SS = second
       HS = hundredths of a second
 SNSNSNSN = system name
```

**\*NONE**
> No library-assigned document name is required when the document is identified on the **Document (DOC)** parameter.

*name*   Specify the library-assigned document name of the document to be changed.

---

# Sensitivity (SENSITIV)

Specifies the level of sensitivity defined by the X.400 standard. The four levels include no sensitivity, personal, private and company confidential. Any document marked as private is still available to users who are normally authorized to it, but is unavailable to users who are working on your behalf (even though it may be available to them when they are not working on your behalf).

**\*SAME**
> The value does not change.

**\*NONE**
> The document has no sensitivity restrictions.

**\*PERSONAL**
> The distribution is intended for the user as an individual.

**\*PRIVATE**
> The document contains information that should be accessed only by the owner.

**\*CONFIDENTIAL**
> The document contains information that should be handled according to company procedures.

## Document description (DOCD)

Specifies the description for the document being changed. This is the Document Interchange Architecture Profile document name field.

**\*SAME**
> The document description does not change.

*description*
> Specify the new description of the document. A maximum of 44 characters can be specified.

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## Document date (DOCDATE)

Specifies any date the user wants to assign to the document.

**\*SAME**
> The document date does not change.

**\*RMV**  The document date is removed from the filed document.

*date*  Specify the document date to be added or replaced. The date must be specified in the job date format.

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## Expiration date (EXPDATE)

Specifies the date when the document is no longer needed.

**\*SAME**
> The expiration date does not change.

**\*RMV**  The expiration date is removed from the filed document.

*date*  Specify the expiration date of the document to be replaced or added. The date must be specified in the job date format.

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## Action due date (ACTDATE)

Specifies the date when the action requested is due.

**\*SAME**
> The action due date does not change.

**\*RMV**  The action due date is removed from the filed document.

*date*  Specify the action due date to be replaced or added. The date must be specified in the job's date format.

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## Completion date (CMPDATE)

Specifies the date when the action requested is completed.

**\*SAME**

> The completion date does not change.

**\*RMV** The completion date is removed from the filed document.

*date* Specify the completion date to be replaced or added. The date must be specified in the job date format.

## Reference (REFERENCE)

Specifies a reference associated with the document.

**\*SAME**

> The reference field does not change.

**\*RMV** The document reference is removed from the filed document.

*reference*

> Specify the document reference to be replaced or added. A maximum of 60 characters can be used.

## Status (STATUS)

Specifies the user-defined status of the document. Examples of status are: In Process, Pending Approval, or Retired.

**\*SAME**

> The document status does not change.

**\*RMV** The document status is removed from the information for the filed document.

*status* Specify the status of the document being replaced or added. A maximum of 20 characters can be specified.

## Project (PROJECT)

Specifies the name of the project with which the document is associated.

**\*SAME**

> The project name does not change.

**\*RMV** The document project name is removed from the information for the filed document.

*name* Specify the document project name to substitute or add. A maximum of 10 characters can be specified.

## Access code (ACC)

Specifies that access codes are to be added or deleted. Access codes must be added on the system with the Add Access Code (ADDACC) command.

**Single values**

**\*SAME**
      The access codes do not change.

**\*RMVALL**
      All access codes are removed from the filed document.

**Element 1: Access code**

*1-2047*  Specify the access codes that are to be added or deleted.

**Element 2: Add or remove access code**

**\*ADD**  The access code specified is added to the access codes for the filed document being changed.

**\*RMV**  The access code specified is removed from the access codes for the filed document being changed.

## Authorization list (AUTL)

Specifies that the authority for the document named on the **Document (DOC)** parameter or **Document identifier (DOCID)** parameter comes from the authorization list.

**\*SAME**
      The authorization list does not change.

**\*RMV**  The current authorization list is removed from the filed document.

*name*  Specify the name of the authorization list whose authority replaces the current authorization list or adds an authorization list if one does not currently exist.

## User authority (USRAUT)

Specifies the user ID and address of the users that can access the document and the authority each user has. This parameter is used to change the authorizations for this document by removing a user's authority for the document or changing the user's authority.

**Single values**

**\*SAME**
      The list of users who have access to the document does not change.

**\*RMVALL**
      All users are removed from the authorization list for the filed document.

**Element 1: User profile**

**\*PUBLIC**
      The authority given to users or user groups who do not have specific authority to the document, or who are not on the authorization list is changed.

*name*   Specify the user profile name of a user deleted from the specific user access list or whose authority is to be changed.

**Element 2: Authority level**

**\*ALL**   The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*CHANGE**
The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*USE**   The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**
The user cannot access the object.

**\*AUTL**
The authority of the authorization list specified in the AUTL parameter **Authorization list (AUTL)** parameter is used for the document. \*AUTL is valid only if \*PUBLIC is also specified.

**\*RMV**   The user's specific authorization for the filed document is removed.

## Mark for offline (MARK)

Specifies whether the document should be saved offline. Mark is a function of the Save Document Library Object (SAVDLO) command where documents that have been marked for offline (MARK(\*YES) specified) are saved on disk, diskette, or tape.

**Single values**

**\*SAME**
The mark for offline value does not change.

**\*NO**   The mark for offline is turned off and the document is not saved offline by the SAVDLO command.

**Element 1: Mark for offline**

**\*YES**   The mark for offline is turned on and the document is saved offline by the SAVDLO command.

**Element 2: Offline type**

The possible values that can be specified with **\*YES** are:

**\*KEEP**
When the document is saved to disk, diskette, or tape, the document is also kept for online use.

**\*RMVTXT**
When the document is saved to disk, diskette, or tape, the document content is deleted but the document profile is kept online for document library searches.

**\*RMVALL**
> When the document is saved to disk, diskette, or tape, the document is deleted. No trace of the document is left online for the document library searches.

## Allow replacement (ALWRPL)

Specifies whether to allow replacement of the document content. Once a document is changed so that it cannot be replaced, it cannot be changed back to a document that can be replaced. You must have all (\*ALL) authority to the document to request this change.

**\*SAME**
> The document content replacement value does not change.

**\*NO**    The document content cannot be changed after this request is complete.

## Check out (CHKOUT)

Specifies the setting for the checkout value. This value can be set only for documents that can be replaced. With this parameter, you can reset the checkout status of a document already checked out by a Retrieve Document (RTVDOC) request. A document cannot be checked out for update with this parameter. This parameter is ignored for a document that cannot be replaced. Only the document owner or users with all (\*ALL) authority to the object can request the checkout value be set off.

**\*SAME**
> The checkout flag does not change.

**\*NO**    The checkout flag is set to off.

## Author (AUTHOR)

Specifies the author of the document.

If you want to specify a value in mixed case, the value must be enclosed in apostrophes.

**Single values**

**\*SAME**
> The author of the document does not change.

**\*RMVALL**
> All author names are removed.

**Element 1: Author**

*character*
> Specify the name of the current author that is to be removed or replaced, or the author that is to be added.

**Element 2: New author**

*character*
> Specify the new author name to replace the current author name.

**\*ADD**  The user is added as author for the filed document.

**\*RMV**  The user is removed as author for the filed document.

## Document class (DOCCLS)

Specifies the class associated with this document.

**\*SAME**
> The document class does not change.

**\*RMV**  The document class for the filed document is removed.

*class*  Specify the document class to replace the existing document class or the document class to be added. A maximum of 16 characters can be specified.

## Keyword (KWD)

Specifies the keywords that can be used to describe the document.

If you want to specify a value in mixed case, the value must be enclosed in apostrophes.

**Single values**

**\*SAME**
> The keywords do not change.

**\*RMVALL**
> All keywords are removed for the filed document.

**Element 1: Keyword**

*character*
> Specify a current keyword to be removed or replaced, or a keyword to be added.

**Element 2: New keyword**

*character*
> Specify a new keyword to replace the current keyword. A maximum of 60 characters can be specified, enclosed in apostrophes.

**\*ADD**  The keyword for the filed document is added.

**\*RMV**  The keyword for the filed document is removed.

## Subject (SUBJECT)

Specifies the subject of the document.

If you want to specify a value in mixed case, the value must be enclosed in apostrophes.

**Single values**

**\*SAME**
>   The subject does not change.

**\*RMVALL**
>   All subjects are removed for the filed document.

**Element 1: Subject**

*character*
>   Specify a current subject to be removed or replaced, or a subject to be added.

**Element 2: New subject**

*character*
>   Specify a new subject to replace the current subject.

**\*ADD**  The subject for the filed document is added.

**\*RMV**  The subject for the filed document is removed.

## File cabinet location (FILCAB)

Specifies the location where the document is stored. This parameter is intended for printed documents. All that changes is the interchange document profile (IDP) that refers to the printed document.

**\*SAME**
>   The file cabinet reference does not change.

**\*RMV**  The file cabinet reference for the filed document is removed.

*filing-cabinet-reference*
>   Specify the file cabinet reference to be added or replaced. A maximum of 60 characters can be specified.

## Copy list (CPYLST)

Specifies names or addresses of users who receive this document.

If you want to specify a value in mixed case, the value must be enclosed in apostrophes.

**Single values**

**\*SAME**
>   The copy list does not change.

**\*RMVALL**
>   All copy list entries are removed from the filed document.

**Element 1: Copy list**

*character*
>   Specify a current copy list entry that is to be removed or replaced, or a new copy list entry to be added.

**Element 2: New copy list**

*character*
>    Specify the new copy list entry to replace the current copy list entry.

**\*ADD**   The copy list entry is added for the filed document.

**\*RMV**   The copy list entry is removed for the filed document.

## Command character identifier (CMDCHRID)

Specifies the character identifier (graphic character set and code page) for the data being entered as command parameter values. The character identifier is related to the display device used to enter the command.

**Single values**

**\*SYSVAL**
>    The system determines the graphic character set and code page values for the command parameters from the QCHRID system value.

**\*DEVD**
>    The system determines the graphic character set and code page values from the display device description where this command was entered. This option is valid only when entered from an interactive job. If this option is specified in a batch job, an error occurs.

**Element 1: Graphic character set**

*1-32767*
>    Specify the graphic character set to use.

**Element 2: Code page**

*1-32767*
>    Specify the code page to use.

## Document character identifier (DOCCHRID)

Specifies the character identifier (graphic character set and code page) for the document data being used. The character identifier is related to the display device used to create the document data.

**\*SAME**
>    The character identifier does not change.

**\*SYSVAL**
>    The system determines the graphic character set and code page values for the command parameters from the QCHRID system value.

**\*DEVD**
>    The system determines the graphic character set and code page values from the display device description where this command was entered. This option is valid only when entered from an interactive job. If this option is specified in a batch job, an error occurs.

**Element 1: Graphic character set**

*1-32767*
>    Specify the graphic character set to use.

**Element 2: Code page**

*1-32767*
> Specify the code page to use.

## Language ID (DOCLANGID)

Specifies the language identifier to be placed in this document's interchange document profile (IDP).

This parameter can be used to add a language identifier to the document's IDP if the identifier has not been specified previously, or to change the value of an existing language identifier.

**Note:** If you specify a value on this parameter and no value has previously been specified on the **Country or region ID (DOCCNTRYID)** parameter, you must also specify a country or region identifier.

**\*SAME**
> The language identifier does not change.

**\*JOB** The language identifier specified for the job in which this command is entered is used.

*language-identifier*
> Specify a language identifier. Press the PF4 key from the **Language ID (DOCLANGID)** parameter to see a list of valid identifiers.

## Country or region ID (DOCCNTRYID)

Specifies the country or region identifier to be placed in this document's interchange document profile (IDP).

This parameter can be used to add a country or region identifier to the document's IDP if an identifier has not been specified previously, or to change the value of an existing country or region identifier.

**Note:** If you specify a value on this parameter and no value has previously been specified on the **Language ID (DOCLANGID)** parameter, you must also specify a language identifier.

**\*SAME**
> The country or region identifier does not change.

**\*JOB** The country or region identifier specified for the job in which this command is entered is used.

*country-or-region-ID*
> Specify a country or region identifier. Press the PF4 key from the **Country or region ID (DOCCNTRYID)** parameter to see a list of valid identifiers.

## Personal (PERSONAL)

Specifies whether the document being changed is a personal document. If it is, only the owner or an authorized user can access it. Any document marked as private is still available to users who are normally authorized to it, but is unavailable to users who are working on your behalf (even though it may be available to them when they are not working on your behalf). This parameter is replaced by SENSITIV but the PERSONAL parameter can still be used. However, because this parameter may be removed in a later release, whenever possible use the SENSITIV parameter.

**\*SAME**
> The value does not change.

**\*NO**  The document is not a personal document. This value will map to SENSITIV(\*NONE).

**\*YES**  The document is a personal document. This value will map to SENSITIV(\*PRIVATE).

## Examples

```
CHGDOCD  DOC(DOC1)  FLR(FLR1)  SENSITIV(*PRIVATE)
         AUTL(USERAUTL)  ALWRPL(*NO)  AUTHOR('AUTHOR1' *RMV)
```

This command changes document DOC1, which is located in folder FLR1, to a private document. This document is no longer a document that can be replaced. AUTHOR1 is removed from the list of authors. If an authorization list already exists, it is replaced with authorization list USERAUTL. If an authorization list does not exist, USERAUTL is added as the authorization list for the document. The remaining information associated with the document does not change.

## Error messages

**\*ESCAPE Messages**

**CPF900B**
> User ID and address &1 &2 not in System Distribution Directory.

**CPF900C**
> Sign on and verify of user failed.

**CPF902B**
> Authority of \*AUTL is allowed only with USRAUT(\*PUBLIC).

**CPF905C**
> Error occurred trying to find a translation table.

**CPF905E**
> Cannot specify \*RMV when USRAUT(\*PUBLIC) is specified.

**CPF9096**
> Cannot use CMDCHRID(\*DEVD), DOCCHRID(\*DEVD) in batch job.

**CPF9099**
> Document description not changed.

# Change Display File (CHGDSPF)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Display File (CHGDSPF) command changes the attributes of the specified display device file.

Only the information specified in this command can be changed. If the data description specifications (DDS) used to create the file are changed, the display device file must be created again for the changes to be made in the file.

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## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **FILE** | File | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: File | *Generic name, name*, *ALL | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB, *ALL, *ALLUSR, *USRLIBL | |
| **DEV** | Display device | Single values: **\*SAME**, *NONE<br>Other values (up to 50 repetitions): *Name*, *REQUESTER | Optional, Positional 2 |
| **MAXDEV** | Maximum devices | 1-256, **\*SAME** | Optional |
| **LVLCHK** | Record format level check | **\*SAME**, *YES, *NO | Optional |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |
| **ENHDSP** | Enhanced display | **\*SAME**, *YES, *NO | Optional |
| **RSTDSP** | Restore display | **\*SAME**, *NO, *YES | Optional |
| **DFRWRT** | Defer write | **\*SAME**, *YES, *NO | Optional |
| **CHRID** | Character identifier | Single values: **\*SAME**, *DEVD, *SYSVAL, *JOBCCSID, *CHRIDCTL<br>Other values: *Element list* | Optional |
| | Element 1: Graphic character set | *Integer* | |
| | Element 2: Code page | *Integer* | |
| **DECFMT** | Decimal format | **\*SAME**, *FILE, *JOB | Optional |
| **SFLENDTXT** | SFLEND text | **\*SAME**, *FILE, *MSG | Optional |
| **IGCDTA** | User specified DBCS data | **\*SAME**, *NO, *YES | Optional |
| **IGCEXNCHR** | DBCS extension characters | **\*SAME**, *YES, *NO | Optional |
| **WAITFILE** | Maximum file wait time | *Integer*, **\*SAME**, *CLS, *IMMED | Optional |
| **WAITRCD** | Maximum record wait time | *Integer*, **\*SAME**, *IMMED, *NOMAX | Optional |
| **DTAQ** | Data queue | Single values: **\*SAME**, *NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Data queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **SHARE** | Share open data path | **\*SAME**, *NO, *YES | Optional |

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# File (FILE)

Specifies the display device file to be changed.

This is a required parameter.

**Qualifier 1: File**

**\*ALL**   All of the display device files are changed in the specified libraries.

*generic-name*
> Specify the generic name of the display files to be changed. A generic name is a character string that contains one or more characters followed by an asterisk (\*).

*name*   Specify the name of the display file to be changed.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

**\*USRLIBL**
> If a current library entry exists in the library list for the current thread, the current library and the libraries in the user portion of the library list are searched. If there is no current library entry, only the libraries in the user portion of the library list are searched.

**\*ALLUSR**
> All user libraries are searched. All libraries with names that do not begin with the letter Q are searched except for the following:

    #CGULIB     #DSULIB     #SEULIB
    #COBLIB     #RPGLIB
    #DFULIB     #SDALIB

> Although the following Qxxx libraries are provided by IBM, they typically contain user data that changes frequently. Therefore, these libraries are considered user libraries and are also searched:

    QDSNX       QRCLxxxxx   QUSRDIRDB   QUSRVI
    QGPL        QSRVAGT     QUSRIJS     QUSRVxRxMx
    QGPL38      QSYS2       QUSRINFSKR
    QMGTC       QSYS2xxxxx  QUSRNOTES
    QMGTC2      QS36F       QUSROND
    QMPGDATA    QUSER38     QUSRPOSGS
    QMQMDATA    QUSRADSM    QUSRPOSSA
    QMQMPROC    QUSRBRM     QUSRPYMSVR
    QPFRDATA    QUSRDIRCF   QUSRRDARS
    QRCL        QUSRDIRCL   QUSRSYS

> 1. 'xxxxx' is the number of a primary auxiliary storage pool (ASP).
> 2. A different library name, in the format QUSRVxRxMx, can be created by the user for each previous release supported by IBM to contain any user commands to be compiled in a CL program for the previous release. For the QUSRVxRxMx user library, VxRxMx is the version, release, and modification level of a previous release that IBM continues to support.

**\*ALL**   All libraries in the system, including QSYS, are searched.

*name*   Specify the name of the library to be searched.

## Display device (DEV)

Specifies the names of one or more display devices that are used with this display device file to pass data records between the users of the display devices and their jobs. The device name specified in the display device file supplied by IBM is *REQUESTER.

**Single values**

**\*SAME**
    The display device names do not change.

**\*NONE**
    No display device name is specified. The name of the display device must be specified later in a Change Display File (CHGDSPF) command or Override with Display File (OVRDSPF) command, or in the high-level language program that opens the file.

**Other values (up to 50 repetitions)**

**\*REQUESTER**
    The display device from which the program is called is the device assigned to the file when the file is opened.

*name*    Specify the names of one or more display devices. *REQUESTER can be specified as one of the names. A maximum of 50 device names (including *REQUESTER) can be specified, but the total number cannot exceed the number specified for the **Maximum devices (MAXDEV)** parameter when the file is opened.

## Maximum devices (MAXDEV)

Specifies the maximum number of display devices that can be connected to the display device file at the same time while the file is open. However, if a CL program is written to get access to more than one work station through the same file (through a single running of the program), this parameter must specify a value greater than 1.

The names of the devices are specified in the DEV parameter of this command, in a later CHGDSPF or OVRDSPF command, or in the HLL program that opens the file.

**\*SAME**
    The maximum number of display devices that can be connected to the display device file does not change.

*1-256*    Specify the maximum number of display devices that can be connected to this display device file at the same time.

## Record format level check (LVLCHK)

Specifies whether the level identifiers of the record formats in this device file are checked when the file is opened by a program. If so, the record format identifiers in the program must match those in the device file. Because the same record format name can exist in more than one file, each record format is given an internal system identifier when it is created.

**\*SAME**

> The value does not change.

**\*YES** The level identifiers are checked when the file is opened. If the level identifiers do not all match, an error message is sent to the program that requested opening of the file.

**\*NO** The level identifiers are not checked when the file is opened.

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**

> The text (if any) does not change.

**\*BLANK**

> No text is specified.

*character-value*

> Specify no more than 50 characters of text, enclosed in apostrophes.

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## Enhanced display (ENHDSP)

Specifies whether the data being shown at a display station by this display file is using the enhanced capabilities available on the display station.

**\*SAME**

> This value does not change.

**\*YES** The data for the display file is shown using any enhanced capabilities available on the display station. These capabilities can include mnemonics, selection cursor, and graphical window borders.

**\*NO** The data for this display file is shown as it would be on a 5250 display station. No enhanced capabilities that are available on the display, such as mnemonics, selection cursor, or graphical window borders, are used. This value is normally used to preserve character-based interaction across all display stations.

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## Restore display (RSTDSP)

Specifies whether data being shown at a display device by this display file is saved at the time the file is suspended (made temporarily inactive) so that a different display file can be used to show different data on the same device. If the data for this file is saved, it is restored to the display of the device when the file is used again.

**\*SAME**

> The value does not change.

**\*NO** The data being shown by this file is not saved when the file is suspended.

**\*YES** The data being shown when the file is suspended is saved so it can be restored to the display of the device when the file is used again.

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# Defer write (DFRWRT)

Specifies that the writing of data is delayed until it can be shown with other data when a read request is made. Control is returned to the program immediately after the data is received. This may result in improved performance.

**\*SAME**
The value specified in the device file does not change.

**\*NO**    After a write operation, the user program does not regain control until the input/output operation is completed.

**\*YES**    When the program issues a write request, control is returned to that program after the buffer is processed. The data may not be shown immediately; the actual display of the data may take place later when a read or combined write/read operation is performed. The buffer is then available to be prepared for the next read or combined write/read operation.

# Character identifier (CHRID)

Specifies the type of character conversions that may occur for the display file. When necessary, the system converts character data sent to and received from the device. This ensures that the correct hexadecimal byte values of characters are sent to the device and are returned to the application program.

**Single values**

**\*SAME**
The value does not change.

**\*DEVD**
Specifies the CHRID of the device is used to represent the CCSID of the field data for every named field with the CHRID DDS keyword. No conversion will ever occur since the CCSID of the field data will always be the same as the CHRID of the device.

**\*SYSVAL**
Specifies the QCHRID system value is used to represent the CCSID of the field data for every named field with the CHRID DDS keyword. Conversion will only occur for these specific fields when CCSID of the field data is different than the CHRID of the device.

**\*JOBCCSID**
Specify character conversion occurs when a difference exists between the device CHRID, job CCSID or display file CCSID values. On input, character data is converted from the device CHRID to the job CCSID when necessary. On output, character data is converted from the job CCSID to the device CHRID when necessary. On output, constant character data in the display file is converted from the display file CCSID to the device CHRID when necessary.

**Note:** The \*JOBCCSID special value, either specified directly on the CHRID command parameter or on the CHRIDCTL job attribute when the \*CHRIDCTL special value is specified for the CHRID command parameter, is not allowed if the file was created on a system at an earlier release level than V2R3M0. A file created prior to V2R3M0 will not be tagged with a CCSID and can not be used in combination with the \*JOBCCSID support.

**\*CHRIDCTL**
Specifies that the system checks the CHRIDCTL job attribute to determine whether to use the \*JOBCCSID or \*DEVD special values on the CHRID command parameter for this display file.

**Element 1: Graphic character set**

*integer*
> Specify the number of the graphic character set to be used. Valid values range from 1 through 32767.

**Element 2: Code page**

*integer*
> Specify the number of the code page to be used. Valid values range from 1 through 32767.

**Note:** The graphic character set and code page specifies the value used to represent the CCSID of the field data for every named field with the CHRID DDS keyword. Conversion will only occur for these specific fields when CCSID of the field data is different than the CHRID of the device.

# Decimal format (DECFMT)

Specifies which decimal format value is used when editing numeric fields with the EDTCDE DDS keyword. The decimal format value determines the use of commas and periods for the decimal position and three digit positional separators on edited fields.

**\*SAME**
> The decimal format value does not change.

**\*FILE**   Use the decimal format value stored with the file when the file was created.

**\*JOB**   Use the decimal format value from the DECFMT job attribute when the file is opened.

# SFLEND text (SFLENDTXT)

Specifies where the 'More...' and 'Bottom' text is retrieved from when displaying a subfile. The 'More...' and 'Bottom' text is displayed in a subfile when the SFLEND(\*MORE) DDS keyword is specified on the subfile control record.

**\*SAME**
> The SFLEND text value does not change.

**\*FILE**   Use the 'More...' and 'Bottom' text that is stored in the file during file creation. This text was retrieved from messages CPX6AB1 and CPX6AB2 which exist in the active language of the system when the file was created.

**\*MSG**   Use the 'More...' and 'Bottom' text retrieved from messages CPX6AB1 and CPX6AB2 which exist in the current active language of the system when the file is opened.

# User specified DBCS data (IGCDTA)

Specifies, for program-described files, whether the file processes double-byte character set (DBCS) data. Specifies, for externally described files, the DBCS attributes of the file.

**For program-described files**

**\*SAME**
> The value does not change.

**\*NO**   The file does not process double-byte character set (DBCS) data.

**\*YES**   The file processes DBCS data.

**For externally-described files**

**\*SAME**
>   The value does not change.

**\*NO**   The DBCS attributes of the file are defined in the data description specifications (DDS).

**\*YES**   DBCS attributes, in addition to those defined in the DDS, include (1) putting the DDS keyword
IGCALTTYP into effect, and (2) identifying DBCS attributes of fields or messages in the DDS.

# DBCS extension characters (IGCEXNCHR)

Specifies whether the system processes double-byte character set (DBCS) extended characters. When
processing DBCS extended characters, the device requires the assistance of the system. The system must
tell the device what the character looks like before the device can display or print the character. Extended
characters are stored in a DBCS font table, not in the DBCS device. Extended character processing is a
function of the operating system that is required to make characters stored in a DBCS font table available
to a DBCS device.

**\*SAME**
>   The value does not change.

**\*YES**   The system processes DBCS extended characters.

**\*NO**   The system does not process DBCS extended characters; it displays extended characters as the
undefined character.

# Maximum file wait time (WAITFILE)

Specifies the number of seconds that the program waits for the file resources to be allocated when the file
is opened. If the file resources cannot be allocated within the specified wait time, an error message is sent
to the program.

**\*SAME**
>   The wait time does not change.

**\*IMMED**
>   The program does not wait. Immediate allocation of file resources is required.

**\*CLS**   The job default wait time is used as the wait time for the file resources to be allocated.

*1-32767*
>   Specify the number of seconds to wait for file resources to be allocated.

# Maximum record wait time (WAITRCD)

Specifies the number of seconds the program waits for the completion of a read-from-invited-devices
operation to a multiple device file in a high-level language program. Refer to the high-level language
reference manual to determine when a file is treated as a multiple device file. The program performing
the read operation waits for the input form all invited devices currently accessing the file. If a record is

not returned from any of the invited program devices in the specified amount of time, a notify message is sent to the program. This parameter has no effect on an input operation directed to a single device.

**\*SAME**
> The wait record value does not change.

**\*NOMAX**
> There is no limit on the amount of time the program waits for completion of the read-from-invited device operation.

**\*IMMED**
> The program does not wait. If a record is not available when the read-from-invited-devices operation is done, a notify message is sent to the program.

*1-32767*
> Specify the number of seconds that the program waits for completion of the read-from-invited-device operation.

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## Data queue (DTAQ)

Specifies the data queue on which entries are placed. The specified data queue must have a minimum length of 80 characters. The data queue need not exist when the display file is created since the name specified for this parameter is not evaluated until the file is used.

**Note:** Keyed data queues are not supported for this parameter. If a keyed data queue is specified, a run-time error will occur; but because it is not required that a data queue exist at the time the command is issued, the error will not be flagged.

**Single values**

**\*SAME**
> The data queue name does not change.

**\*NONE**
> No data queue is specified.

**Qualifier 1: Data queue**

*name*    Specify the name of the data queue on which entries are placed.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name*    Specify the name of the library to be searched.

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## Share open data path (SHARE)

Specifies whether the open data path (ODP) is shared with other programs in the same routing step. When an ODP is shared, the programs accessing the file share facilities such as the file status and the buffer.

**\*SAME**
> The value does not change.

**\*NO**  The ODP is not shared with other programs in the routing step. A new ODP for the file is created and used every time a program opens the file.

**\*YES**  The same ODP is shared with each program in the job that also specifies \*YES when it opens the file.

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## Examples

**Example 1: Specifying Multiple Display Devices**

```
CHGDSPF   FILE(ORDENT)  DEV(WS1 WS2 WS3)  MAXDEV(3)
```

This command changes the description of the display device file named ORDENT. The file is located through the library list. The devices used with this file are the work stations WS1, WS2, and WS3. All three of the devices can be used at the same time with this display file.

**Example 2: Delaying Writing of Data**

```
CHGDSPF   FILE(ACCREC/*ALL)  DFRWRT(*YES)
```

This command changes the description of all display files in library ACCREC to delay writing data until a read request is made.

**Example 3: Specifying DBCS Data Processing**

```
CHGDSPF   FILE(IGCLIB/IGCDSP)  IGCDTA(*YES)
```

This command changes the display device file IGCDSP, which is stored in the library IGCLIB, so that it processes double-byte character set data.

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## Error messages

**\*ESCAPE Messages**

**CPF7304**
> File &1 in &2 not changed.

**CPF7308**
> &5 files not changed for &1 in &2. &4 files changed.

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# Change Distribution Attributes (CHGDSTA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Distribution Attributes (CHGDSTA) command changes the content of message services attributes (X.400 support) for mail distributions and the OfficeVision/400 program.

**Restriction:** You need security administrator (*SECADM) authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| KEEPRCP | Keep recipients | **\*SAME**, *BCC, *ALL, *NONE | Optional, Positional 1 |
| USEMSFLCL | Use MSF for local | **\*SAME**, *NO, *YES | Optional |
| SMTPRTE | Route to SMTP gateway | Single values: **\*SAME**, *NONE<br>Other values: *Element list* | Optional |
| | Element 1: User ID | *Character value* | |
| | Element 2: Address | *Character value* | |

## Keep recipients (KEEPRCP)

Specifies the recipient information that is stored and sent within each mail distribution. Information can be stored and sent for the primary recipient and the copy recipients.

The number of recipients that will be kept (stored and sent within each mail distribution) is limited to 1000. This is not a limit on the number of recipients that a mail item can be sent to, only the number of recipients that are kept.

When KEEPRCP(*BCC) is specified and more than 1000 recipients exist in the blind copy list, the recipients are not kept.

When KEEPRCP(*ALL) is specified and more than 1000 recipients exist for the mail item, the recipients are not kept.

**\*SAME**
> The value does not change.

**\*BCC**   The copy recipients that are not identified on the distribution are stored and sent within each mail distribution. This is the default value at the time of system installation.

**\*ALL**   All recipients of the distribution, whether or not they are identified on the distribution, are stored and sent within each mail distribution.

**\*NONE**
> The recipients are not stored or sent within mail distributions.

## Use MSF for local (USEMSFLCL)

Specifies if the mail service framework (MSF) will be used by the office mail services for local-to-local mail.

**\*SAME**
The value does not change.

**\*NO**  Local-to-local mail will be distributed directly by the mail services and will not use the mail service framework (MSF). This is the default value at the time of system installation.

**\*YES**  Local-to-local mail will use the mail service framework (MSF) for distribution of mail.

## Route to SMTP gateway (SMTPRTE)

Specifies the User ID and Address that the mail services will use to route mail, within this system and/or the SNADS network to the SMTP/MIME gateway, that have an internet address as recipients. Within the SNADS network, this User ID and Address should appear to be on the node where the TCP/IP SMTP/MIME gateway is active. At the gateway node, this User ID and Address must have a preferred address of PREFADR(NETUSRID *IBM ATCONTXT) in the system distribution directory entry.

**\*SAME**
The value does not change.

**\*NONE**
There is no route to the SMTP/MIME gateway defined on this system. When this is specified, internet addresses cannot be entered on the SNDDST command or on the office products send panels.

The possible User ID value is:

*user-ID*
Specify the user ID of the route to the SMTP/MIME gateway.

The possible Address value is:

*address*
Specify the address of the route to the SMTP/MIME gateway. This address must be specified if a User ID is specified.

## Examples

```
CHGDSTA   KEEPRCP(*ALL)  SMTPRTE(INET USERS)
```

This command changes the distribution attribute so that all recipients of the distribution are stored and sent within each mail distribution. It also sets the Internet address route to the User ID and Address, INET USERS.

## Error messages

None

# Change Distribution (CHGDSTD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Distribution Description (CHGDSTD) command changes descriptive information (such as author, subject, or keywords) or access information about a distribution document in the mail basket. For some parameters, descriptive information can be deleted or added.

**Restrictions:** (1) To work on behalf of another user, you must be granted permission to work on behalf of the other user with the Grant User Permission (GRTUSRPMN) command. (2) The requester of the command must be enrolled in the system distribution directory. (3) Personal mail distribution cannot be requested by a requester working on behalf of another user.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| DSTID | Distribution identifier | *Character value* | Required, Positional 1 |
| DSTIDEXN | Distribution ID extension | 1-99, **\*NONE** | Optional |
| COMMENT | Comment | *Character value*, **\*SAME**, *RMV | Optional |
| USRID | User identifier | Single values: **\*CURRENT**<br>Other values: *Element list* | Optional |
| | Element 1: User ID | *Character value* | |
| | Element 2: Address | *Character value* | |
| SENSITIV | Sensitivity | **\*SAME**, *NONE, *PERSONAL, *PRIVATE, *CONFIDENTIAL | Optional |
| PERSONAL | Personal | **\*SAME**, *NO, *YES | Optional |
| IMPORTANCE | Content importance | **\*SAME**, *NORMAL, *LOW, *HIGH | Optional |
| PTY | Priority | **\*SAME**, *NORMAL, *HIGH | Optional |
| DOCD | Document description | *Character value*, **\*SAME** | Optional |
| DOCDATE | Document date | *Date*, **\*SAME**, *RMV | Optional |
| EXPDATE | Expiration date | *Date*, **\*SAME**, *RMV | Optional |
| ACTDATE | Action due date | *Date*, **\*SAME**, *RMV | Optional |
| CMPDATE | Completion date | *Date*, **\*SAME**, *RMV | Optional |
| REFERENCE | Reference | *Character value*, **\*SAME**, *RMV | Optional |
| STATUS | Status | *Character value*, **\*SAME**, *RMV | Optional |
| PROJECT | Project | *Character value*, **\*SAME**, *RMV | Optional |
| DOCLANGID | Language ID | *Character value*, *JOB, **\*SAME** | Optional |
| DOCCNTRYID | Country or region ID | *Character value*, *JOB, **\*SAME** | Optional |
| DSTEXPDATE | Distribution expiry indicator | *Element list* | Optional |
| | Element 1: Date | *Date*, **\*SAME**, *CURRENT, *RMV | |
| | Element 2: Time | *Time*, **\*SAME**, *CURRENT, *ENDOFDAY | |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| AUTHOR | Author | Single values: **\*SAME**<br>Other values (up to 50 repetitions): *Element list* | Optional |
| | Element 1: Author | *Character value* | |
| | Element 2: New author | *Character value*, *ADD, *RMV | |
| DOCCLS | Document class | *Character value*, **\*SAME**, *RMV | Optional |
| KWD | Keyword | Single values: **\*SAME**<br>Other values (up to 50 repetitions): *Element list* | Optional |
| | Element 1: Keyword | *Character value* | |
| | Element 2: New keyword | *Character value*, *ADD, *RMV | |
| SUBJECT | Subject | Single values: **\*SAME**<br>Other values (up to 50 repetitions): *Element list* | Optional |
| | Element 1: Subject | *Character value* | |
| | Element 2: New subject | *Character value*, *ADD, *RMV | |
| FILCAB | File cabinet location | *Character value*, **\*SAME**, *RMV | Optional |
| CPYLST | Copy list | Single values: **\*SAME**<br>Other values (up to 50 repetitions): *Element list* | Optional |
| | Element 1: Copy list | *Character value* | |
| | Element 2: New copy list | *Character value*, *ADD, *RMV | |
| CMDCHRID | Command character identifier | Single values: **\*SYSVAL**, *DEVD<br>Other values: *Element list* | Optional |
| | Element 1: Graphic character set | *Integer* | |
| | Element 2: Code page | *Integer* | |
| DOCCHRID | Document character identifier | Single values: *SYSVAL, *DEVD, **\*SAME**<br>Other values: *Element list* | Optional |
| | Element 1: Graphic character set | *Integer* | |
| | Element 2: Code page | *Integer* | |

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## Distribution identifier (DSTID)

Specifies the unique distribution identifier of the distribution. The identifier is assigned to the distribution by the system that originated it. Only incoming distributions can be changed. If the identifier represents an outgoing distribution, an error message is returned.

*distribution-id*

The distribution identifier is composed of the second part of the sender's user ID (padded on the right to 8 characters), the first part of the sender's user ID (padded on the right to 8 characters), and a 4-digit zoned sequence number with the leading zeros. For example, 'NEWYORK SMITH 0204'. This parameter is required when *DSTID is specified on the Information to be sent prompt (TYPE parameter).

This is a required parameter.

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## Distribution ID extension (DSTIDEXN)

Specifies the extension of the distribution identifier (if any) specified on the **Distribution identifier** prompt (DSTID parameter). This 2-digit extension has a value ranging from 01 through 99 that uniquely identifies duplicate distributions. The default value is 01.

**\*NONE**
> There is no duplicate distribution. \*NONE is equivalent to an extension of 01.

*distribution-id-extension*
> Specify the extension associated with the distribution. This is used to uniquely identify duplicate distributions.

## Comment (COMMENT)

Specifies comments that describe the distribution document.

**\*SAME**
> The comment does not change.

**\*RMV**  The comment is removed from the distribution document.

*comment*
> Specify up to 256 characters of text, enclosed in apostrophes.

## User identifier (USRID)

Specifies which user ID address is associated with this request.

**\*CURRENT**
> The person currently running the command is authorized to the distribution being changed.

*user-id address*
> Specify the user ID address that is authorized to the distribution to be changed. If the named user ID address differs from the current user ID address, the current user must be authorized to work on behalf of the named user by the Grant User Permission (GRTUSRPMN) command or by the OfficeVision/400 program.

## Sensitivity (SENSITIV)

Specifies the level of sensitivity defined by the X.400 standard. The four levels include normal, personal, private and company confidential. Private distributions cannot be viewed by a user working on behalf of another user.

**\*SAME**
> The value does not change.

**\*NONE**
> The distribution has no sensitivity restrictions.

**\*PERSONAL**
> The distribution is sent to the recipient as an individual.

**\*PRIVATE**

> The distribution contains information that should be accessed only by the recipient.

**\*CONFIDENTIAL**

> The distribution contains information that should be handled according to company procedures.

## Personal (PERSONAL)

Specifies whether the document distribution is private or not. This parameter is replaced by SENSITIV but the PERSONAL parameter can still be used. However, because this parameter may be removed in a later release, whenever possible use the SENSITIV parameter.

If PERSONAL(*YES) is used, the SENSITIV parameter must be omitted or it must be with the value SENSITIV(*NONE). If the command is prompted without this parameter specified, this parameter is not displayed.

**\*SAME**

> The value does not change.

**\*NO** Only the owner and users that have authorization to the distribution document can get access to distributions that are not sensitive. Users authorized to work on behalf of other users who have access to the distribution can access documents that are not sensitive. This value will map to SENSITIV(*NONE).

**\*YES** Only the owner can get access to private distribution documents. Users authorized to work on behalf of other users who have access to the distribution document cannot get access to the distribution. This value will map to SENSITIV(*PRIVATE).

## Content importance (IMPORTANCE)

Specify low, normal or high importance. This is an indication to the recipient of the content importance of the distribution. It is different from priority which relates to the speed with which the distribution was sent.

**\*SAME**

> The value does not change.

**\*NORMAL**

> A distribution of normal importance.

**\*HIGH**

> A very important distribution.

**\*LOW** A low importance distribution.

## Priority (PTY)

Specifies the speed with which the distribution is sent. The prior version's purpose for priority is no longer valid because it relates to the speed by which the distribution arrived at the system. To ensure compatibility with applications from previous releases, this parameter will remain. If the command is prompted without this parameter specified, this parameter is not displayed.

**\*SAME**
> The value does not change.

**\*NORMAL**
> The distribution document arrived through a normal-speed line.

**\*HIGH**
> The distribution document arrived through a high-speed line.

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# Document description (DOCD)

Specifies the description of the document being changed. This is the Document Interchange Architecture Profile document name field.

**\*SAME**
> The document description does not change.

*document-description*
> Specify the new description of the document. A maximum of 44 characters can be specified, enclosed in apostrophes.

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# Document date (DOCDATE)

Specifies any date the user wants to assign to the distribution document.

**\*SAME**
> The distribution document date does not change.

**\*RMV**  The distribution document date is removed from the distribution document.

*document-date*
> Specify the distribution document date to be added or changed.

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# Expiration date (EXPDATE)

Specifies the document expiration date beyond which the distribution document is no longer needed.

**\*SAME**
> The expiration date does not change.

**\*RMV**  The expiration date is removed from the distribution document.

*expiration-date*
> Specify the expiration date to be replaced or added. The date must be specified in the job date format.

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# Action due date (ACTDATE)

Specifies the date when the action requested is due.

**\*SAME**

> The action due date does not change.

**\*RMV**  The action due date is removed from the distribution document.

*action-due-date*

> Specify the action due date to be replaced or added. The action due date must be specified in the job date format.

## Completion date (CMPDATE)

Specifies the date when the action requested is completed.

**\*SAME**

> The completion date does not change.

**\*RMV**  The completion date is removed from the distribution document.

*completion-date*

> Specify the completion date to be replaced or added. The date must be specified in the job date format.

## Reference (REFERENCE)

Specifies a reference associated with the distribution document.

**\*SAME**

> The reference field does not change.

**\*RMV**  The reference is removed from the distribution document.

*reference*

> Specify the document reference being changed or added. A maximum of 60 characters can be used.

## Status (STATUS)

Specifies the user-defined status indicator (In Process, Pending Approval, or Retired) of the distribution document.

**\*SAME**

> The status indicator does not change.

**\*RMV**  The status indicator is removed.

*status*  Specify the document status indicator being changed or added. A maximum of 20 characters can be specified.

## Project (PROJECT)

Specifies the project name with which the distribution document is associated.

<u>**\*SAME**</u>

The project name does not change.

**\*RMV** The project name is removed from the distribution document.

*project*

Specify the distribution document project being replaced or added. A maximum of 10 characters can be specified.

## Language ID (DOCLANGID)

Specifies the language identifier to be placed in this distribution document's interchange document profile (IDP).

This parameter can be used to add a language identifier to the document's IDP if the identifier has not been specified previously, or to change the value of an existing language identifier.

**Note:** If you specify a value on this parameter and no value has previously been specified on the **Country or region ID** prompt (DOCCNTRYID parameter), you must also specify a country or region identifier.

<u>**\*SAME**</u>

The language identifier does not change.

**\*JOB** The language identifier specified for the job in which this command is entered is used.

*language-identifier*

Specify a language identifier. Press the F4 key from the **Language ID** prompt (DOCLANGID parameter) to see a list of valid identifiers.

## Country or region ID (DOCCNTRYID)

Specifies the country or region identifier to be placed in this distribution document's interchange document profile (IDP).

This parameter can be used to add a country or region identifier to the document's IDP if an identifier has not been specified previously, or to change the value of an existing country or region identifier.

**Note:** If you specify a value on this parameter and no value has previously been specified on the **Language ID** prompt (DOCLANGID parameter), you must also specify a language identifier.

<u>**\*SAME**</u>

The country or region identifier does not change.

**\*JOB** The country or region identifier specified for the job in which this command is entered is used.

*country-or-region-identifier*

Specify a country or region identifier. Press the F4 key from the **Country or region ID** prompt (DOCCNTRYID parameter) to see a list of valid identifiers.

# Distribution expiry indicator (DSTEXPDATE)

Specifies the date and time at which the distribution is no longer needed in the mail log.

The possible Distribution Expiration Date values are:

**\*SAME**
>The value does not change.
>
>If \*SAME is specified for both the distribution expiration date and distribution expiration time, no changes are made to the distribution expiration date and time.
>
>If \*SAME is specified for the distribution expiration date and a value other than \*SAME is specified for the distribution expiration time, the command checks for the existence of the distribution expiration date. If the distribution expiration date exists, the date remains unchanged and the time is changed as specified. If the distribution expiration date does not exist, an error message is issued indicating this condition, and you must specify something other than \*SAME.

**\*CURRENT**
>The distribution expiration date is set to the current date.

**\*RMV**  The distribution expiration date and time are removed from the distribution document.

*distribution expiration date*
>Specify the value to use as the expiration date. The date must be in the format specified by the system value QDATFMT.

The possible Distribution Expiration Time values are:

**\*SAME**
>The value does not change.
>
>If \*SAME is specified for both the distribution expiration date and distribution expiration time, no changes are made to the distribution expiration date and time.
>
>If \*SAME is specified for the distribution expiration time and a value other than \*SAME is specified for the distribution expiration date, the system checks for the existence of the distribution expiration time. If the distribution expiration time exists, the time does not change and the date is change as specified. If the distribution expiration time does not exist, an error message is issued, and you must specify something other than \*SAME.

**\*CURRENT**
>The distribution expiration time is set to the current time.

**\*ENDOFDAY**
>An expiration time is the end of the specified date. The time is set to 23:59:59.

*dist-expiration-time*
>Specify the value used as the expiration time.
>
>The time is specified in 24-hour format and can be specified with or without a time separator.
>
>Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh=hours, mm=minutes, and ss=seconds. Valid values for hh range from 00 to 23. Valid values for mm and ss range from 00 to 59.
>
>With a time separator, specify a string of 5 or 8 digits (hours and minutes, or hours, minutes, and seconds). The time separator specified by the system value QTIMSEP is used to separate the hours, minutes, and seconds. If the command is entered from the command line, the string must be entered in apostrophes. If a time separator other than the separator used for your job is used, the command fails. Valid values for hh range from 00 to 23. Valid values for mm and ss range from 00 to 59.

## Author (AUTHOR)

Specifies the author or authors of the distribution document. A maximum of 20 characters can be specified, enclosed in apostrophes.

You can enter multiple values for this parameter.

The possible **author** values are:

**\*SAME**
    The author of the document does not change.

*author*  Specify a current author that is changed or removed, or the author that is being added.

The possible **new author** values are:

*new-author*
    Specify the new author to replace the current author associated with the distribution document.

**\*ADD**  The specified value is added to the information about the distribution document.

**\*RMV**  The specified value is removed from the information about the distribution document.

## Document class (DOCCLS)

Specifies the class associated with this distribution document.

**\*SAME**
    The document class does not change.

**\*RMV**  The document class for the distribution document is removed.

*document-class*
    Specify the document class that is replaced or added. A maximum of 16 characters can be specified, enclosed in apostrophes.

## Keyword (KWD)

Specifies the keywords that can be used to describe the distribution document.

You can enter multiple values for this parameter.

The possible **keyword** values are:

**\*SAME**
    The keywords do not change.

*keyword*
    Specify a current keyword that is changed or removed, or the keyword that is being added. A maximum of 60 characters can be specified, enclosed in apostrophes.

The possible **new keyword** values are:

*new-keyword*
> Specify a new keyword to replace the current keyword. A maximum of 60 characters can be specified, enclosed in apostrophes.

**\*ADD**  The specified value is added to the information about the distribution document.

**\*RMV**  The specified value is removed from the information about the distribution document.

## Subject (SUBJECT)

Specifies the subject of the distribution document.

You can enter multiple values for this parameter.

The possible **subject** values are:

**\*SAME**
> The subject of the distribution document does not change.

*subject*
> Specify a current subject to be changed or removed, or the subject being added. A maximum of 60 characters can be used.

The possible **new subject** values are:

*new-subject*
> Specify a new subject to replace the current subject. A maximum of 60 characters can be used.

**\*ADD**  The specified document subject is added to the information about the distribution document.

**\*RMV**  The specified document subject is removed from the information about the distribution document.

## File cabinet location (FILCAB)

Specifies the physical location where the distribution document is stored. This parameter is intended for printed distribution documents. It changes only the Document Interchange Architecture Profile field that refers to the printed document.

**\*SAME**
> The file cabinet location does not change.

**\*RMV**  The file cabinet location is removed from the distribution document.

*file-cabinet-location*
> Specify the file cabinet location to be added or changed.

## Copy list (CPYLST)

Specifies names or addresses of users who receive this distribution document.

You can enter multiple values for this parameter.

The possible **copy list** values are:

**\*SAME**
The copy list does not change.

*copy-list*
Specify a current copy list entry to be changed or removed, or a new copy list entry to be added.

The possible **new copy list** values are:

*new-copy-list*
Specify the new copy list entry to replace the current copy list entry.

**\*ADD**  The specified copy list entry is added to the information about the distribution list.

**\*RMV**  The specified copy list entry is removed from the information about the distribution list.

## Command character identifier (CMDCHRID)

Specifies the character identifier (graphic character set and code page) for the data being entered as command parameter values. The character identifier is related to the display device used to enter the command.

**\*SYSVAL**
The system determines the graphic character set and code page values for the command parameters from the QCHRID system value.

**\*DEVD**
The system determines the graphic character set and code page values from the display device description where this command was entered. This option is valid only when entered from an interactive job. If this option is specified in a batch job, an error occurs.

**Element 1: Graphic character set**

*1-32767*
Specify the graphic character set to use.

**Element 2: Code page**

*1-32767*
Specify the code page to use.

## Document character identifier (DOCCHRID)

Specifies the character identifier (graphic character set and code page) for the document data being used. The character identifier is related to the display device used to create the document data.

**\*SAME**
The character identifier does not change.

**\*SYSVAL**

The system determines the graphic character set and code page values for the command parameters from the QCHRID system value.

**\*DEVD**

The system determines the graphic character set and code page values from the display device description where this command was entered. This option is valid only when entered from an interactive job. If this option is specified in a batch job, an error occurs.

*graphic-character-set code-page*

Specify the graphic character set and code page values used to create the data.

**Note:** Both parts can be up to 5 digits in length.

## Examples

### Example 1: Deleting an Author

```
CHGDSTD    DSTID('NEWYORK SMITH    0201')  DSTIDEXN(01)
           AUTHOR('John W. Baker' *DLT)
           KWD('PC Attached Scanners' *ADD)
```

This command deletes one of the authors associated with a distribution document and adds a new keyword to the distribution document.

### Example 2: Changing the User-Defined Document Name

```
CHGDSTD    DSTID('NEWYORK SMITH    0201')  DSTIDEXN(02)
           DOCD('S/38 1984 Sales')  USRID(JACOBSON RCHJACOB)
```

In this example, a person authorized to work on behalf of JACOBSON is changing the user-defined document name associated with a document on the second distribution sent to the user.

## Error messages

**\*ESCAPE Messages**

**CPF90D5**

Distribution description not changed.

**CPF900B**

User ID and address &1 &2 not in System Distribution Directory.

**CPF900C**

Sign on and verify of user failed.

**CPF905C**

Error occurred trying to find a translation table.

**CPF9096**

Cannot use CMDCHRID(\*DEVD), DOCCHRID(\*DEVD) in batch job.

# Change Distribution List (CHGDSTL)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Distribution List (CHGDSTL) command is used to change information about an existing distribution list.

A **distribution list** is a list of entries from the distribution directory. The distribution list can include entries for users of work stations that are local, remote, indirect, and independent. It also can include remote distribution lists, but it cannot include local distribution lists. More information about distribution lists is in the SNA Distribution Services book, SC41-5410.

**Restrictions:**

1. You must have security administrator (*SECADM) authority to change a distribution list that you do not own.
2. No special authority is needed for you to change a distribution list that you own. However, to change the ownership of a distribution list that you own, you must have at least change (*CHANGE) authority to the user profile of the user to be named as the new owner.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **LSTID** | List identifier | *Element list* | Required, Key, Positional 1 |
| | Element 1: List ID | *Character value* | |
| | Element 2: List ID qualifier | *Character value* | |
| **LSTD** | List description | *Character value*, **\*SAME** | Optional |
| **OWNER** | Owner | *Name*, **\*SAME** | Optional, Positional 2 |

## List identifier (LSTID)

Specifies the two-part list identifier of the distribution list to be changed.

The possible list identifier value is:

*list-ID*
      Specify the list identifier (ID) of the distribution list.

The possible list qualifier value is:

*list-ID-qualifier*
      Specify the list ID qualifier of the distribution list.

      **Note:** The distribution list identifier has two parts, the ID and the qualifier, separated by at least one space. If lowercase characters are specified, the system changes them to uppercase.

      

The naming rules for the two-part list ID are identical to the rules for the user ID and address. A complete description of these rules is in the SNA Distribution Services book, SC41-5410.

This is a required parameter.

## List description (LSTD)

Specifies the description of the distribution list. The description further identifies the distribution list.

**\*SAME**
> The value does not change.

*'list-description'*
> Specify the changed description of the distribution list. A maximum of 50 characters can be specified and must be enclosed in apostrophes.

## Owner (OWNER)

Specifies the user profile name of the user who is to own the distribution list. The user profile named must exist on the system.

**\*SAME**
> The value does not change.

*user-profile-name*
> Specify the name of the user profile for the user to whom the distribution list is being assigned.

## Examples

```
CHGDSTL   LSTID(DEPTABC DLIST)
          LSTD('Department ABC Distribution List')
          OWNER(SECABC)
```

This command changes a distribution list that contains the members of Department&rbl.ABC. The description and owner of the distribution list are both changed.

## Error messages

**\*ESCAPE Messages**

**CPF9A8A**
> Distribution list &1 &2 not changed.

**CPF9024**
> System cannot get correct record to finish operation.

**CPF9845**
> Error occurred while opening file &1.

**CPF9846**

Error while processing file &1 in library &2.

**CPF9847**

Error occurred while closing file &1 in library &2.

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# Change IBM Service Tools Pwd (CHGDSTPWD)

**Where allowed to run:**
- Interactive job (*INTERACT)

**Threadsafe:** No

The Change IBM Service Tools Pwd (CHGDSTPWD) command is used to change the password for the IBM-supplied service tools user ID with service tools security privilege (QSECOFR) to the IBM-supplied default value. The password is changed immediately and an audit record is sent if auditing is active on your system.

**Note:** It is possible to rename any service tools user ID, including those supplied by IBM. IBM does not recommend that you do this. If QSECOFR has been renamed and the value *DEFAULT is specified for the password parameter, the CHGDSTPWD command will change the service tools user ID name back to QSECOFR and set the password to the IBM-supplied default value.

**Restrictions:**
- This command is shipped with public *USE authority, but you must be signed on as QSECOFR to use it. You cannot authorize other users to the command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **PASSWORD** | Password | **\*SAME**, *DEFAULT | Optional, Positional 1 |

## Password (PASSWORD)

Specifies the IBM-supplied service tools user ID with service tools security privilege.

**\*SAME**
The IBM-supplied service tools user ID with service tools security privilege password value does not change.

**\*DEFAULT**
The IBM-supplied service tools user ID with service tools security privilege password is reset to the system shipped default value.

**Note:** If the IBM-supplied service tools user ID with service tools security privilege has been renamed, the ID name is changed back to QSECOFR.

## Examples

**Example 1: Changing to the Default DST Password**

```
CHGDSTPWD    PASSWORD(*DEFAULT)
```

This command changes the DST password to the system-shipped default.

**Example 2: Leaving the DST Password Unchanged**

```
CHGDSTPWD    PASSWORD(*SAME)
```

This command does not change the DST password.

## Error messages

**ESCAPE Messages**

**CPF2275**

Not authorized to change IBM-supplied service tools user ID password.

# Change Distribution Queue (CHGDSTQ)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Distribution Queue (CHGDSTQ) command allows you to change an entry in the distribution services queue table. Distribution queues are used to store distributions before they are sent or forwarded to other systems.

The CHGDSTQ command does not provide interactive display support. This is provided by the Configure Distribution Services (CFGDSTSRV) command. More information about configuring a distribution network is in the SNA Distribution Services book, SC41-5410.

If connection information (remote location name, mode, remote network identifier, and local location name) is changed and a SNADS (SNA distribution services) sender job is active (but not sending), the SNADS sender job is ended and a new job is started to ensure that the job name always reflects the remote location name.

Distribution queue names are translated to the graphic character set and code page 930 500, using the job's coded character set identifier (CCSID).

**Restrictions:**

- This command is shipped with public *EXCLUDE authority, and the QPGMR and QSYSOPR user profiles have private authorities to use the command.
- The combination of remote location name, mode, remote network identifier, and local location name must be unique within the type of distribution queue. This combination does not need to be unique within the system, for SNA distribution services (SNADS) distribution queues in the distribution services queue table (SNADS-type distribution queues), and for SystemView distribution services (SVDS) distribution queues (SVDS-type distribution queues). The default value *LOC, which can be specified on the RMTNETID parameter and the LCLLOCNAME parameter, and the default value *NETATR, which can be specified on the MODE parameter, represent any possible values that the system determines are not already configured for another SNADS or SVDS distribution queue of the same type.
- You must specify a unique remote location name for each RPDS-type distribution queue in the queue table. RPDS queues do not use modes, remote network identifiers, or local location names.
- Configuration of the routing table is not required for SVDS-type distribution queues. SVDS queues may be configured optionally in the SNADS routing table. However, normal SNADS mail can neither be routed to change management queues nor be received through change management connections, and change management connections can neither be routed to SNADS queues nor be received through SNADS connections.
- SVDS-type distribution queues can support only a single queue view (the queue is not divided into normal and priority halves). For configuration and operations purposes, only the normal queue is specified.
- Connection information cannot be changed when the queue has a status of "Sending" or when queue entries have the status of "Suspend" or "Pending." Wait for the status of the queue or queue entry to be no longer active or, as an alternative, use the Initialize Distribution Queue (INZDSTQ) command to reset this condition.

- SVDS-type distribution queues cannot be changed when a receiver is active or when distributions have been received and the sender has not acknowledged receiving the confirmation. Wait for the remote system to complete sending, or as an alternative, use the Initialize Distribution Queue (INZDSTQ) command to reset this condition.

- Messages that report errors about distribution queues may display or print different characters than you entered for the distribution queue name because of internal system transformations. Similarly (depending on the language used for the work station), the internal value for a distribution queue name may differ from the characters shown for the Work with Distribution Queue (WRKDSTQ) command. An error may be reported if the character-string value specified for the **Distribution queue** prompt (DSTQ parameter) does not match the rules for an internal distribution queue value or if it does not match the internal value for any defined distribution queue (ignoring case differences).

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| DSTQ | Distribution queue | *Character value* | Required, Positional 1 |
| RMTLOCNAME | Remote location | *Communications name*, **\*SAME** | Optional |
| MODE | Mode | *Communications name*, **\*SAME**, \*NETATR | Optional |
| RMTNETID | Remote network identifier | *Communications name*, **\*SAME**, \*LOC, \*NONE | Optional |
| LCLLOCNAME | Local location | *Communications name*, **\*SAME**, \*LOC | Optional |
| NRMPTY | Normal priority | *Element list* | Optional |
| | Element 1: Send time | Single values: **\*SAME**, \*ALWAYS<br>Other values: *Element list* | |
| | Element 1: From time (HHMM) | 0000-2359, ' ' | |
| | Element 2: To time (HHMM) | 0000-2359, ' ' | |
| | Element 2: Force time (HHMM) | 0000-2359, **\*SAME**, \*NONE | |
| | Element 3: Send depth | 1-999, **\*SAME**, \*MANUAL | |
| HIGHPTY | High priority | *Element list* | Optional |
| | Element 1: Send time | Single values: **\*SAME**, \*ALWAYS<br>Other values: *Element list* | |
| | Element 1: From time (HHMM) | 0000-2359, ' ' | |
| | Element 2: To time (HHMM) | 0000-2359, ' ' | |
| | Element 2: Force time (HHMM) | 0000-2359, **\*SAME**, \*NONE | |
| | Element 3: Send depth | 1-999, **\*SAME**, \*MANUAL | |
| RTYNBR | Number of retries | 0-9999, **\*SAME** | Optional |
| RTYITV | Retry interval | 0-9999, **\*SAME** | Optional |
| SNDQ | Send while receiving | **\*SAME**, \*NO, \*YES | Optional |

## Distribution queue (DSTQ)

Specifies the name of the distribution queue entry being changed.

This is a required parameter.

## Remote location (RMTLOCNAME)

Specifies the name of the remote location to which distributions are sent from this distribution queue. The remote location name must be the same as the remote location name specified in the device description of the device used when sending distributions to another system from this distribution queue.

The possible values are:

**\*SAME**
> The remote location name does not change.

*remote-location*
> Specify a maximum of 8 characters for the name of the remote location.

## Mode (MODE)

Specifies the name of the mode that defines the sessions on the device used by the distribution queue. This parameter is not applicable if you are changing an RPDS-type distribution queue entry.

The possible values are:

**\*SAME**
> The mode name does not change.

**\*NETATR**
> The mode in the network attributes is used.

*mode-name*
> Specify a maximum of 8 characters for the name of the mode. Do not use CPSVCMG or SNASVCMG; these mode names are reserved for system use.

## Remote network identifier (RMTNETID)

Specifies the remote network identifier of the remote network to which this distribution queue sends distributions. This parameter is not applicable if you are changing an RPDS-type distribution queue entry.

The possible values are:

**\*SAME**
> The remote network identifier does not change.

**\*LOC**   The remote network identifier defined in the device description used by this distribution queue is used.

**\*NONE**
> No remote network identifier is specified.

*remote-network-ID*
>Specify the remote network identifier.

## Local location (LCLLOCNAME)

Specifies the name used to identify your system to remote systems in the network. It is recommended that the name be the same as your system name.

The possible values are:

**\*SAME**
>The local location name does not change.

**\*LOC**    The local location name is the name defined in the device description used by this distribution queue.

*local-location-name*
>Specify a maximum of 8 characters for the local location name.

## Normal priority (NRMPTY)

Specifies the queue sending conditions for distributions having a service level of data low. This parameter's three elements are:

**Send time**
>The time period during which queued distributions of this priority are sent from this distribution queue. If you do not enter a time period, the transmissions are controlled by send depth and are not related to time.

**Force time**
>A specific time during which distributions of this priority are sent regardless of queue depth. If \*ALWAYS is specified for the send time, the force time can be set to any time of day. If you specify a specific to-time and from-time for the send time, the force time must occur within that time period.

**Send depth**
>The number of distributions of this priority that must be on the queue before the system automatically begins sending them.

The possible **send time** values are:

**\*SAME**
>The send time does not change.

**\*ALWAYS**
>Distributions of this priority are sent from this distribution queue regardless of the time of day.

*from-time to-time*
>Specify the time of day during which distributions of this priority can be sent from this distribution queue. The from-time and to-time must be specified in the 24-hour time format **hhmm** where **h** = hours and **m** = minutes. Both from-time and to-time must be specified.

The possible **force time** values are:

**\*SAME**
>The force time does not change.

**\*NONE**
>    No force time is specified.

*force-time*
>    Specify the force time in the 24-hour format **hhmm** where **h** = hours and **m** = minutes.

The possible **send depth** values are:

**\*SAME**
>    The send depth does not change.

**\*MANUAL**
>    Distributions are sent only when an operator manually sends them using the Work with
>    Distribution Queue (WRKDSTQ) command or the Send Distribution Queue (SNDDSTQ)
>    command.

*send depth*
>    Specify the number of distributions of this priority that must be in this distribution queue before
>    any are sent. Valid values range from 1 through 999.

# High priority (HIGHPTY)

Specifies the queue sending conditions for distributions having a service level of fast, status, or data high.
This parameter's three elements are:

**Send time**
>    The time period during which queued distributions of this priority are sent from this distribution
>    queue. If you do not enter a time period, the transmissions are controlled by send depth and are
>    not related to time.

**Force time**
>    A specific time during which distributions of this priority are sent regardless of queue depth. If
>    \*ALWAYS is specified for the send time, the force time can be set to any time of day. If you
>    specify a specific to-time and from-time for the send time, the force time must occur within that
>    time period.

**Send depth**
>    The number of distributions of this priority that must be on the queue before the system
>    automatically begins sending them.

The possible **send time** values are:

**\*SAME**
>    The send time does not change.

**\*ALWAYS**
>    Distributions of this priority are sent from this distribution queue regardless of the time of day.

*from-time to-time*
>    Specify the time of day during which distributions of this priority can be sent from this
>    distribution queue. The from-time and to-time must be specified in the 24-hour time format
>    **hhmm** where **h** = hours and **m** = minutes. Both from-time and to-time must be specified.

The possible **force time** values are:

**\*SAME**
>    The force time does not change.

**\*NONE**

No force time is specified.

*force-time*

Specify the force time in the 24-hour format **hhmm** where **h** = hours and **m** = minutes.

The possible **send depth** values are:

**\*SAME**

The send depth does not change.

**\*MANUAL**

Distributions are sent only when an operator manually sends them using the Work with Distribution Queue (WRKDSTQ) command or the Send Distribution Queue (SNDDSTQ) command.

*send depth*

Specify the number of distributions of this priority that must be in this distribution queue before any are sent. Valid values range from 1 through 999.

## Number of retries (RTYNBR)

Specifies the maximum number of times the system attempts to resend distributions from this distribution queue after a failure occurs. This parameter applies to communications line failures and recoverable distribution failures on a remote system. The SNADS job serving this distribution queue ends when the number of retries is exceeded.

The possible values are:

**\*SAME**

The maximum number of retry attempts does not change.

*number*

Specify the maximum number of times the system can attempt to resend distributions after a failure. Valid values range from 0 to 9999.

## Retry interval (RTYITV)

Specifies the interval (in minutes) between each retry attempt.

The possible values are:

**\*SAME**

The number of minutes between retries does not change.

*minutes*

Specify the interval (in minutes) between retries. Valid values range from 0 to 9999.

# Send while receiving (SNDQ)

Specifies whether this distribution queue ignores the send time and depth values specified on the **Normal priority** prompt (NRMPTY parameter) and **High priority** prompt (HIGHPTY parameter) and begins sending when a distribution is received from the SNADS system to which the queue sends its distributions.

This parameter is valid only if you are changing a SNADS-type distribution queue entry.

The possible values are:

**\*SAME**
> The send queue value does not change.

**\*NO**    Distributions are sent from this queue only when the queue's sending conditions are met, or when the Send Distribution Queue (SNDDSTQ) or Work with Distribution Queue (WRKDSTQ) command is used to send the distributions.

**\*YES**   This distribution queue begins sending when distributions are received from the SNADS system to which the queue sends its distributions regardless of the queue's sending conditions. Distributions are automatically sent for manual queues (queues that have no specified depth variable).

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# Examples

```
CHGDSTQ   DSTQ(CHICAGO)   RMTLOCNAME(NEWLU)   MODE(*NETATR)
```

This command changes the distribution queue named CHICAGO. The remote location name is changed to NEWLU and the mode is changed to the mode specified in the system network attributes.

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# Error messages

**\*ESCAPE Messages**

**CPF8802**
> Distribution queue &1 was not found.

**CPF8807**
> Error occurred while using QSNADS journal.

**CPF8809**
> Errors detected on SNADS internal queues.

**CPF881A**
> Connection information for distribution queue &1 cannot be changed at this time

**CPF881B**
> Distributions are being received for distribution queue &1

**CPF881D**
> High priority data not allowed for *SVDS distribution queues

**CPF8826**
> Distribution queue entries exist for distribution queue &1.

**CPF8827**

        Routing table entries exist for distribution queue &1.

**CPF8828**

        Remote document library entries exist for *DLS distribution queue &1.

**CPF8833**

        Distribution queue &1 already exists.

**CPF8849**

        Queue &1 in use by another distribution services function.

**CPF9845**

        Error occurred while opening file &1.

**CPF9846**

        Error while processing file &1 in library &2.

**CPF9847**

        Error occurred while closing file &1 in library &2.

**CPF9899**

        Error occurred during processing of command.

# Change Distribution Route (CHGDSTRTE)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Distribution Route (CHGDSTRTE) command allows you to change an entry in the distribution services routing table. One or more service levels must be specified for each routing table entry.

Interactive display support is provided by the Configure Distribution Services (CFGDSTSRV) command. More information about configuring a distribution network is in the SNA Distribution Services book, SC41-5410 book.

System names, group names, and distribution queue names are translated to the graphic character set and code page 930 500, using the job's coded character set identifier (CCSID).

**Restrictions:**

- This command is shipped with public *EXCLUDE authority, and the QPGMR and QSYSOPR user profiles have private authorities to use the command.
- You must specify a value on at least one of the following parameters: FAST, STATUS, DATAHIGH, or DATALOW. You cannot change the value on all four parameters to *NONE.
- An error occurs if a distribution route specifying a SystemView distribution services (SVDS) type of distribution queue is changed to include another type of distribution queue (such as SNA distribution services (SNADS) or VM/MVS bridge (RPDS)).

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| SYSNAME | System name | *Element list* | Required, Positional 1 |
| | Element 1: System name | *Character value*, *ANY | |
| | Element 2: System group | *Character value*, *ANY | |
| FAST | Fast service level | Single values: **\*SAME**, *NONE<br>Other values: *Element list* | Optional |
| | Element 1: Distribution queue name | *Character value* | |
| | Element 2: Hop count | 1-255, **\*NETATR** | |
| STATUS | Status service level | Single values: **\*SAME**, *NONE<br>Other values: *Element list* | Optional |
| | Element 1: Distribution queue name | *Character value* | |
| | Element 2: Hop count | 1-255, **\*NETATR** | |
| DATAHIGH | Data high service level | Single values: **\*SAME**, *NONE<br>Other values: *Element list* | Optional |
| | Element 1: Distribution queue name | *Character value* | |
| | Element 2: Hop count | 1-255, **\*NETATR** | |

| Keyword | Description | Choices | Notes |
|---------|------------|---------|-------|
| DATALOW | Data low service level | Single values: **\*SAME**, \*NONE<br>Other values: *Element list* | Optional |
| | Element 1: Distribution queue name | *Character value* | |
| | Element 2: Hop count | 1-255, **\*NETATR** | |
| TEXT | Text | *Character value*, **\*SAME**, \*BLANK | Optional |

## System name (SYSNAME)

Specifies the system name and group name of the remote system for which you want to change a routing table entry.

The maximum hop count is the maximum number of times in a SNADS network that a distribution can be routed (hop) between systems at the SNADS level, including the hop to the final destination system. The maximum hop count does not include the hops made by advanced peer-to-peer networking (APPN) routing. If the maximum number of hops is exceeded, the distribution is ended and an error message is sent to the user who originally sent the distribution. Maximum hop count provides a means to prevent a distribution from looping indefinitely among systems.

You can specify a maximum of 8 characters for the system name and a maximum of 8 characters for the group name.

\*ANY can be specified for the system name. When SYSNAME(\*ANY group) is specified, you are changing the routing table entry used to resolve a distribution destination that does not match a specific system name, but matches the group name. Only one \*ANY is allowed for each group in the routing table.

\*ANY can be specified for the group name only if \*ANY is also specified for the system name. When SYSNAME(\*ANY \*ANY) is specified, you are changing the routing table entry used to resolve a distribution destination that does not match any other routing table entries. Only one SYSNAME(\*ANY \*ANY) entry is allowed in the routing table.

This is a required parameter.

## Fast service level (FAST)

Specifies the distribution queue and maximum hop count to the destination system for fast service level distributions. The fast service level is the highest priority service level.

The possible **distribution queue** values are:

**\*SAME**
> The distribution queue and maximum hop count do not change.

**\*NONE**
> No distribution queue is specified for distributions requiring a fast service level. Distributions requiring fast service cannot be routed using this routing table entry.

*distribution-queue-name*
>Specify the name of the distribution queue to which distributions using this service level and routing entry are sent. The distribution queue must already exist and cannot be a DLS (document library services) type of queue.

The possible **maximum hop count** values are:

**\*NETATR**
>The system network attributes value for the maximum hop count is used. You can display the current system value using the Display Network Attributes (DSPNETA) command.

*hop-count*
>Specify the maximum hop count. Valid values range from 1 through 255.

## Status service level (STATUS)

Specifies the distribution queue and maximum hop count to the destination system for status service level distributions. The status service level is used for network status and other feedback information.

The possible **distribution queue** values are:

**\*SAME**
>The distribution queue and maximum hop count do not change.

**\*NONE**
>No distribution queue is specified for distributions requiring a status service level. Distributions requiring status service cannot be routed using this routing table entry.

*distribution-queue-name*
>Specify the name of the distribution queue to which distributions using this service level and routing entry are sent. The distribution queue must already exist and cannot be a DLS (document library services) type of queue.

The possible **maximum hop count** values are:

**\*NETATR**
>The system network attributes value for the maximum hop count is used. You can display the current system value using the Display Network Attributes (DSPNETA) command.

*hop-count*
>Specify the maximum hop count. Valid values range from 1 through 255.

## Data high service level (DATAHIGH)

Specifies the distribution queue and maximum hop count to the destination system for data high service level distributions. The data high service level is used for high priority data traffic.

The possible **distribution queue** values are:

**\*SAME**
>The distribution queue and maximum hop count do not change.

**\*NONE**
>No distribution queue is specified for distributions requiring a data high service level. Distributions requiring data high service cannot be routed using this routing table entry.

*distribution-queue-name*
>Specify the name of the distribution queue to which distributions using this service level and routing entry are sent. The distribution queue must already exist and cannot be a DLS (document library services) type of queue.

The possible **maximum hop count** values are:

**\*NETATR**
>The system network attributes value for the maximum hop count is used. You can display the current system value using the Display Network Attributes (DSPNETA) command.

*hop-count*
>Specify the maximum hop count. Valid values range from 1 through 255.

## Data low service level (DATALOW)

Specifies the distribution queue and maximum hop count to the destination system for data low service level distributions. The data low service level is used for most data traffic.

The possible **distribution queue** values are:

**\*SAME**
>The distribution queue and maximum hop count do not change.

**\*NONE**
>No distribution queue is specified for distributions requiring a data low service level. Distributions requiring data low service cannot be routed using this routing table entry.

*distribution-queue-name*
>Specify the name of the distribution queue to which distributions using this service level and routing entry are sent. The distribution queue must already exist and cannot be a DLS (document library services) type of queue.

The possible **maximum hop count** values are:

**\*NETATR**
>The system network attributes value for the maximum hop count is used. You can display the current system value using the Display Network Attributes (DSPNETA) command.

*hop-count*
>Specify the maximum hop count. Valid values range from 1 through 255.

## Text (TEXT)

Specifies the text that briefly describes the object.

The possible values are:

**\*SAME**
>The text does not change.

**\*BLANK**
>The text is changed to blanks.

*'description'*
>Specify a maximum of 50 characters of text enclosed in apostrophes.

## Examples

```
CHGDSTRTE   SYSNAME(SYSTEMA)  DATAHIGH(SYSTEMAFAST 2)
```

This command changes the distribution queue for distributions sent to SYSTEMA with a data high service level. The new distribution queue is SYSTEMAFAST with a hop count of 2.

## Error messages

**\*ESCAPE Messages**

**CPF8801**
Document library services (*DLS) queue &1 not allowed in routing table.

**CPF8802**
Distribution queue &1 was not found.

**CPF8807**
Error occurred while using QSNADS journal.

**CPF881E**
Distribution route contains combination of distribution queues that is not allowed

**CPF8815**
Routing table entry &1 &2 not found.

**CPF8831**
Entry &1 &2 already exists in routing table.

**CPF8837**
System name/Group &1 &2 in use by another distribution services function.

**CPF8849**
Queue &1 in use by another distribution services function.

**CPF9845**
Error occurred while opening file &1.

**CPF9846**
Error while processing file &1 in library &2.

**CPF9847**
Error occurred while closing file &1 in library &2.

**CPF9899**
Error occurred during processing of command.

# Change Data (CHGDTA)

**Where allowed to run:** Interactive environments (*INTERACT
*IPGM *IREXX *EXEC)
**Threadsafe:** No

The Control Language (CL) command CHGDTA lets you add, change, or delete records in an existing database file.

## Error messages for CHGDTA

**\*ESCAPE Messages**

**IDU0120**
> Critical table missing. Command terminated.

**IDU0141**
> Critical table inconsistent. Command terminated.

**IDU0167**
> Not authorized to &1.&2.

**IDU1205**
> Application &1.&2 not found.

**IDU9001**
> Error found on &1 command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| DFUPGM | DFU program | *Qualified object name* | Required, Positional 1 |
| | Qualifier 1: DFU program | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| FILE | Data base file | *Qualified object name* | Optional, Positional 2 |
| | Qualifier 1: Data base file | *Name*, **\*SAME** | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| MBR | Member | *Name*, **\*FIRST** | Optional, Positional 3 |

## DFU program (DFUPGM)

Specifies the qualified name of the DFU program that will control the interactive update of data.

**\*LIBL**   DFU will use your library list to search for a specified program.

**\*CURLIB**
> Type *CURLIB to use your current library. If no current library entry exists in the library list, QGPL is used. If you do not specify a library name, *LIBL is used.

## Data base file (FILE)

Specifies the database file you want to process.

The possible values are:

**\*SAME**
> DFU will use the file that was used to define the program.

**file-name**
> Type the qualified name of the data file you want DFU to process. The file should have at least one record format name in common with the file used to define the program.

**\*LIBL**  DFU will use your library list to search for a specified program.

**\*CURLIB**
> Type \*CURLIB to use your current library. If no current library entry exists in the library list, QGPL is used. If you do not specify a library name, \*LIBL is used.

## Member (MBR)

Specifies the member in the file you want to process.

The possible values are:

**\*FIRST**
> DFU will use the first member of the file.

**member-name**
> Type the name of the member you want DFU to process.

## Examples

None

## Error messages

**\*ESCAPE Messages**

**IDU0120**
> Critical table missing. Command terminated.

**IDU0141**
> Critical table inconsistent. Command terminated.

**IDU0167**
> Not authorized to &1.&2.

**IDU1205**
> Application &1.&2 not found.

**IDU9001**
     Error found on &1 command.

# Change Data Area (CHGDTAARA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Conditional

The Change Data Area (CHGDTAARA) command changes the value of the local data area (*LDA), the group data area (*GDA), the program initialization parameter data area (*PDA), or the specified data area that is stored in a library. The new value must have the same type and a length less than or equal to the data area length or the specified substring length.

In group jobs, the data area specified may be the group data area (*GDA). This data area is automatically associated with the group and cannot be accessed from jobs outside the group. The length of this character data area is 512 bytes. More information about group jobs is in the Work management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

The local data area (*LDA) is a character data area 1024 bytes in length. It is automatically associated with your job and other jobs cannot get access to it.

In prestart jobs, the data area specified may be the data area that contains program initialization parameter data (*PDA). This data area is automatically associated with your prestart job and other jobs cannot get access to it. The length of this character data area is 2000 bytes. More information about prestart jobs is in the Work management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

For character data areas, a substring of the data area can be changed without affecting the remainder of the data area. This substring is defined by specifying the starting position and the length of the substring. In this case, the new value must have a length less than or equal to the substring length.

When this command is run to change a data area other than the local data area, group data area, or program initialization parameter data area, the data area is locked by the job or thread during the change operation so that commands in other jobs cannot change or delete it until the operation is completed. If the data area is shared with other jobs and it is updated in steps involving more than one command in a job, the data area should be explicitly allocated to that job until all the steps have been performed. Data areas, other than the group data area , local data area, or program initialization parameter data area can be explicitly allocated with the Allocate Object (ALCOBJ) command; no allocation is necessary when the CHGDTAARA command is run specifying the group data area, local data area, or program initialization parameter data area.

## Restrictions:

1. To use this command, the user must have change (*CHANGE) authority for the data area being changed and execute (*EXECUTE) authority for the library in which it is stored. No specific authority is required for the local data area, group data area, or program initialization parameter data area.
2. This command is conditionally threadsafe. The following restrictions apply:
   a. Changing DDM data areas in a job that allows multiple threads is not threadsafe.
   b. Changing DDM data areas will fail when more than one thread is active in a job.
   c. Changing the special data areas (*LDA, *GDA and *PDA) is allowed from the initial thread only and will fail if attempted from a secondary thread.

# Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| DTAARA | Data area specification | *Element list* | Required, Positional 1 |
| | Element 1: Data area | Single values: *LDA, *GDA, *PDA<br>Other values: *Qualified object name* | |
| | Qualifier 1: Data area | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| | Element 2: Substring specifications | Single values: **\*ALL**<br>Other values: *Element list* | |
| | Element 1: Substring starting position | 1-2000 | |
| | Element 2: Substring length | 1-2000 | |
| VALUE | New value | *Not restricted* | Required, Positional 2 |

## Data area specification (DTAARA)

Specifies the name and library of the data area whose value is being changed. It optionally specifies, for character data areas only, the starting position and length of the character string that is changed in the data area.

This is a required parameter.

**Element 1: Data area**

**Single values**

**\*LDA**   The local data area associated with your job is changed. The length of this character data area is 1024 bytes.

**\*GDA**   The group data area associated with your group job is changed. The length of this character data area is 512 bytes.

**\*PDA**   The program initialization parameter data area associated with your prestart job is changed. The length of this character data area is 2000 bytes.

**Qualifier 1: Data area**

*name*   Specify the name of the data area to be changed.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
           The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*   Specify the library where the data area is located.

**Element 2: Substring specifications**

**Single values**

**\*ALL**    The entire data area is changed.


**Element 1: Substring starting position**

*1-2000*  Specify the starting position of the data area being changed.


**Element 2: Substring length**

*1-2000*  Specify the length of the data area substring being changed.

## New value (VALUE)

Specifies the new value stored in the data area. Specify a value that is valid for the data attributes specified in the data area's description. If *CHAR or *LGL was specified for the **Type (TYPE)** parameter of the Create Data Area (CRTDTAARA) command when the data area was created and the value specified here is numeric, the value must be enclosed in apostrophes. If *DEC was specified for the **Type (TYPE)** parameter of the CRTDTAARA command, the value must not be enclosed in apostrophes.

This is a required parameter.

*unrestricted-value*
        Specify the value of the data area.

## Examples

**Example 1: Changing the Data Area Value**

```
CHGDTAARA   DTAARA(MYLIB/MYDATA)   VALUE(GOODNIGHT)
```


This command changes the value of the data area named MYDATA in library MYLIB to GOODNIGHT. The data area must be for character data and must be 9 or more characters in length.

**Example 2: Changing the Logical Value of the Data Area**

```
CHGDTAARA   DTAARA(PAYROLLSW)   VALUE('0')
```


This command changes the logical value of the data area named PAYROLLSW to zero (0). The library search list is used to locate the data area.

**Example 3: Changing Specific Characters of the Local Data Area**

```
CHGDTAARA   DTAARA(*LDA (5 4))   VALUE('TWO')
```

This command changes characters 5 through 8 of the user's local data area. Because the new value is shorter than the substring, it is padded with a blank.

## Error messages

**\*ESCAPE Messages**

**CPF101A**

> Operation on DDM data area &1 in &2 failed.

**CPF1015**

> Data area &1 in &2 not found.

**CPF1018**

> No authority to change data area.

**CPF1019**

> VALUE parameter not correct.

**CPF1020**

> VALUE parameter too long.

**CPF1021**

> Library &1 not found for data area &2.

**CPF1022**

> No authority to library &1 data area &2.

**CPF1026**

> VALUE parameter must be '0' or '1'.

**CPF1043**

> Boundary alignment for data area not valid.

**CPF1044**

> AREA parameter not valid for data area.

**CPF1045**

> CPYPTR parameter not valid for data area.

**CPF1046**

> DTAARA(\*GDA) not valid because job not group job.

**CPF1062**

> Null string not valid as character value.

**CPF1063**

> Cannot allocate data area &1 in library &2.

**CPF1067**

> Cannot allocate library &1.

**CPF1072**

> DTAARA(\*PDA) not valid because job not prestart job.

**CPF1087**

> Substring not allowed for decimal or logical data area.

**CPF1088**

> Starting position outside of data area.

**CPF1089**

> Substring specified for data area not valid.

**CPF1138**

VALUE parameter not valid type for data area &1.

**CPF1155**

VALUE parameter too long for data area &1.

**CPF1162**

Boundary alignment for data area &1 not valid.

**CPF1163**

AREA parameter not valid for data area &1.

**CPF1168**

CPYPTR parameter not valid for data area &1.

**CPF1170**

Starting position outside of data area &1.

**CPF1192**

Substring specified for data area &1 not valid.

**CPF180B**

Function &1 not allowed.

**CPF180C**

Function &1 not allowed.

**CPF18BE**

Data area &1 not changed because entry not journaled.

**CPF9899**

Error occurred during processing of command.

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# Change Configuration Entry (CHGEMLCFGE)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Emulation Configuration Entry (CHGEMLCFGE) command is used to change options for a 3270 emulation session by changing an existing configuration entry in the configuration file.

You also can prompt on this command to display existing values for an emulation session without making a change.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| EMLCFGE | Configuration entry | *Name*, QEMDFTCFGE | Required, Key, Positional 1 |
| EMLDBGJOB | Debug job | **\*SAME**, \*NOTRACE, \*TRACE | Optional |
| EMLSIG | Handle signals | **\*SAME**, \*SAVE, \*IGNORE | Optional |
| EMLATR | Handle attributes | **\*SAME**, \*IGNORE, \*REJECT | Optional |
| EMLMAXSCR | Maximum screen size | **\*SAME**, \*DEVD, \*MOD2, \*MOD5 | Optional |
| EMLTRC | VLIC trace | **\*SAME**, \*NOTRACE, \*TRACE | Optional |
| EMLSTR | Start printer TRCJOB | **\*SAME**, \*NOTRACE, \*TRACE | Optional |
| EMLINLSCN | Initial screen | **\*SAME**, \*YES, \*NO | Optional |
| EMLGRDLIN | Gridline | **\*SAME**, \*NO, \*YES | Optional |
| EMLDBCS | Graphic DBCS | **\*SAME**, \*NO, \*YES | Optional |
| EMLPRTFMT | Printout formatting | **\*SAME**, \*NO, \*YES | Optional |
| EMLSNACLR | Clear processing | **\*SAME**, \*RETRY, \*IGNORE | Optional |
| EMLBUF | Gridline Buffer | **\*SAME**, \*FRONT, \*BACK | Optional |
| EMLVLG | Conditional vlog generated | **\*SAME**, \*NO, \*YES | Optional |
| EMLSCS | Handle SCS command errors | **\*SAME**, \*NO, \*YES | Optional |
| EMLNML | Enforce 5250 Numeric Lock | **\*SAME**, \*NO, \*YES | Optional |
| EMLMSG | Send SNA Unbind message | **\*SAME**, \*NO, \*YES | Optional |

## Configuration entry (EMLCFGE)

Specifies the name of the existing emulation configuration entry that you are changing.

This is a required parameter.

**QEMDFTCFGE**
> The default configuration entry for 3270 emulation sessions is changed.

*configuration-entry-name*
> Specify the name of the configuration entry to be changed.

## Debug job (EMLDBGJOB)

Specifies whether to trace the printer data stream being passed to the printer function manager when a job that is using printer emulation is being debugged with the Trace Job (TRCJOB) command.

**\*SAME**

The value does not change.

**\*NOTRACE**

The printer data stream is not traced in the TRCJOB output.

**\*TRACE**

The printer data stream is traced in the TRCJOB output.

## Handle signals (EMLSIG)

Specifies how an emulation job that is not in send mode responds to a Systems Network Architecture (SNA) request for permission to send data (signal).

**\*SAME**

The value does not change.

**\*SAVE**

The emulation job stores the SNA signal, and if appropriate grants the host permission to send when a piece of data with the change direction indicator (CD) on it is received.

**\*IGNORE**

The emulation job does not grant the host permission to send.

## Handle attributes (EMLATR)

Specifies how the 3270 emulation job responds to an incorrect character attribute or attribute value that is received during a single-byte character set (SBCS) session. In 3270 data stream terminology, a **character attribute** is a set attribute instruction (SA order) and an **attribute value** is a value on which the instruction operates (value).

**\*SAME**

The value does not change.

**\*IGNORE**

The emulation job ignores the incorrect value.

**\*REJECT**

The emulation job sends a negative response to the data stream containing the incorrect character attribute or attribute value.

## Maximum screen size (EMLMAXSCR)

Specifies the maximum size of the image to be shown on the display screen.

**\*SAME**
>    The value does not change.

**\*DEVD**
>    The maximum size is whatever the device can support.

**\*MOD2**
>    The maximum size is 24 rows by 80 columns.

**\*MOD5**
>    The maximum size is 27 rows by 132 columns.

>    **Note:** If the device does not support 27 rows by 132 columns, the maximum size defaults to 24 rows by 80 columns.

## VLIC trace (EMLTRC)

Specifies whether Licensed Internal Code (LIC) data stream translation trace points are issued when the following are true:

- The job is using the data stream translation API (application program interface).
- The Trace Job (TRCJOB) command is running on the job using the data stream translation API.
- A LIC source/sink trace is also running.

**\*SAME**
>    The value does not change.

**\*NOTRACE**
>    Data stream translation trace points are not issued.

**\*TRACE**
>    Data stream translation trace points are issued.

## Start printer TRCJOB (EMLSTR)

Specifies whether to call the Trace Job (TRCJOB) command when a printer emulation job is started.

**\*SAME**
>    The value does not change.

**\*NOTRACE**
>    The TRCJOB command is not called.

**\*TRACE**
>    The TRCJOB command is called.

## Initial screen (EMLINLSCN)

Specifies whether to show the Emulation Initialization In Progress display when a 3270 device emulation session is starting.

**\*SAME**
>    The value does not change.

**\*YES**    The display is shown.

**\*NO**    The display is not shown.

## Gridline (EMLGRDLIN)

Specifies whether to suppress field outlining from showing on the display.

**\*SAME**
> The value does not change.

**\*NO**    Field outlining is not suppressed.

**\*YES**    Field outlining is suppressed.

## Graphic DBCS (EMLDBCS)

Specifies whether to support the DBCS-graphic character string for input fields.

**Note:** This parameter is valid only for customer applications that specify field attributes or that specify character attributes for the entire input field. If only part of a field is defined with the DBCS-graphic attribute, you will get unpredictable results.

**\*SAME**
> The value does not change.

**\*NO**    The DBCS-graphic character string is not supported.

**\*YES**    The DBCS-graphic character string is supported.

## Printout formatting. (EMLPRTFMT)

Specifies whether to use the values supplied by the STRPRTEML command for the number of lines (NUMLIN) parameter and the number of columns (NUMCOL) parameter instead of using the values supplied by the printer file.

**Note:** This parameter is valid only for SNA character string (SCS) printer sessions.

**\*SAME**
> The value does not change.

**\*NO**    The STRPRTEML command values for lines and columns are not used.

**\*YES**    The STRPRTEML command values for lines and columns are used.

> **Note:** The STRPRTEML command values remain in effect until a set horizontal format or a set vertical format command is received from the host.

## Clear processing (EMLSNACLR)

Specifies how the 3270 emulation job recovers when an attempt to get data sent by the host system fails after an SNA CLEAR command is received.

**Note:** This parameter is valid only for display emulation sessions.

**\*SAME**
> The value does not change.

**\*RETRY**
> The emulation job tries again to get the data.

**\*IGNORE**
> The emulation job does not try again to get the data.

## Gridline Buffer (EMLBUF)

Specifies whether the foreground or background buffer is used when base gridlines are displayed. This parameter does not apply when strategic gridlines are used.

**\*SAME**
> The value does not change.

**\*FRONT**
> The foreground buffer is used.

**\*BACK**
> The background buffer is used.

## Conditional vlog generated (EMLVLG)

Specifies whether to generate a VLIC log when the datastream translation routines send a negative response to the host because a command or order was not valid.

**\*SAME**
> The value does not change.

**\*NO**  The VLIC log is not generated.

**\*YES**  The VLIC log is generated. The emulation session continues.

## Handle SCS command errors (EMLSCS)

For SCS printer sessions only, this parameter says whether to follow architecture and default to a page size or page width of 1 line when a bad set horizontal format (SHF) or a bad set vertical format (SVF) is received.

**\*SAME**
> The value does not change.

**\*NO**  The architecture is followed. Page size is one line.

**\*YES**   The architecture is not followed, page size and width default to values entered on the start printer emulation (STRPRTEML) command.

## Enforce 5250 Numeric Lock (EMLNML)

Specifies whether to enforce 5250 Numeric Lock by the data stream translation component of the Licensed Internal Code (LIC) when the job is using the data stream translation API (application program interface).

**\*SAME**

The value does not change.

**\*NO**   5250 Numeric Lock is not enforced.

**\*YES**   5250 Numeric Lock is enforced.

## Send SNA Unbind message (EMLMSG)

Specifies whether to display a message on the screen when an unbind has been received.

**\*SAME**

The value does not change.

**\*NO**   No message is displayed.

**\*YES**   Message is displayed.

## Examples

```
CHGEMLCFGE   EMLCFGE(ARTSDEPT)   EMLMAXSCR(*DEVD)
             EMLGRDLIN(*NO)
```

This command changes the maximum display size option of the ARTSDEPT emulation configuration entry to the maximum size for the display device. Field outlining is changed to show on the display.

## Error messages

**\*ESCAPE Messages**

**CPF853E**

Emulation configuration entry &1 not found.

**CPF854B**

Internal error in emulation configuration routines.

# Change Environment Variable (CHGENVVAR)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change Environment Variable (CHGENVVAR) command changes the value for an existing environment variable.

**Restriction:** You must have *JOBCTL special authority to use this command to change system-level environment variables.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| ENVVAR | Environment variable | *Character value* | Required, Positional 1 |
| VALUE | New value | *Character value*, **\*SAME**, *NULL | Optional, Positional 2 |
| CCSID | Coded character set ID | 1-65535, *JOB, *HEX, **\*SAME** | Optional, Positional 3 |
| LEVEL | Level | **\*JOB**, *SYS | Optional |

## Environment variable (ENVVAR)

Specifies the name of the environment variable to be changed. If an environment variable by this name does not exist at the specified level (LEVEL parameter), error message CPFA981 is issued.

**Note:** The case is preserved when lowercase characters are specified.

If an apostrophe is intended, two apostrophes must be used ('').

This is a required parameter.

## Initial value (VALUE)

Specifies the environment variable value.

The possible values are:

**\*SAME**
> The value does not change.

**\*NULL**
> The value of the environment variable is the null character (X'00'). This value can be used to stop the association of the current environment variable value with the specified environment variable name.

*environment-variable-value*
> Specify the value of the environment variable. CHGENVVAR limits value to a maximum of 1024 bytes in length. Valid values include all EBCDIC characters. The value must be enclosed in apostrophes if it contains any non-alphanumeric character or blanks. If an apostrophe is intended, two apostrophes must be used ('').

**Note:** The case is preserved when lowercase characters are specified.

# Coded character set ID (CCSID)

Specifies the coded character set identifier (CCSID) of the text supplied on the ENVVAR and the VALUE parameters. This value is stored with the environment variable.

The possible values are:

**\*SAME**
> The value does not change.

**\*JOB**	The CCSID of the text is assumed to be the CCSID of the job running this command.

**\*HEX**	The CCSID of 65535 is stored with this environment variable.

*coded-character-set-identifier*
> Specify the CCSID to be stored with the environment variable. Valid values range from 1 through 65535.

# Level (LEVEL)

Specifies the level of the environment variable.

The possible values are:

**\*JOB**	This is a job-level environment variable.

**\*SYS**	This is a system-level environment variable.

**Note:** This field is only used to specify the level of the environment variable that is being changed, and cannot be used to change the level of the environment variable.

# Examples

**Example 1: Change a Job-level Environment Variable**

```
CHGENVVAR   ENVVAR(altdir)  VALUE('/mydir/test')
```

This command changes the value of the job-level environment variable named altdir to the value /mydir/test. The CCSID that is stored with the environment variable is not changed.

**Example 2: Change the CCSID of an Environment Variable**

```
CHGENVVAR   ENVVAR(altdir)  CCSID(273)
```

This command changes the CCSID of the job-level environment variable named altdir to 273. The environment variable value is not changed.

**Example 3: Set an Environment Variable to Null**

```
CHGENVVAR   ENVVAR(LIBPATH)  VALUE(*NULL)
```

This command changes the value of the job-level environment variable named LIBPATH to the null (x'00') character.

**Example 4: Change a System-level Environment Variable**

```
CHGENVVAR   ENVVAR(home)  VALUE('/usr/home') LEVEL(*SYS)
```

This command changes the value of the system-level environment variable named home to /usr/home.

---

## Error messages

**\*ESCAPE Messages**

**CPFA981**
Environment variable does not exist.

**CPFA982**
ENVVAR character not valid.

**CPFA983**
Unexpected error occurred.

**CPFA984**
Maximum number of environment variables exist.

**CPFA98E**
*JOBCTL special authority required to update system-level environment variables.

**CPF3BCA**
CCSID &1 not supported.

# Change EWC Barcode Entry (CHGEWCBCDE)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Extended Wireless Controller Bar Code Entry (CHGEWCBCDE) command changes a set of bar code group parameters in a extended wireless controller source file member. The bar code group defines the parameters for scanning a particular bar code label. The Portable Transaction Computer (PTC) group specifies the bar code groups that are used to configure the bar code scanner.

**Restriction:** If the values specified for the INZFILE and INZMBR parameters of this command do not match the values specified for the corresponding parameters of the wireless controller description, extended wireless controller configuration data will not be downloaded to the wireless adapter.

**Restriction:** To execute this command, the user profile requires *IOSYSCFG special authority.

**Note:** You can use the Change Controller Description (Local Work Station) (CHGCTLLWS) command to view or change values specified for the INZFILE and INZMBR parameters in the wireless controller description.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| BCDGRP | Barcode group | *Name* | Required, Key, Positional 1 |
| INZMBR | Initialization source member | *Name* | Required, Key, Positional 2 |
| INZFILE | Initialization source file | *Qualified object name* | Optional, Key, Positional 3 |
| | Qualifier 1: Initialization source file | *Name*, **QEWCSRC** | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| BCDTYPE | Barcode type | **\*SAME**, *UPC, *EAN, *PLESSEY, *ALPHAPLESSEY, *ISBNPLESSEY, *PUREPLESSEY, *SAINPLESSEY, *UPCA, *UPCE, *EAN8, *EAN13, *CODABAR, *CODE3OF9, *CODE2OF5, *DISCR2OF5, *INTERL2OF5, *INDUST2OF5, *CODE11, *CODE128, *CODE93 | Optional |
| LBLLEN | Label length | 0-64, **\*SAME** | Optional |
| CHK1DIGIT | First check digit | **\*SAME**, *NO, *YES | Optional |
| CHK2DIGIT | Second check digit | **\*SAME**, *NO, *YES | Optional |
| ALLZERO | All zeros | **\*SAME**, *NO, *YES | Optional |
| ALPHADSP | Alpha display | **\*SAME**, *NO, *YES | Optional |
| ADDON2 | Add on 2 | **\*SAME**, *NO, *YES | Optional |
| ADDON5 | Add on 5 | **\*SAME**, *NO, *YES | Optional |
| SYS1UPCE | System 1 UPC-E | **\*SAME**, *NO, *YES | Optional |
| SYS0UPCE | System 0 UPC-E | **\*SAME**, *NO, *YES | Optional |
| UPCE | UPC-E | **\*SAME**, *NO, *YES | Optional |
| EAN13 | EAN 13 | **\*SAME**, *NO, *YES | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| EXT3OF9 | Extended Character Set | **\*SAME**, \*NO, \*YES | Optional |
| ADDON | Add on | **\*SAME**, \*BIDIRECTIONAL, \*FORWARD | Optional |
| DROPBEGIN | Drop begin | 0-64, **\*SAME** | Optional |
| DROPEND | Drop end | 0-64, **\*SAME** | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, \*BLANK | Optional |

## Barcode group (BCDGRP)

Specifies the name of the existing bar code group to be changed. This name is used to identify configuration data related to a bar code group. The bar code group name is a unique alphanumeric character string with a maximum of 16 characters in length.

## Initialization source member (INZMBR)

Specifies the extended wireless controller source file member of the bar code group. This member contains the bar code configuration data that is changing.

## Initialization source file (INZFILE)

Specifies the name of the source physical file that contains the extended wireless controller source file member. If the source physical file does not exist, this command will fail.

The name of the source file can be qualified by one of the following library values:

**\*LIBL**　　All libraries in the job's library list are searched until the first match is found.

**\*CURLIB**
>　The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*library-name*
>　Specify the name of the library to be searched.

The possible values are:

**QEWCSRC**
>　The source file name QEWCSRC is used.

*source-file-name*
>　Specify the name of the source physical file that contains the source member.

# Barcode type (BCDTYPE)

Specifies the bar code type defined by this bar code group.

The possible values are:

**\*SAME**
> The value remains the same.

**\*UPC**    UPC bar codes are used.

**\*EAN**    EAN bar codes are used.

**\*PLESSEY**
> Plessey bar codes are used.

**\*ALPHAPLESSEY**
> Alpha Plessey bar codes are used.

**\*ISBNPLESSEY**
> ISBN Plessey bar codes are used.

**\*PUREPLESSEY**
> Pure Plessey bar codes are used.

**\*SAINPLESSEY**
> Sainsbury Plessey bar codes are used.

**\*UPCA**
> UPC-A bar codes are used.

**\*UPCE**
> UPC-E bar codes are used.

**\*EAN8**
> EAN-8 bar codes are used.

**\*EAN13**
> EAN-13 bar codes are used.

**\*CODABAR**
> CODABAR bar codes are used.

**\*CODE3OF9**
> CODE 3 of 9 bar codes are used.

**\*CODE2OF5**
> CODE 2 of 5 bar codes are used.

**\*DISCR2OF5**
> Discrete 2 of 5 bar codes are used.

**\*INTERL2OF5**
> Interleaved 2 of 5 bar codes are used.

**\*INDUST2OF5**
> Industrial 2 of 5 bar codes are used.

**\*CODE11**
> CODE 11 bar codes are used.

**\*CODE128**
> CODE 128 bar codes are used.

**\*CODE93**
> CODE 93 bar codes are used.

## Label length (LBLLEN)

Specifies the label length of a bar code label for the specified bar code group.

The possible values are:

**\*SAME**
> The value remains the same.

*label-length*
> Specify the character length of a bar code label for the bar code group. If the label length is 00 then label length is variable from 1 to 64. The valid range of values is from 0 through 64.

## First check digit (CHK1DIGIT)

Specifies whether the check digit or the first check digit are checked on the bar code label. This is valid only when \*PLESSEY, \*CODE3OF9, \*EXTCODE3OF9, \*CODE11, or \*CODE2OF5 are specified by the BCDTYPE parameter.

The possible values are:

**\*SAME**
> The value remains the same.

**\*NO**    The check digit or the first check digit are ignored.

**\*YES**    The check digit or the first check digit are checked for a valid read.

## Second check digit (CHK2DIGIT)

Specifies whether the second check digit is checked on the bar code label. This is valid only when \*PLESSEY or \*CODE11 are specified by the BCDTYPE parameter.

The possible values are:

**\*SAME**
> The value remains the same.

**\*NO**    The second check digit is ignored.

**\*YES**    The second check digit is checked for a valid read.

## All zeros (ALLZERO)

Specifies whether a bar code label of all 0's is a valid scan. This is valid only when BCDTYPE(\*PLESSEY) is specified.

The possible values are:

**\*SAME**
       The value remains the same.

**\*NO**     A bar code label of all 0's is not a valid scan.

**\*YES**    A bar code label of all 0's is a valid scan.

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## Alpha display (ALPHADSP)

Specifies whether to display bar code label characters : ; < = > and ? as alphabetic characters A, B, C, D, E and F, respectively. This is valid only when BCDTYPE(\*PLESSEY) is specified.

The possible values are:

**\*SAME**
       The value remains the same.

**\*NO**     Display the characters normally.

**\*YES**    Display the characters as alphabetic characters.

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## Add on 2 (ADDON2)

Specifies whether a 2-digit add on is valid or ignored. This is valid only when \*UPC or \*EAN are specified by the BCDTYPE parameter.

The possible values are:

**\*SAME**
       The value remains the same.

**\*NO**     A 2-digit add on is ignored.

**\*YES**    A 2-digit add on is valid.

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## Add on 5 (ADDON5)

Specifies whether 5-digit add on is valid or ignored. This is valid only when \*UPC or \*EAN are specified by the BCDTYPE parameter.

The possible values are:

**\*SAME**
       The value remains the same.

**\*NO**     A 5-digit add on is ignored.

**\*YES**    A 5-digit add on is valid.

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## System 1 UPC-E (SYS1UPCE)

Specifies whether a System 1 UPC-E is valid or ignored. This is valid only when *UPC or *EAN are specified by the BCDTYPE parameter.

The possible values are:

**\*SAME**
> The value remains the same.

**\*NO**   A System 1 UPC-E is ignored.

**\*YES**   A System 1 UPC-E is valid.

## System 0 UPC-E (SYS0UPCE)

Specifies whether a system 0 UPC-E is valid or ignored. This is valid only when *UPC or *EAN are specified by the BCDTYPE parameter.

The possible values are:

**\*SAME**
> The value remains the same.

**\*NO**   A System 0 UPC-E is ignored.

**\*YES**   A System 0 UPC-E is valid.

## UPC-E (UPCE)

Specifies whether a UPC-E should be expanded to a UPC-A. This is valid only when *UPC or *EAN are specified by the BCDTYPE parameter.

The possible values are:

**\*SAME**
> The value remains the same.

**\*NO**   UPC-E bar codes are unaffected.

**\*YES**   UPC-E bar codes are expanded to UPC-A.

## EAN 13 (EAN13)

Specifies whether UPC and EAN bar codes are expanded to EAN-13. This is valid only when *UPC or *EAN are specified by the BCDTYPE parameter.

The possible values are:

**\*SAME**
> The value remains the same.

**\*NO**   UPC and EAN bar codes are unaffected.

**\*YES** UPC and EAN bar codes are expanded to EAN-13.

## Extended Character Set (EXT3OF9)

Specifies whether code 3 of 9 bar code uses the extended character set. This is valid only when
\*CODE3OF9 is specified by the BCDTYPE parameter.

The possible values are:

**\*SAME**
The value remains the same.

**\*NO** Code 3 of 9 bar code is unaffected.

**\*YES** Code 3 of 9 bar code uses the extended character set.

## Add on (ADDON)

Specifies the direction of add on digits. This is valid only when \*UPC or \*EAN are specified by the
BCDTYPE parameter.

The possible values are:

**\*SAME**
The value remains the same.

**\*BIDIRECTIONAL**
Add on digits are valid in both directions.

**\*FORWARD**
Add on digits are valid only in the forward direction.

## Drop begin (DROPBEGIN)

Specifies the number of characters to drop from the beginning of the bar code label. The valid range of
values is from 0 through 64.

The possible values are:

**\*SAME**
The value remains the same.

*drop-begin*
Specify the number of characters to drop from the beginning of the bar code label. The valid
range of values is from 0 through 64.

## Drop end (DROPEND)

Specifies the number of characters to drop from the end of the bar code label. The valid range of values is from 0 through 64.

The possible values are:

**\*SAME**
>The value remains the same.

*drop-end*
>Specify the number of characters to drop from the end of the bar code label. The valid range of values is from 0 through 64.

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## Text 'description' (TEXT)

Specifies text that briefly describes the PTC entry.

The possible values are:

**\*SAME**
>The value remains the same.

**\*BLANK**
>Text is not specified.

*'description'*
>Specify no more than 50 characters of text, enclosed in apostrophes.

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## Examples

```
CHGEWCBCDE   BCDGRP(BCD01)  INZMBR(EWC01)  ADDON2(*YES)
```

This command changes a bar code group named BCD01 to allow ADDON2 usage in an extended wireless controller configuration source file member named EWC01 in source physical file QEWCSRC in the library list.

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## Error messages

None

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# Change Wireless Ctl Member (CHGEWCM)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Extended Wireless Controller Member (CHGEWCM) command changes the extended wireless controller parameters in the specified source file member. Specific Portable Transaction Computer (PTC) and bar code configurations in this member are changed using the Change Extended Wireless Controller PTC Entry (CHGEWCPTCE) and Change Extended Wireless Controller Bar Code Entry (CHGEWCBCDE) commands.

**Restriction:** If the values specified for the INZFILE and INZMBR parameters of this command do not match the values specified for the corresponding parameters of the wireless controller description, extended wireless controller configuration data will not be downloaded to the wireless adapter.

**Restriction:** To execute this command, the user profile requires *IOSYSCFG special authority.

**Note:** You can use the Change Controller Description (Local Work Station) (CHGCTLLWS) command to view or change values specified for the INZFILE and INZMBR parameters in the wireless controller description.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **INZMBR** | Initialization source member | *Name* | Required, Key, Positional 1 |
| **INZFILE** | Initialization source file | *Qualified object name* | Optional, Key, Positional 2 |
| | Qualifier 1: Initialization source file | *Name*, **QEWCSRC** | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **TXPADR** | Destination ID | 4001-4FFE, **\*SAME** | Optional |
| **TXPPORT** | Transport port | 0-15, **\*SAME** | Optional |
| **TEXT** | Text 'description' | *Character value*, **\*SAME** | Optional |
| **KBDMAPMBR** | Keyboard remap source member | *Name*, **\*SAME**, *NONE | Optional |
| **SCNFMTMBR** | Screen reformat rules member | *Name*, **\*SAME**, *NONE | Optional |
| **KBDMAPFILE** | Keyboard remapping source file | *Qualified object name* | Optional |
| | Qualifier 1: Keyboard remapping source file | *Name*, **\*SAME**, QEWCKBDMAP | |
| | Qualifier 2: Library | *Name*, **\*SAME**, QGPL | |
| **SCNFMTFILE** | Screen reformatting rules file | *Qualified object name* | Optional |
| | Qualifier 1: Screen reformatting rules file | *Name*, **\*SAME**, QEWCSCNFMT | |
| | Qualifier 2: Library | *Name*, **\*SAME**, QGPL | |

## Initialization source member (INZMBR)

Specifies the name of the source file member to be changed. This member contains wireless controller configuration data.

## Initialization source file (INZFILE)

Specifies the name of the source physical file of the source file member to be changed. If the source physical file does not exist, this command will fail.

The name of the source file can be qualified by one of the following library values:

**\*LIBL**   All libraries in the job's library list are searched until the first match is found.

**\*CURLIB**

> The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*library-name*

> Specify the name of the library to be searched.

The possible values are:

**QEWCSRC**

> The source file name QEWCSRC is used.

*source-file-name*

> Specify the name of the source physical file of the source member to change.

## Destination ID (TXPADR)

Specifies the local destination ID (transport address) that the PTC attempts to connect to at emulation startup time. This is a 4-byte hexadecimal number with valid values ranging from 4001 through 4FFE. The destination ID must match the destination ID used in the PTC(s).

The possible values are:

**\*SAME**

> The value stays the same.

*destination ID (transport-address)*

> Specify the local destination ID (transport address).

## Transport port (TXPPORT)

Specifies the local transport port connection number of the controller. The valid range is from 0 through 15. The value used by the PTC(s) is 0.

The possible values are:

**\*SAME**
>     The value stays the same.

*transport-port*
>     Specify the local transport port connection number.

## Text 'description' (TEXT)

Specifies text that briefly describes the program and its function. More information on this parameter is in the CL Reference book, Appendix A.

The possible values are:

**\*SAME**
>     The text stays the same.

**\*BLANK**
>     Text is not specified.

*'description'*
>     Specify no more than 50 characters of text, enclosed in apostrophes.

## Keyboard remap source member (KBDMAPMBR)

Specifies the source physical file member that contains the Keyboard Map information.

NOTE: The Keyboard Mapping function is not supported on the 2668 Feature Number.

The possible values are:

**\*SAME**
>     The file member stays the same.

**\*NONE**
>     Keyboard Mapping file member is not used.

*source-file-member*
>     The name of the file member that specifies the Keyboard Map information.

## Screen reformat rules member (SCNFMTMBR)

Specifies the source physical file member that contains the Screen Reformatter information

NOTE: The Screen Reformatter function is not supported on the 2668 Feature Number.

The possible values are:

**\*SAME**
>     The file member stays the same.

**\*NONE**
>     Screen Reformatter file member is not used.

*source-file-member*
> The name of the file member that specifies the Screen Reformatter information

## Keyboard remapping source file (KBDMAPFILE)

Specifies the name of a source physical file to contain Keyboard Map source file member. If the source physical file does not exist, this command will fail.

The name of the source file can be qualified by one of the following library values:

**\*LIBL**   All libraries in the job's library list are searched until the first match is found.

**\*CURLIB**
> The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*library-name*
> Specify the name of the library to be searched.

The possible values are:

**QEWCKBDMAP**
> The source file name QEWCKBDMAP is used.

*source-file-name*
> Specify the name of an existing source physical file to which the member is added.

## Screen reformatting rules file (SCNFMTFILE)

Specifies the name of a source physical file to contain Screen Reformatter source file member. If the source physical file does not exist, this command will fail.

The name of the source file can be qualified by one of the following library values:

**\*LIBL**   All libraries in the job's library list are searched until the first match is found.

**\*CURLIB**
> The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*library-name*
> Specify the name of the library to be searched.

The possible values are:

**QEWCSCNFMT**
> The source file name QEWCSCNFMT is used.

*source-file-name*
> Specify the name of an existing source physical file to which the member is added.

## Examples

```
CHGEWCM  INZMBR(EWC01)  INZFILE(MYLIB/QEWCSRC)  TXPPORT(2)
```

This command changes the extended wireless controller member EWC01 in the source physical file QEWCSRC in library MYLIB. The transport port connection number is changed to 2.

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## Error messages

None

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# Change EWC PTC Entry (CHGEWCPTCE)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Extended Wireless Controller PTC Entry (CHGEWCPTCE) command changes the configurable Portable Transaction Computer (PTC) 5250 emulation operating parameters of the specified PTC group in the specified source file member.

**Restriction:** If the values specified for the INZFILE and INZMBR parameters of this command do not match the values specified for the corresponding parameters of the wireless controller description, extended wireless controller configuration data will not be downloaded to the wireless adapter.

**Restriction:** To execute this command, the user profile requires *IOSYSCFG special authority.

**Notes:**

1. You can use the Change Controller Description (Local Work Station) (CHGCTLLWS) command to view or change values specified for the INZFILE and INZMBR parameters in the wireless controller description.
2. A *DEV value specified by a parameter indicates a device specific default value. Since such values cannot be sent from the device, the current value for these parameters cannot be displayed.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| PTCGRP | PTC group | *Name* | Required, Key, Positional 1 |
| INZMBR | Initialization source member | *Name* | Required, Key, Positional 2 |
| INZFILE | Initialization source file | *Qualified object name* | Optional, Key, Positional 3 |
| | Qualifier 1: Initialization source file | *Name*, **QEWCSRC** | |
| | Qualifier 2: Library | *Name*, **\*LIBL** | |
| PTCRANGE | PTC ID range | *Element list* | Optional |
| | Element 1: Begin ID | 0001-1022, **\*SAME** | |
| | Element 2: End ID | 0001-1022, **\*SAME** | |
| INTENSITY | Intensity | **\*SAME**, *NORMAL, *INVERSE | Optional |
| STSLINE | Status line | **\*SAME**, *YES, *NO | Optional |
| CSRTYPE | Cursor type | **\*SAME**, *UNDERLINE, *BLOCK | Optional |
| INACTTMR | Inactivity timer | 0-9999, **\*SAME**, *DEV | Optional |
| BCKLTTMR | Backlight timer | 0-9999, **\*SAME**, *DEV | Optional |
| BCKLTKEY | Backlight key | **\*SAME**, *ON, *OFF | Optional |
| BYPASSEXIT | Bypass exit | **\*SAME**, *YES, *NO | Optional |
| AUTORUN | Automatic run | **\*SAME**, *YES, *NO | Optional |
| PRINTER | Printer | **\*SAME**, *SYSTEM, *PTC | Optional |
| WANDTYPE | Wand type | **\*SAME**, *NONE, *PENCIL, *LASER, *RS232 | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| PECKRATE | Wand pecking rate | **\*SAME**, \*DEV, 2, 4, 8, 16, 32, 48 | Optional |
| LASERTMR | Laser read timer | **\*SAME**, \*DEV, 1440, 2880, 4320, 5760 | Optional |
| BCDFKEY | Barcode function keys | **\*SAME**, \*OFF, \*ON | Optional |
| AUTOENTER | Auto Enter | **\*SAME**, \*OFF, \*ON | Optional |
| CSRLOC | Cursor location | **\*SAME**, \*HOLD, \*FIRST | Optional |
| SHORTSCAN | Short scan | **\*SAME**, \*YES, \*NO | Optional |
| SCANEOF | Scan end of file | **\*SAME**, \*YES, \*NO | Optional |
| POLL | Fast poll interval | 0-9999, **\*SAME**, \*DEV | Optional |
| POLLDLY | Fast poll delay | 0-9999, **\*SAME**, \*DEV | Optional |
| POLLDECAY | Fast poll decay | 0-255, **\*SAME**, \*DEV | Optional |
| SLOWPOLL | Slow poll interval | 0-99999, **\*SAME**, \*DEV | Optional |
| DESTHOP | Destination hop | Values (up to 8 repetitions): *Element list* | Optional |
|  | Element 1: Destination ID | 4001-4FFE, **4001**, \*REMOVE |  |
|  | Element 2: Frequency | **1**, 2, 3, 4, 5, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911 |  |
|  | Element 3: Data rate | \*NONE, 1M, **2M** |  |
|  | Element 4: Radio system identifier | 000002-FFFFFE, **000002** |  |
| BCDGRP | Barcode group | Values (up to 6 repetitions): *Name*, **\*SAME**, \*REMOVE | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, \*REMOVE | Optional |
| ENBKBDMAP | Enable keyboard remapping | **\*SAME**, \*NO, \*YES | Optional |
| ENBSCNFMT | Enable screen reformatting | **\*SAME**, \*NO, \*YES | Optional |
| DEVPFX | Device name prefix | *Simple name*, **\*SAME** | Optional |

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## PTC group (PTCGRP)

Specifies the PTC group name to be changed. This name is used to identify configuration data related to a group of PTCs bound by the PTCRANGE parameter. The PTC group name is a unique alphanumeric character string up to 16 characters in length.

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## Initialization source member (INZMBR)

Specifies the extended wireless controller source file member containing the PTC entry that is changed.

Top

## Initialization source file (INZFILE)

Specifies the name of the source physical file that contains the extended wireless controller source file member. If the source physical file does not exist, this command will fail.

The name of the source file can be qualified by one of the following library values:

**\*LIBL**   All libraries in the job's library list are searched until the first match is found.

**\*CURLIB**
> The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*library-name*
> Specify the name of the library to be searched.

The possible values are:

**QEWCSRC**
> The source file name QEWCSRC is used.

*source-file-name*
> Specify the name of the source physical file that contains the source member to be changed.

## PTC ID range (PTCRANGE)

Specifies the beginning and ending 4-character decimal PTC ID to use for this PTC group. The defined configuration data is downloaded to any PTC detected within this range. A PTC group of a single PTC can be specified by setting the beginning and ending PTC ID to the same value.

The possible values are:

**\*SAME**
> The value remains the same.

The possible Beginning ID values are:

**0001**  The value 0001 is used as the beginning PTC ID of the PTC group.

*begin-ID*
> Specify the beginning PTC ID of the PTC group. The valid values range from 0001 through 1022.

The possible Ending ID values are:

**1022**  The value 1022 is used as the ending PTC ID of the PTC group.

*end-ID*
> Specify the ending PTC ID of the PTC group. The valid values range from 0001 through 1022.

## Intensity (INTENSITY)

Specifies how the emulation screen on the PTC handles a field with the intensity attribute set.

The possible values are:

**\*SAME**
> The value remains the same.

**\*NORMAL**
> The field is displayed as normal.

**\*INVERSE**
> The field is displayed as reverse image.

# Status line (STSLINE)

Specifies whether the status line is displayed on the PTC.

The possible values are:

**\*SAME**
> The value remains the same.

**\*YES**    The status line is displayed.

**\*NO**    The status line is not displayed.

# Cursor type (CSRTYPE)

Specifies the type of cursor for use on the PTC.

The possible values are:

**\*SAME**
> The value remains the same.

**\*UNDERLINE**
> The cursor is an underline cursor.

**\*BLOCK**
> The cursor is a block cursor.

# Inactivity timer (INACTTMR)

Specifies, in seconds, the inactivity timer value for the PTC. The PTC powers down if no activity occurs on the PTC for this length of time.

The possible values are:

**\*SAME**
> The value remains the same.

**\*DEV**    The default device inactivity timer value is used.

*inactivity-timer*
> Specify the inactivity timer value in seconds. The valid range of values is from 0 through 9999.

# Backlight timer (BCKLTTMR)

Specifies, in seconds, the backlight inactivity timer value for the PTC. The PTC turns the backlight off if no activity occurs on the PTC for this length of time.

The possible values are:

**\*SAME**
> The value remains the same.

**\*DEV**    The default device backlight inactivity timer value is used.

*backlight-timer*
>Specify the backlight inactivity timer value in seconds. The valid range of values is from 0 through 9999.

## Backlight key (BCKLTKEY)

Specifies whether the backlight turns on when a key is pressed on the PTC.

The possible values are:

**\*SAME**
>The value remains the same.

**\*ON**  The backlight turns on when a key is pressed.

**\*OFF**  The backlight does not turn on when a key is pressed

## Bypass exit (BYPASSEXIT)

Specifies whether to bypass exit processing when leaving emulation on the PTC.

The possible values are:

**\*SAME**
>The value remains the same.

**\*NO**  Exit processing runs.

**\*YES**  Exit processing does not run.

## Automatic run (AUTORUN)

Specifies whether emulation software is automatically run on the PTC at system IPL.

The possible values are:

**\*SAME**
>The value remains the same.

**\*NO**  Emulation software does not automatically run at system IPL.

**\*YES**  Emulation software automatically runs at system IPL.

## Printer (PRINTER)

Specifies whether the printer for the PTC is the system printer or a printer that is locally attached to the PTC.

The possible values are:

**\*SAME**
> The value remains the same.

**\*SYSTEM**
> The system printer is used.

**\*PTC**   The printer that is locally attached to the PTC is used.

## Wand type (WANDTYPE)

Specifies the type of wand scanner being used.

The possible values are:

**\*SAME**
> The value remains the same.

**\*NONE**
> No wand scanner is used.

**\*PENCIL**
> A pencil wand scanner is used.

**\*LASER**
> A laser wand scanner is used.

**\*RS232**
> The wand scanner is attached on the RS-232 connector on the PTC

## Wand pecking rate (PECKRATE)

Specifies the wand pecking rate, in milliseconds. This value sets the time interval between the wand power on and power off states that is used to detect whether a label is present.

The possible values are:

**\*SAME**
> The value remains the same.

**\*DEV**   The default device wand pecking rate is used.

*peck-rate*
> Specify the wand peck rate in milliseconds. Valid values are 2, 4, 8, 16, 32, and 48.

## Laser read timer (LASERTMR)

Specifies the laser read timer value, in milliseconds. If a good scan has not been performed before the given timer value, then the laser is turned off.

The possible values are:

**\*SAME**
> The value remains the same.

**\*DEV**  The default device laser read timer value is used.

*laser-read-timer*
> Specify the laser read timer value in milliseconds. Valid values are 1440,2880,4320, and 5760.

# Barcode function keys (BCDFKEY)

Specifies whether function keys are entered by bar code labels.

The possible values are:

**\*SAME**
> The value remains the same.

**\*NO**  Function key entry by bar code is disabled.

**\*YES**  Function key entry by bar code is enabled.

# Auto Enter (AUTOENTER)

Specifies whether the PTC Auto Enter function is on or off.

The possible values are:

**\*SAME**
> The value remains the same.

**\*OFF**  The Auto Enter function is disabled.

**\*ON**  The Auto Enter function is enabled.

# Cursor location (CSRLOC)

Specifies when the cursor is moved from one window chunk to another window chunk, if the cursor defaults to the first input field in the chunk or hold its relative position within the window. A chunk is defined as being a portion of the 5250 emulation screen equal to the size of the PTC display screen.

The possible values are:

**\*SAME**
> The value remains the same.

**\*HOLD**
> The cursor holds its position when moving from one window chunk to another.

**\*FIRST**
> The cursor moves to the first active field when moving from one window chunk to another.

## Short scan (SHORTSCAN)

Specifies whether a bar code label that does not completely fill an input field is processed as if it has filled that field.

The possible values are:

**\*SAME**
>	The value remains the same.

**\*YES**	Bar code labels that do not fill an input field are processed as if they have filled the field.

**\*NO**	Bar code labels must fill the input field before they are processed.

## Scan end of file (SCANEOF)

Specifies whether an erase end of field is done when a bar code label is shorter than the input field.

The possible values are:

**\*SAME**
>	The value remains the same.

**\*YES**	An erase to end of field is done after a bar code scan.

**\*NO**	An erase to end of field is not done after a bar code scan.

## Fast poll interval (POLL)

Specifies, in milliseconds, the fast poll interval for the radio module on the PTC.

The possible values are:

**\*SAME**
>	The value remains the same.

**\*DEV**	The default device fast poll interval value is used.

*poll-interval*
>	Specify the fast poll interval in milliseconds. The valid range of values is from 0 through 9999.

## Fast poll delay (POLLDLY)

Specifies, in milliseconds, the fast poll delay parameter for the PTC radio module.

The possible values are:

**\*SAME**
>	The value remains the same.

**\*DEV**	The default device fast poll delay value is used.

*poll-delay*
> Specify the fast poll delay value in milliseconds. The valid range of values is from 0 through 9999.

## Fast poll decay (POLLDECAY)

Specifies the fast poll decay for the PTC radio module. The valid range of values is from 0 through 255.

The possible values are:

**\*SAME**
> The value remains the same.

**\*DEV**   The default device fast poll decay value is used.

*poll-decay*
> Specify the fast poll decay value. The valid range of values is from 0 through 255.

## Slow poll interval (SLOWPOLL)

Specifies, in milliseconds, the slow poll interval for the PTC radio module.

The possible values are:

**\*SAME**
> The value remains the same.

**\*DEV**   The default device slow poll interval value is used.

*slow-poll*
> Specify the slow poll interval in milliseconds. The valid range of values is from 0 through 99999.

## Destination hop (DESTHOP)

Specifies the alternate destination ID (transport address) that the PTC attempts to connect to at emulation startup time. This is a four-element field and up to 8 destination hops can be specified.

The possible values are:

**\*SAME**
> The value remains the same.

**\*REMOVE**
> The four-elements of this destination hop are removed.

The possible Destiniation ID (Transport Address) values are:

*destination ID*
> Specify the 4-byte hexadecimal destination ID of a wireless controller. The valid range of values is from 4001 through 4FFE.

Specifies which center frequency to use on the radio based on the radio channel set. The radio channel set is determined by the radio country code.

Valid values are from 1 to 5 for PTC's operating in the 2.4 Gigahertz range and 900 to 911 for PTC's operating in the 900 Megahertz range. If a value in the 900 to 911 range is used, the data rate may not be specified (900 Megahertz data rates are fixed by the frequency channel number).

The possible Frequency values for the 2.4 Gigahertz range are:

For channel set 9, there are five center frequencies.

**1**  A center frequency of 2.412 gigahertz is used.

2  A center frequency of 2.427 gigahertz is used.

3  A center frequency of 2.442 gigahertz is used.

4  A center frequency of 2.457 gigahertz is used.

5  A center frequency of 2.465 gigahertz is used.

For channel set 10, there are five center frequencies. Channel set 10 is used in ETSI (European Telecommunication and Standards Institute) countries.

**1**  A center frequency of 2.412 gigahertz is used.

2  A center frequency of 2.427 gigahertz is used.

3  A center frequency of 2.442 gigahertz is used.

4  A center frequency of 2.457 gigahertz is used.

5  A center frequency of 2.472 gigahertz is used.

For channel set 11, there is one center frequency.

**1**  A center frequency of 2.484 gigahertz is used.

For channel set 12, there are three center frequencies.

**1**  A center frequency of 2.457 gigahertz is used.

**2**  A center frequency of 2.465 gigahertz is used.

**3**  A center frequency of 2.472 gigahertz is used.

For channel set 13, there are three center frequencies.

**1**  A center frequency of 2.411 gigahertz is used.

**2**  A center frequency of 2.425 gigahertz is used.

**3**  A center frequency of 2.439 gigahertz is used.

The possible Frequency values for the 900 Megahertz range are: 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, and 911.

The possible Datarate values are:

Specifies the wireless LAN data rate.

**2M**  A wireless LAN data rate of 2 megabits per second is used.

**1M**  A wireless LAN data rate of 1 megabit per second is used.

The possible Sys-ID values are:

Specifies the 6-character hexadecimal radio system identifier to be used.

**000002** The value 000002 is used.

*sys-ID* Specify a system ID to be used. Valid values range from 000002 to FFFFFE in hexadecimal format and the last digit must be even (for example, 0, 2, 4, 6, 8, A, C, E).

## Barcode group (BCDGRP)

Specifies the bar code group names used to define the bar code scanning capability of the PTC group. Bar code group names are defined and modified by the ADDEWCBCDE and CHGEWCBCDE commands.

The possible values are:

**\*SAME**
The value remains the same.

**\*REMOVE**
The specified bar code group is removed.

*bar-code-group*
Specify the bar code group name that corresponds to the bar code scanning capabilities required by the PTC. A maximum of 6 can be specified.

## Text 'description' (TEXT)

Specifies text that briefly describes the PTC entry.

The possible values are:

**\*SAME**
The value remains the same.

**\*REMOVE**
Text is removed.

*'description'*
Specify no more than 50 characters of text, enclosed in apostrophes.

## Enable keyboard remapping (ENBKBDMAP)

Enables or disables Keyboard Mapping function.

NOTE: The Keyboard Mapping function is not supported on the 2668 Feature Number.

The possible values are:

**\*SAME**
The value remains the same.

**\*NO** The Keyboard Mapping function is disabled.

**\*YES** The Keyboard Mapping function is enabled.

# Enable screen reformatting (ENBSCNFMT)

Enables or disables Screen Reformatter function.

NOTE: The Screen Reformatter function is not supported on the 2668 Feature Number.

The possible values are:

**\*SAME**
> The value remains the same.

**\*NO**  The Screen Reformatter function is disabled.

*\*YES*  The Screen Reformatter function is enabled.

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# Device name prefix (DEVPFX)

Specifies a PTC Device Name Prefix. The is a 6 character alpha numeric string that can be used to uniquely identify PTC displays. It will be used in the following format: PPPPPPXXXX. PPPPPP is the 6 character prefix and XXXX is the PTC ID Range.

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# Examples

```
CHGEWCPTCE   PTCGRP(PTC01)  INZMBR(EWC01)  INZFILE(QGPL/QEWCSRC)
             PTCRANGE(0001 0032)
```

This command changes a PTC group named PTC01 to use PTCs with addresses from 1 to 32 in the Extended Wireless Controller source file member EWC01 in source physical file QEWCSRC in QGPL.

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# Error messages

None

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# Change Wireless Line Member (CHGEWLM)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Extended Wireless Line Member (CHGEWLM) command changes the extended wireless line parameters in the specified source file member.

**Restriction:** If the values specified for the INZFILE and INZMBR parameters of this command do not match the values specified for the corresponding parameters of the wireless line description, extended wireless line configuration data will not be downloaded to the wireless adapter.

**Restriction:** To execute this command, the user profile requires *IOSYSCFG special authority.

**Note:** You can use the Change Line Description (Wireless) (CHGLINWLS) command to view or change values specified for the INZFILE and INZMBR parameters in the wireless line description.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| INZMBR | Initialization source member | *Name* | Required, Key, Positional 1 |
| INZFILE | Initialization source file | *Qualified object name* | Optional, Key, Positional 2 |
| | Qualifier 1: Initialization source file | *Name*, **QEWLSRC** | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| ADPTCFG | Adapter configuration | **\*SAME**, *ALL, *RADIO, *WIRED | Optional |
| HOPID | Hop identifier | 020000000000-FEFFFFFFFFFF, **\*SAME**, *ADPT | Optional |
| ROOT | Root cell | **\*SAME**, *YES, *NO | Optional |
| FREQUENCY | Frequency | **\*SAME**, 1, 2, 3, 4, 5 | Optional |
| DATARATE | Data rate | **\*SAME**, 2M, 1M | Optional |
| SYSID | Radio system identifier | 000002-FFFFFE, **\*SAME** | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

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## Initialization source member (INZMBR)

Specifies the name of the source file member that contains the extended wireless line configuration data that is changing.

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# Initialization source file (INZFILE)

Specifies the name of the source physical file that contains the extended configuration source file member. If the source physical file does not exist, this command will fail.

The name of the source file can be qualified by one of the following library values:

**\*LIBL**   All libraries in the job's library list are searched until the first match is found.

**\*CURLIB**
> The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*library-name*
> Specify the name of the library to be searched.

The possible values are:

**QEWLSRC**
> The source file name QEWLSRC is used.

*source-file-name*
> Specify the name of the source physical file that contains the source file member that is changing.

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# Adapter configuration (ADPTCFG)

Specifies the wireless local area network (LAN) adapter configuration. The wireless LAN adapter has two communication methods: radio and wire backbone. The radio is a direct-sequence spread spectrum radio that can be used for wireless communications. The wire backbone is used to connect access points to a wireless LAN adapter. These access points also have a direct-sequence spread spectrum radio and are used to extend the radio coverage of the wireless network.

The possible values are:

**\*SAME**
> The value does not change.

**\*ALL**   The wireless LAN adapter uses both radio and wire backbone communications.

**\*RADIO**
> The wireless LAN adapter uses only radio communications.

**\*WIRED**
> The wireless LAN adapter uses only wire backbone communications.

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# Hop identifier (HOPID)

Specifies the 12-character hexadecimal radio identifier on the wireless LAN adapter. This is an internal identifier that is used to determine the destination of a data packet, during its next hop on the network.

**Note:** The value specified by the HOPID parameter is one of two different 12-character hexadecimal identifiers used by a wireless LAN adapter. The other is an endpoint identifier that is equivalent to the identifier used in Ethernet or token-ring networks.

The possible values are:

**\*SAME**
>> The value does not change.

**\*ADPT**
>> The preset wireless input/output adapter (IOA) address is used.

*hop-ID*
>> Specify the wireless LAN adapter hop address that overrides the preset address. The hop address must be an individual address (it cannot be a group address). Valid values range from 020000000000 to FEFFFFFFFFFF in hexadecimal format. The second digit from the left of the address must be a 2, 6, A, or E.

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# Root cell (ROOT)

Specifies whether the radio of the wireless LAN adapter is a root cell.

A wireless network consists of a group of wireless access points that are interconnected in the form of a logical spanning tree. One of these wireless access points must be designated as the root node for the network.

The possible values are:

**\*SAME**
>> The value does not change.

**\*YES**   The radio on the wireless LAN adapter is a root cell.

**\*NO**    The radio on the wireless LAN adapter is not a root cell.

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# Frequency (FREQUENCY)

Specifies which center frequency to use on the radio based on the radio channel set. The radio channel set is determined by the radio country code.

The possible Frequency values are:

**\*SAME**

For channel set 9, there are five center frequencies.

**1**      A center frequency of 2.412 gigahertz is used.

**2**      A center frequency of 2.427 gigahertz is used.

**3**      A center frequency of 2.442 gigahertz is used.

**4**      A center frequency of 2.457 gigahertz is used.

**5**      A center frequency of 2.465 gigahertz is used.

For channel set 10, there are five center frequencies. Channel set 10 is used in ETSI (European Telecommunication and Standards Institute) countries.

**1**      A center frequency of 2.412 gigahertz is used.

**2**      A center frequency of 2.427 gigahertz is used.

**3**      A center frequency of 2.442 gigahertz is used.

**4**  A center frequency of 2.457 gigahertz is used.

**5**  A center frequency of 2.472 gigahertz is used.

For channel set 11, there is one center frequency.

**1**  A center frequency of 2.484 gigahertz is used.

For channel set 12, there are three center frequencies.

**1**  A center frequency of 2.457 gigahertz is used.

**2**  A center frequency of 2.465 gigahertz is used.

**3**  A center frequency of 2.472 gigahertz is used.

For channel set 13, there are three center frequencies.

**1**  A center frequency of 2.411 gigahertz is used.

**2**  A center frequency of 2.425 gigahertz is used.

**3**  A center frequency of 2.439 gigahertz is used.

## Data rate (DATARATE)

Specifies wireless LAN data rate.

The possible values are:

**\*SAME**
    The value does not change.

**2M**  A wireless LAN data rate of 2 megabits per second is used.

**1M**  A wireless LAN data rate of 1 megabit per second is used.

## Radio system identifier (SYSID)

Specifies the 6-character hexadecimal radio system identifier to be used.

The possible values are:

**\*SAME**
    The value does not change

*sys-ID*  Specify a system ID to be used. Valid values range from 000002 to FFFFFE in hexadecimal format
    and the last digit must be even (i.e. 0,2,4,6,8,A,C,E).

## Text 'description' (TEXT)

Specifies the type of line connection used.

The possible values are:

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*'description'*
> Specify no more than 50 characters of text, enclosed in apostrophes.

## Examples

```
CHGEWLM   INZMBR(EWL01)  INZFILE(*CURLIB/QEWLSRC)
          FREQUENCY(*A2)
```

This command changes the parameter FREQUENCY to a value of *A2 (2.442 gigahertz) in the extended wireless line source member EWL01 in source physical file QEWLSRC in the current library.

## Error messages

None

# Change Expiration Scd Entry (CHGEXPSCDE)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Expiration Schedule Entry (CHGEXPSCDE) command allows you to expire a user profile on a certain date. The expired user profile can either be disabled or deleted.

When a profile is disabled or deleted, a message will be sent to the message queue of the user who issued the CHGEXPSCDE command.

To remove a user profile from the file so that it will no longer expire specify EXPDATE(*NONE).

This information can be displayed using the Display Expiration Schedule (DSPEXPSCD) command.

Once a profile has been scheduled to be disabled or deleted the CHGEXPSCDE job runs nightly. If you want to change the time the job runs, you can use the Change Job Schedule Entry (CHGJOBSCDE) command to change the QSECEXP1 job.

**Restriction:** You must have *ALLOBJ, *SECADM, and *JOBCTL special authorities to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **USRPRF** | User profile | Values (up to 10 repetitions): *Name* | Required, Positional 1 |
| **EXPDATE** | Expiration date | *Date*, *NONE | Required, Positional 2 |
| **ACTION** | Action | **\*DISABLE**, *DELETE | Optional |
| **OWNOBJOPT** | Owned object option | Single values: **\*NODLT**, *DLT<br>Other values: *Element list* | Optional |
| | Element 1: Owned object value | *CHGOWN | |
| | Element 2: User profile name if *CHGOWN | *Name* | |
| **PGPOPT** | Primary group option | Single values: **\*NOCHG**<br>Other values: *Element list* | Optional |
| | Element 1: Primary group value | *CHGPGP | |
| | Element 2: New primary group | *Name*, *NONE | |
| | Element 3: New primary group authority | **\*OLDPGP**, *PRIVATE, *ALL, *CHANGE, *USE, *EXCLUDE | |

# User profile (USRPRF)

This is a required parameter.

The name of the user profile that is to expire.

You can enter multiple values for this parameter.

# Expiration date (EXPDATE)

This is a required parameter.

The date on which the user profile(s) should expire.

**\*NONE**
> The profile should be removed from the list of user profiles that are to expire.

*expiration-date*
> The date the profile will expire.

# Action (ACTION)

The action to be taken against the expired user profile.

**\*DISABLE**
> The profile is to be disabled.

**\*DELETE**
> The profile is to be deleted.

# Owned object option (OWNOBJOPT)

The type of operations to be performed on the owned objects of the user profile being deleted.

**Element 1: Owned objects option**

**\*NODLT**
> The owned objects for the user profile are not changed, and the user profile is not deleted if the user owns any objects.

**\*DLT**  The owned objects for the user profile are deleted. The user profile is deleted if the deletion of all owned objects and the transfer of all primary group objects is successful.

**\*CHGOWN**
> The owned objects for the user profile have ownership transferred to the specified user profile. The user profile is deleted if the transfer of all owned objects is successful.
>
> When \*CHGOWN is specified, a user profile name must be specified for the new user profile. The new user profile owns all objects owned by the user profile specified by the USRPRF parameter.

**Element 2: User profile of new owner**

*user-profile-name*
> The user profile name.

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## Primary group option (PGPOPT)

The type of operations to be done on the objects that have the user profile being deleted as their primary group.

**\*NOCHG**
> The objects the user profile is the primary group for do not change, and the user profile i s not deleted if the user is the primary group for any objects.

**Element 1: Change primary group of objects**

**\*CHGPGP**
> The objects the user profile is the primary group for are transferred to the specified user profile. The user profile is deleted if the transfer of all objects is successful.

> When \*CHGPGP is specified, a user profile name or \*NONE must be specified. If a user profile name is specified, that user becomes the primary group for all objects for which the user profile specified by the USRPRF parameter is the primary group. If \*NONE is specified, all of the objects for which the user profile (specified by the USRPRF parameter) is the primary group, will no longer have a primary group.

**Element 2: User profile of new primary group**

*user-profile-name*
> The name of the user profile. The user profile specified must have a group ID number (GID).

**\*NONE**
> The objects do not have a primary group.

**Element 3: New primary group authority**

**\*OLDPGP**
> The new primary group has the same authority to the object as the old primary group.

**\*PRIVATE**
> If the new primary group has a private authority to the object, it will become the primary group for that object and the primary group authority will be what the private authority was. If the new primary group does not have a private authority to the object, it becomes the primary group but does not have any authority to the object.

**\*ALL**   The new primary group has \*ALL authority to the object.

**\*CHANGE**
> The new primary group has \*CHANGE authority to the object.

**\*USE**   The new primary group has \*USE authority to the object.

**\*EXCLUDE**
> The new primary group has \*EXCLUDE authority to the object.

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Change Expiration Scd Entry (CHGEXPSCDE) **119**

## Examples

```
CHGEXPSCDE   USRPRF(GARRY)  EXPDATE('07/01/1996')  ACTION(*DELETE)
```

This command changes the expiration schedule entry for user profile GARRY. The user profile GARRY will be deleted on July 1, 1996.

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## Error messages

**\*ESCAPE Messages**

**CPFB304**

      User does not have required special authorities.

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# Change Function Usage (CHGFCNUSG)

**Where allowed to run:** All environments (*ALL)  
**Threadsafe:** Yes

The Change Function Usage (CHGFCNUSG) command changes the allowed usage information of a registered function. Functions can be registered by using the Register Function (QSYRGFN) API.

Some functions provide other means to authorize users to the function. For example, a user that is not allowed to use the Service Trace (QIBM_SERVICE_TRACE) function will still be allowed to use the Trace Internal (TRCINT) command if they have service (*SERVICE) special authority.

**Restrictions:** You must have security administrator (*SECADM) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| FCNID | Function ID | *Simple name* | Required, Positional 1 |
| USER | User | *Simple name* | Optional |
| USAGE | Usage | *ALLOWED, *DENIED, *NONE | Optional |
| DEFAULT | Default authority | **\*SAME**, *ALLOWED, *DENIED | Optional |
| ALLOBJAUT | *ALLOBJ special authority | **\*SAME**, *USED, *NOTUSED | Optional |

## Function ID (FCNID)

Specifies the function identifier for which the usage information is to be changed.

This is a required parameter.

*name*  Specify the name of the function ID for which the usage information is to be changed.

## User (USER)

Specifies the name of the user profile whose function usage information is to be changed.

*name*  Specify the name of the user profile whose function usage information is to be changed.

## Usage (USAGE)

Specifies the allowed usage of the user profile specified for the **User (USER)** parameter.

**\*ALLOWED**

> The user profile is allowed to use the function.

**\*DENIED**

> The user profile is not allowed to use the function unless the function provides some other way to authorize users.

**\*NONE**

> The user profile will not be explicitly allowed or denied usage of the function.

## Default authority (DEFAULT)

Specifies the default usage for the function. The default usage is used if the user or one of its groups does not have a specific usage setting.

**\*SAME**

> The value does not change.

**\*ALLOWED**

> User profiles without a usage setting for the function are allowed to use the function.

**\*DENIED**

> User profiles without a usage setting for the function are not allowed to use the function unless the function provides some other way to authorize users.

## \*ALLOBJ special authority (ALLOBJAUT)

Specifies whether all object (*ALLOBJ) special authority may be used to give a user access to the function.

**\*SAME**

> The value does not change.

**\*USED**

> A user with *ALLOBJ special authority is always allowed to use the function.

**\*NOTUSED**

> For a user with *ALLOBJ special authority to use the function, the usage information specified for the function must indicate that the user is allowed to use the function for one of the following reasons:
>
> - the user is allowed usage,
> - one of its groups is allowed usage, or
> - the default setting is to allow usage.

## Examples

```
CHGFCNUSG   FCNID(QIBM_SERVICE_TRACE)  DEFAULT(*DENIED)
            USER(QSRVBAS)  USAGE(*ALLOWED)
```

This command denies access to the QIBM_SERVICE_TRACE function for the default user. It also allows the QSRVBAS user profile to use the function.

# Error messages

**_*ESCAPE Messages_**

**CPF2204**

> User profile &1 not found.

**CPF2225**

> Not able to allocate internal system object.

**CPF222E**

> &1 special authority is required.

**CPF228A**

> Function &1 not registered.

**CPF229B**

> Operation not allowed for function &1.

**CPF229D**

> Operation not allowed on user profile &1.

**CPF3CD9**

> Requested function cannot be performed at this time.

**CPF3CDA**

> Registration facility repository not available for use.

# Change Font Resource (CHGFNTRSC)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

Parameters
Examples
Error messages

The Change Font Resource (CHGFNTRSC) command allows you to mark font character sets and code pages as eligible to be captured. Fonts and code pages that are marked with FNTCAPTURE(*YES) are eligible to be captured after downloading on printers that support font capturing. This allows IPDS printers that support font capturing to dynamically <u>capture</u> or cache a host downloaded font which has been marked with font capture *YES. The captured font then appears to Print Services Facility (PSF) like a printer-resident font and remains in the printer even after it has be powered off and then on again. Printing performance is improved by eliminating subsequent font downloads to the printer.

Caution must be used when marking security sensitive fonts as FNTCAPTURE(*YES). It is possible that someone could access the captured font in the printer from another print job on the same system or another print job on a different system if the printer is attached to a LAN.

To use a host font referenced in a print job, you must have authority to the font object and its library on the system regardless if it is marked as eligible to be captured or not.

In addition to marking the font character set and code page, you must also activate font capturing on the printer you are using. To activate font capturing on an IPDS printer, you must specify FNTCAPTURE(*YES) on the CRTPSFCFG or CHGPSFCFG command.

**Notes:**
- Font character set and code page pairs that are marked as eligible to be captured will be downloaded to printers that do not support font capturing.
- Marking coded fonts is not supported. No change will take effect when attempting to mark a coded font.

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## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| FNTRSC | Font Resource | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Font Resource | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| FNTCAPTURE | Capture host fonts at printer | **\*SAME**, *NO, *YES | Optional |
| FNTRSCDTA | Font resource data | *Element list* | Optional |
| | Element 1: Graphic character set | 1-65535, **\*DFT** | |
| | Element 2: Identifier | 1-65535, **\*DFT** | |

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# Font Resource (FNTRSC)

Specifies the font character set or code page to be marked. Marking coded fonts is not supported. No change will take effect when attempting to mark a coded font.

**Qualifier 1: Font table**

*name*     Specify the name of the font character set or code page to be marked.

**Qualifier 2: Library**

**\*LIBL**     Search all libraries in the job's library list until the first match is found.

**\*CURLIB**
    Search only the current library for the job. If no library is specified as the current library for the job, QGPL is used.

*name*     Search the specified library.

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# Capture host fonts at printer (FNTCAPTURE)

Specifies whether the font character set or code page is to be marked as eligible for font capturing.

**\*SAME**
    The value for this parameter remains unchanged.

**\*YES**     The font character set or code page is eligible to be captured after downloading to the printer. If the printer does not support font capturing, this information is ignored and the font is downloaded.

**\*NO**     The font character set or code page is not eligible for font capturing. It will also be downloaded to the printer.

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# Font resource data (FNTRSCDTA)

Specifies the font resource data (graphic character set and identifier the font is to be marked with. For font character sets, the identifier is the font identifier such as 011 for the Courier font. For code pages, the identifier is the code page identifier, such as 500 for the international code page.

**Element 1: Graphic character set**

**\*DFT**     The graphic character set stored in the font is used for font capturing.

*1-65535*
    Specify the graphic character set for the font character sets or code pages.

**Element 2: Identifier**

**\*DFT**     The identifier stored in the font is used for font capturing.

*1-65535*
    Specify the identifier for the font character set or code page.

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## Examples

```
CHGFNTRSC   FNTRSC(QFNT61/X0G16F)   FNTCAPTURE(*YES)
```

This example marks font character set X0G16F in library QFNT61 as eligible for font capturing.

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## Error messages

### *ESCAPE Messages

**PQT0109**

Font resource &1 in library &2 not changed.

**PQT0110**

Coded font &1 in library &2 not eligible for font capture.

**PQT0111**

Font resource &1 not eligible to be captured.

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# Change Font Table Entry (CHGFNTTBLE)

The Change Font Table Entry (CHGFNTTBLE) command changes an entry in the specified font table. This command changes an exiting entry in the user font or code page tables used by Print Services Facility (PSF) that controls:

1.  Host-resident to printer-resident font character set mapping
2.  Printer-resident to host-resident font character set mapping
3.  Host-resident to printer-resident code page mapping
4.  Printer-resident to host-resident code page mapping
5.  Printer-resident to printer-resident font substitution mapping

The entry must have first been added to the user tables with the ADDFNTTBLE (Add Font Table Entry) command.

In performing the printer to host and host to printer font mapping (first four tables above), the user tables are searched first for a match. If no match is found, then the system font or code page tables are searched.

For the printer-resident to printer-resident font substitution table, the following processing is done by the system:

*   If the printer-resident font specified in the print job is supported by the printer, then it is used. The printer-resident to printer-resident font substitution table is not searched.
*   If the printer-resident font specified in the print job is not supported by the printer, then the printer-resident to printer-resident font substitution table is searched.
    *   If a matching entry is found in the printer-resident font substitution table and the entry is supported by the printer, then the specified substitute font in the printer-resident font substitution table is used.
    *   If a matching entry is not found in the printer-resident font substitution table or if the specified substitute font is not supported by the printer, then the system will use its internal font substitution tables to perform the font substitution.

Refer to Printer Device Programming, SC41-5713 for more information on font mapping tables.

**Restrictions:**

*   The PSF feature is required to use this command.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **FNTTBL** | Font table | Single values: *PHFCS, *HPFCS, *PHCP, *HPCP<br>Other values: *Qualified object name* | Optional,<br>Positional 1 |
| | Qualifier 1: Font table | *Name* | |
| | Qualifier 2: Library | *Name*, *CURLIB, **\*LIBL** | |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **PHFCS** | Printer to host font | *Element list* | Optional |
| | Element 1: Printer font | *Element list* | |
| | Element 1: Identifier | 1-65535 | |
| | Element 2: Width | 1-32767, *NONE, *PTSIZE | |
| | Element 3: Attributes | **\*NONE**, *BOLD, *ITALIC, *BOLDITC, *DBLWIDE, *ITCDBLWIDE | |
| | Element 4: Graphic character set | *Integer*, **\*SYSVAL** | |
| | Element 5: Point size | 1.0-999.9, **\*WIDTH**, *NONE | |
| | Element 2: Host font | *Element list* | |
| | Element 1: Font character set | *Name*, **\*SAME** | |
| | Element 2: Type | **\*SAME**, *RASTER, *OUTLINE | |
| **PHCP** | Printer to host code page | *Element list* | Optional |
| | Element 1: Printer code page | *Element list* | |
| | Element 1: Graphic character set | *Integer*, *SYSVAL | |
| | Element 2: Code page | *Integer* | |
| | Element 2: Host code page | *Element list* | |
| | Element 1: Code page | *Name*, **\*SAME** | |
| **HPFCS** | Host to printer font | *Element list* | Optional |
| | Element 1: Host font | *Element list* | |
| | Element 1: Font character set | *Name* | |
| | Element 2: Type | **\*RASTER**, *OUTLINE | |
| | Element 2: Printer font | *Element list* | |
| | Element 1: Identifier | 1-65535, **\*SAME**, *NONE | |
| | Element 2: Width | 1-32767, **\*SAME**, *NONE, *PTSIZE | |
| | Element 3: Attributes | **\*SAME**, *NONE, *BOLD, *ITALIC, *BOLDITC, *DBLWIDE, *ITCDBLWIDE | |
| | Element 4: Graphic character set | *Integer*, **\*SAME**, *SYSVAL | |
| | Element 5: Point size | 1.0-999.9, **\*SAME**, *WIDTH, *NONE | |
| **HPCP** | Host to printer code page | *Element list* | Optional |
| | Element 1: Host code page | *Element list* | |
| | Element 1: Code page | *Name* | |
| | Element 2: Printer code page | *Element list* | |
| | Element 1: Graphic character set | *Integer*, *SYSVAL, **\*SAME** | |
| | Element 2: Code page | *Integer*, **\*SAME** | |
| **PPFCS** | Printer to printer font | *Element list* | Optional |
| | Element 1: From printer font | *Element list* | |
| | Element 1: Identifier | 1-65535 | |
| | Element 2: Point size | 1.0-999.9, *ALL, **\*NONE** | |
| | Element 2: To printer font | *Element list* | |
| | Element 1: Identifier | 1-65535, **\*SAME** | |
| | Element 2: Point size | 1.0-999.9, *ALL, *NONE, **\*SAME** | |

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# Font table (FNTTBL)

Specifies the name of the font table to be changed.

This is a required parameter.

**Single values**

**\*PHFCS**

The printer-resident to host-resident font character set table is to be changed (add an entry).

This table would be used when your application, such as DDS, references printer-resident fonts and the printer does not support resident fonts. Examples of printers which do not support resident fonts are 3827, 3825, 3820, and the 3900 Model 1. Print Services Facility (PSF) must map the references from printer-resident fonts to host-resident fonts and download them.

**\*PHCP**

The printer-resident to host-resident code page mapping table is to be changed (add an entry).

This table is like the QPHFCS table, in that it is used when the application references printer-resident code pages and the printer being used does not support printer-resident code pages. The printer resident code page must be mapped to a host-resident code page and downloaded to the printer by PSF.

**\*HPFCS**

The host-resident to printer-resident font character set table is to be changed (add an entry).

This table is used when your application references host-resident fonts (font character sets and code pages) and the printer, such as the 4224, 4234, 4230, and 64XX, does not support downloading of host-resident fonts. PSF must map the references from host-resident fonts to printer-resident fonts.

**\*HPCP**

The host-resident to printer-resident code page mapping table is to be changed (add an entry).

This table is like the QHPFCS table, in that it is used when the application references host-resident code pages and the printer being used does not support host-resident code pages. The host resident code page must be mapped to a printer-resident code page and downloaded to the printer by PSF.

**Qualifier 1: Font table**

*name*    Specify the name of the font table to be changed. A name must be specified when a printer-resident to printer-resident font substitution table is changed. This printer-resident font substitution table should be used when all three of the following conditions exit.

1. You are printing to a PSF attached printer
2. Your application specifies a printer-resident font which is not supported by the printer you are using.
3. You want to specify a different substitute printer-resident font than the one selected by the system.

To use a printer-resident to printer-resident font substitution table with a particular PSF printer, you need to specify the name of the font table on the FNTTBL parameter of the Create PSF Configuration (CRTPSFCFG) or Change PSF Configuration (CHGPSFCFG) command.

**Qualifier 2: Library**

**\*LIBL**   Search all libraries in the job's library list until the first match is found.

**\*CURLIB**
> Search the current library for the job. If no library is specified as the current library for the job, the QGPL library is used.

*name*    Search the specified library.

---

# Printer to host font (PHFCS)

Specifies the printer-resident to host-resident font character set mapping. The printer-resident font, along with its specified attributes will be mapped to a host-resident font character set.

**Element 1: Printer font**

### Element 1: Identifier

*1-65535*
> Specify the printer-resident font identifier to be mapped to a host-resident font.

### Element 2: Width

**\*NONE**
> No width is specified for this font identifier. \*NONE should be specified when mapping to an outline font.

**\*PTSIZE**
> The width for this font identifier will be calculated from the point size specified. When \*PTSIZE is specified for width, the point size parameter cannot be \*NONE or \*WIDTH. When mapping a typographic raster font (2304 - 3839, 4096 - 53247, 61440 - 65534), a point size value should be specified. The width value can be \*PTSIZE or a value can be given.

*1-32767*
> Specify a width for the font identifier. When mapping a fixed pitch raster font (1 - 750, 3840 - 4095), a width should be specified. The point size value can be \*WIDTH or a value can be given. Refer to Printer Device Programming, SC41-5713 for more information on font widths for printer-resident fonts.

### Element 3: Attributes

**\*NONE**
> No special font attributes are specified on this font.

**\*BOLD**
> The printer-resident font is a bold font.

**\*ITALIC**
> The printer-resident font is an italic font.

**\*BOLDITC**
> The printer-resident font is a bold italic font.

**\*DBLWIDE**
> The printer-resident font is a double wide font.

**\*ITCDBLWIDE**
> The printer-resident font is an italic double wide font.

**Element 4: Graphic character set**

**\*SYSVAL**

> The graphic character set specified in the system value QCHRID is used.

*graphic-character-identifier*

> Specify the graphic character set for the font. The graphic character set is the first part of the graphic character identifier which consists of the graphic character set and code page.

**Element 5: Point size**

**\*WIDTH**

> The font point size is computed from the font width value specified. When mapping a fixed pitch raster font (1 - 750, 3840 - 4095), it is recommended that a width value should be specified and the point size value should be \*WIDTH.

**\*NONE**

> No point size is specified for this font identifier. \*NONE should be specified when mapping to an outline font.

*1.0-999.9*

> Specify a point size ranging from 1.0 through 999.9. When mapping a typographic raster font (2304 - 3839, 4096 - 53247, 61440 - 65534), a point size value should be specified.

**Element 2: Host font**

**Element 1: Font character set**

**\*SAME**

> The value for this parameter remains unchanged.

*name*  Specify the font character set.

**Element 2: Type**

**\*SAME**

> The value for this parameter remains unchanged.

**\*RASTER**

> The host-resident font is a raster font.

**\*OUTLINE**

> The host-resident font is an outline font.

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# Printer to host code page (PHCP)

Specifies the printer-resident to host-resident code page mapping. The printer-resident host code page will be mapped to a host-resident code page.

**Element 1: Printer code page**

> **Element 1: Graphic character set**
>
> **\*SYSVAL**
> > The graphic character set specified in the system value QCHRID is used. A change to this system value will only take effect for the font mapping tables when the print writer is started. If QCHRID is changed and a printer is currently active, you must end the print writer and start it again.
>
> *integer-number*
> > Specify the graphic character set for the printer-resident code page. The graphic character set is the first part of the graphic character identifier which consists of the graphic character set and code page. For example, for the graphic character identifier 697 500, 697 is the graphic character set and 500 is the code page. In this example, specify 697 for the graphic character set.
>
> **Element 2: Code page**
>
> *integer-number*
> > Specify the printer-resident code page value.

**Element 2: Host code page**

> **Element 1: Code page**
>
> **\*SAME**
> > The value for this parameter remains unchanged.
>
> *name*  Specify the name of the host-resident code page.

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# Host to printer font (HPFCS)

Specifies the host-resident to printer-resident font character set mapping. The host-resident font, along with its specified attributes will be mapped to a printer-resident font.

**Element 1: Host font**

> **Element 1: Font character set**
>
> *name*  Specify the font character set.
>
> **Element 2: Type**

**\*RASTER**
> The host-resident font is a raster font.

**\*OUTLINE**
> The host-resident font is an outline font.

**Element 2: Printer font**

**Element 1: Identifier**

**\*SAME**
> The value for this parameter remains unchanged.

*1-65535*
> Specify the printer-resident font identifier to be mapped from a host-resident font.

**\*NONE**
> To disable the mapping of a host-resident to printer-resident font, specify \*NONE for the font identifier. Refer to Printer Device Programming, SC41-5713 for more information on disabling the mapping of host-resident to printer-resident fonts.

**Element 2: Width**

**\*SAME**
> The value for this parameter remains unchanged.

**\*NONE**
> No width is specified for this font identifier. \*NONE should be specified when mapping to an outline font.

**\*PTSIZE**
> The width for this font identifier will be calculated from the point size specified. When \*PTSIZE is specified for width, the point size parameter cannot be \*NONE or \*WIDTH. When mapping a typographic raster font (2304 - 3839, 4096 - 53247, 61440 - 65534), a point size value should be specified. The width value can be \*PTSIZE or a value can be given.

*1-32767*
> Specify a width for the font identifier. When mapping a fixed pitch raster font (1 - 750, 3840 - 4095), a width should be specified. The point size value can be \*WIDTH or a value can be given. Refer to Printer Device Programming, SC41-5713 for more information on font widths for printer-resident fonts.

**Element 3: Attributes**

**\*SAME**
> The value for this parameter remains unchanged.

**\*NONE**
> No special font attributes are specified on this font.

**\*BOLD**
> The printer-resident font is a bold font.

**\*ITALIC**
> The printer-resident font is an italic font.

**\*BOLDITC**
> The printer-resident font is a bold italic font.

**\*DBLWIDE**
> The printer-resident font is a double wide font.

**\*ITCDBLWIDE**
> The printer-resident font is an italic double wide font.

**Element 4: Graphic character set**

**\*SAME**
> The value for this parameter remains unchanged.

**\*SYSVAL**
> The graphic character set specified in the system value QCHRID is used.

*graphic-character-identifier*
> Specify the graphic character set for the font. The graphic character set is the first part of the graphic character identifier which consists of the graphic character set and code page.

**Element 5: Point size**

**\*SAME**
> The value for this parameter remains unchanged.

**\*WIDTH**
> The font point size is computed from the font width value specified. When mapping a fixed pitch raster font (1 - 750, 3840 - 4095), it is recommended that a width value should be specified and the point size value should be \*WIDTH.

**\*NONE**
> No point size is specified for this font identifier. \*NONE should be specified when mapping to an outline font.

*1.0-999.9*
> Specify a point size ranging from 1.0 through 999.9. When mapping a typographic raster font (2304 - 3839, 4096 - 53247, 61440 - 65534), a point size value should be specified.

# Host to printer code page (HPCP)

Maps a host-resident code page to a printer-resident code page. The host-resident code page will be mapped to a printer-resident code page.

**Element 1: Host code page**

**Element 1: Code page**

*name*   Specify the name of the host-resident code page.

**Element 2: Printer code page**

**Element 1: Graphic character set**

**\*SAME**

 The value for this parameter remains unchanged.

**\*SYSVAL**

 The graphic character set specified in the system value QCHRID is used. A change to this system value will only take effect for the font mapping tables when the print writer is started. If QCHRID is changed and a printer is currently active, you must end the print writer and start it again.

*integer-number*

 Specify the graphic character set for the printer-resident code page. The graphic character set is the first part of the graphic character identifier which consists of the graphic character set and code page. For example, for the graphic character identifier 697 500, 697 is the graphic character set and 500 is the code page. In this example, specify 697 for the graphic character set.

**Element 2: Code page**

**\*SAME**

 The value for this parameter remains unchanged.

*integer-number*

 Specify the printer-resident code page value.

# Printer to printer font (PPFCS)

Specifies the printer-resident font substitution mapping. When a printer-resident font is not supported by a printer, you can specify the substitute printer-resident font to be used instead of the substitute printer-resident font selected by the system. Caution should be used when doing the following types of mapping as undesirable results may occur.

- Mapping a monospaced font to a typographic font. Also for mapping a typographic font to a monospaced font.
- Mapping an outline (scalable) font to an outline (scalable) font with a different point size.

**Element 1: From printer font**

**Element 1: Identifier**

*1-65535*

 Specify the printer-resident font identifier for which the substitution printer-resident font is to be changed. Refer to Printer Device Programming, SC41-5713 for more information on printer-resident fonts that are supported, and which ones are scalable (require point size) and which ones are not scalable (specify point size of \*NONE).

**Element 2: Point size**

**\*NONE**

 No font point size is specified. This should be specified for all non-scalable fonts.

**\*ALL**　Specifies that all point sizes for an outline (scalable) font will be mapped. If the font is not scalable, then this will treated the same as \*NONE.

*1.0-999.9*
> Specify a point size ranging from 1.0 through 999.9. When mapping a typographic raster font (2304 - 3839, 4096 - 53247, 61440 - 65534), a point size value should be specified.

**Element 2: To printer font**

**Element 1: Identifier**

**\*SAME**
> The value for this parameter remains unchanged.

*1-65535*
> Specify the substitute printer-resident font.

**Element 2: Point size**

**\*SAME**
> The value for this parameter remains unchanged.

**\*NONE**
> No font point size is specified. This should be specified for all non-scalable fonts.

**\*ALL**　Specifies that all point sizes for an outline (scalable) font will be mapped. If the font is not scalable, then this will treated the same as \*NONE.

*1.0-999.9*
> Specify a point size ranging from 1.0 through 999.9. When mapping a typographic raster font (2304 - 3839, 4096 - 53247, 61440 - 65534), a point size value should be specified.

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## Examples

**Example 1: Changing Font Entry**

```
CHGFNTTBLE   FNTTBL(*PHFCS)
             PHFCS((254 84 *NONE 2039 7.0) (C0D0GT18 *RASTER))
```

This command changes an entry in the QPHFCS table (printer resident to host-resident font character set table). The entry must have been already added to the table using the ADDFNTTBLE (Add Font Table Entry) command. In this example, font identifier 254, width of 84, and point size 7.0 is to be changed in the user font table (QPHFCS). The entry has no special attributes (\*NONE) and graphic character set 2039 is used.

In performing the font mapping, the attributes of the resident font specified in the print application are compared to those in the font table QPHFCS. If a match is found, then the specified host resident font (C0D0GT18) is downloaded to the printer. If no match is found, then the system printer-resident to host-resident font character set table is searched.

Note that the print application may specify the normal graphic character set (for example, 697 in 697 500 specified in QCHRID system value). The 697 is mapped to 2039 and will result in a match for this entry.

**Example 2: Changing Font Symbol Entry**

```
CHGFNTTBLE    FNTTBL(*PHFCS)
              PHFCS((254 84 *NONE 1275 7.0) (C0SYMBOL *RASTER))
```

This command changes an entry in the QPHFCS table (printer resident to host-resident font character set table) for use when using the special symbols code page (code page 259). As specified in Example 1, the entry must have already been added using the ADDFNTTBLE (Add Font Table Entry) command. As in the previous example, font identifier 254, width of 84, and point size 7.0 is to be changed in the user font table (QPHFCS). The width of 84 and point size of 7.0 is gotten from the system table. The entry has no special attributes (*NONE) and graphic character set 1275 is used.

We now have two entries in the printer-resident to host-resident font character set table. Both entries have the same font identifier, width, and point size. The first entry will be used when the standard code page and graphic set is used by the application (697 500 in this example). The second entry will be used when a print application specifies special symbols (340 259).

**Example 3: Change Code Page Entry**

```
CHGFNTTBLE    FNTTBL(*PHCP)  PHCP((*SYSVAL 38) (T1V00038))
```

This command changes an entry in the QPHCP table (printer resident to host-resident code page table). In the above example, the mapping for code page 38 is changed.

In performing the font mapping, the attributes of the resident code page specified in the print application are compared to those in the code page table (QPHCP). If a match is found, then the specified host-resident code page (T1V00038) is downloaded to the printer. If no match is found, then the system printer-resident to host-resident code page table is searched.

# Error messages

## *ESCAPE Messages

**CPF2182**
> Not authorized to library &1.

**CPF2283**
> Authorization list &1 does not exist.

**CPF88D2**
> Font table &1 in library &2 not changed.

**CPF9810**
> Library &1 not found.

**CPF9820**
> Not authorized to use library &1.

**CPF9822**
> Not authorized to file &1 in library &2.

# Change Filter (CHGFTR)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

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The Change Filter (CHGFTR) command allows you to change the text description of a filter object.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **FILTER** | Filter | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Filter | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

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## Filter (FILTER)

Specifies the qualified name of the filter whose description is being changed.

The possible library values are:

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the job is used to locate the filter. If no library is specified as the current library for the job, the QGPL library is used.

*library-name*
> Specify the name of the library where the filter is located.

*filter-name*
> Specify the name of the filter that is to be changed.

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## Text 'description' (TEXT)

Specifies text that briefly describes the object. More information on this parameter is in "Appendix A, Expanded Parameter Descriptions" of the CL Reference manual.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

## Examples

```
CHGFTR   FILTER(MYLIB/MYFILTER)  TEXT('New text here')
```

This command changes the description of the filter called MYFILTER in the library MYLIB.

## Error messages

**\*ESCAPE Messages**

**CPF812D**

&8 damage on filter &4.

**CPF9802**

Not authorized to object &2 in &3.

**CPF9803**

Cannot allocate object &2 in library &3.

**CPF9807**

One or more libraries in library list deleted.

**CPF9808**

Cannot allocate one or more libraries on library list.

**CPF9830**

Cannot assign library &1.

# Change Group Attributes (CHGGRPA)

The Change Group Attributes (CHGGRPA) command changes the group attributes of an interactive job. The CHGGRPA command must be used to change an interactive job into a group job before a Transfer to Group Job (TFRGRPJOB) command can be used. The following attributes can be changed:

- An interactive job can be changed into a group job.
- A group job can be changed into a non-group, interactive job.
- A message queue can be associated with a group.
- A message queue can be disassociated from a group.
- A group job's descriptive text can be changed.

More information about group jobs is in the Work management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Restrictions:**

1. To use this command, you must have use (*USE) authority to the message queue (MSGQ) and execute (*EXECUTE) authority to the library that contains that message queue.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **GRPJOB** | Group job | *Name*, **\*SAME**, *NONE | Optional, Positional 1 |
| **MSGQ** | Message queue | Single values: **\*SAME**, *NONE<br>Other values: *Qualified object name* | Optional, Positional 2 |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

## Group job (GRPJOB)

Specifies the group job name assigned to the job.

**\*SAME**

The group job name does not change.

**\*NONE**

The only active job in a group is made a non-group interactive job, the group data area (*GDA) is deleted, and the group message queue (if there is one) is disassociated from the group; the mode of the group message queue, however, does not change.

*name*  Specify the group job name that is assigned to the interactive job issuing this command. This

causes the job to become a group job and also causes the group data area (*GDA) to be created. This character type data area is 512 bytes long, and at first, it is filled with blanks. Specifying a group job name is valid only when the job is not a group job. Once a job is assigned a group job name, that name cannot be changed (except to set it to *NONE if it is the only active job in the group).

## Message queue (MSGQ)

Specifies the name of a message queue that is associated with a group. This message queue must exist, but it does not necessarily need to be allocated to the job at the time this command is issued.

**Single values**

**\*SAME**
The message queue associated with the group does not change.

**\*NONE**
No message queue is associated with the group. If a message queue is associated with the group, it is disassociated from the group (but the mode does not change).

**Qualifier 1: Message queue**

*name*    Specify the name of the message queue that is associated with the group.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*    Specify the library where the message queue is located.

## Text 'description' (TEXT)

Specifies up to 50 characters of text that describe the group job. This text appears on the Group Job Selection Display for the Transfer to Group Job (TFRGRPJOB) Command.

**\*SAME**
The text does not change.

**\*BLANK**
No text is specified.

*character-value*
Specify no more than 50 characters of text, enclosed in apostrophes.

# Examples

**Example 1: Changing an Interactive Job to a Group Job**

```
CHGGRPA   GRPJOB(GROUPJ1)   MSGQ(QGPL/GRPMSGQ)
```

An interactive job is first changed to a group job before it is allowed to create other group jobs at the work station. This command changes a work station job into a group job with the group job name GROUPJ1; a message queue is associated with the group and (as long as it is in break or notify mode in the job issuing a TFRGRPJOB or End Group Job (ENDGRPJOB) command) is allocated to the active job in the group. The group data area (*GDA) is also created.

**Example 2: Changing a Group Job to a Nongroup Job**

```
CHGGRPA   GRPJOB(*NONE)
```

Assume that the job in the previous example issues this command. Assume also that the job is the only active job in the group. Group job GROUPJ1 is changed into a nongroup, interactive job. The group job name is removed, and the group data area (*GDA) is deleted. The change from a group job into a nongroup job occurs only if it is the only active job in the group.

# Error messages

**\*ESCAPE Messages**

**CPF1305**
> Changing group job name not allowed.

**CPF1306**
> Specifying GRPJOB(*NONE) not allowed at this time.

**CPF1307**
> Group job &1 already belongs to this group.

**CPF1308**
> Parameters that do not agree were found.

**CPF1309**
> Subsystem cannot complete the &1 command.

**CPF1312**
> Change group attribute request not valid; job not group job.

**CPF1313**
> Value &1 for parameter &2 not allowed name.

**CPF1316**
> &1 in &2 not allowed as group message queue.

**CPF1317**
> No response from subsystem for job &3/&2/&1.

**CPF1328**
> No authority to use queue &2 in &3.

**CPF1329**
> Message queue &1 in &2 not found.

**CPF1330**

  Message queue &1 in &2 not available.

**CPF1331**

  &1 in &2 not allowed as group message queue.

**CPF1351**

  Function check occurred in subsystem for job &3/&2/&1.

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# Change HLL Pointer (CHGHLLPTR)

The Change High Level Language Pointer (CHGHLLPTR) command allows you to change or copy a pointer variable declared in a high-level language program. The following functions can be requested:

- Copy the value of one HLL pointer into another HLL pointer variable.
- Set a HLL pointer variable to point to a variable in the program.
- Set the value of the HLL pointer variable to a null pointer.

HLL pointers are pointer variables that are declared in the source of an HLL program; they are contrasted with internal compiler-created pointers. Compiler-created pointers are pointer variables that are declared in the machine-interface (MI) program, by a compiler, to support various processing functions. Not all languages allow the user to declare HLL pointers.

**Restrictions:**

- You can use this command only in debug mode. To start debug mode, refer to the Start Debug (STRDBG) command.
- You cannot use this command if you are servicing another job, and that job is on a job queue, or is being held, suspended, or ended.
- You cannot use this command to change variables in a bound program.
- You cannot use this command to change variables that are write-protected or within the system domain, unless the user has service (*SERVICE) special authority.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| PTR | Pointer to be changed | *Element list* | Required, Positional 1 |
| | Element 1: Program variable | *Character value* | |
| | Element 2: Basing pointer variable | Values (up to 5 repetitions): *Character value* | |
| REFPTR | Pointer to be copied | *Element list* | Optional, Positional 2 |
| | Element 1: Program variable | *Character value* | |
| | Element 2: Basing pointer variable | Values (up to 5 repetitions): *Character value* | |
| ADR | Address to be pointed to | Single values: *NULL<br>Other values: *Element list* | Optional |
| | Element 1: Program variable | *Character value* | |
| | Element 2: Basing pointer variable | Values (up to 5 repetitions): *Character value* | |
| PGM | Program | *Name*, **\*DFTPGM** | Optional |
| RCRLVL | Recursion level | *Integer*, **\*LAST** | Optional |

# Pointer to be changed (PTR)

Specifies the name of the pointer (program variable) whose value is to be changed, allowing the pointer to point to a different address.

This is a required parameter.

**Element 1: Program variable**

*character-value*

> Specify the name of the pointer variable whose value is to be changed. The pointer variable must be an HLL pointer (HLLPTR). An MI ODV number cannot be specified for the variable name, even though the variable that it defines is an HLL pointer. The name must be enclosed in apostrophes if it contains special characters.

> If the pointer to be changed is in an array, the subscripts representing the element in the array to be changed must be specified. Up to 132 characters may be specified for this pointer (program variable) entry. This includes any qualifiers, subscripts, embedded blanks, parentheses, and commas. It does not include the enclosing apostrophes when special characters are used. An integer, MI ODV number, or numeric variable name can be specified for a subscript. For more information on changing program variables during testing, refer to the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Element 2: Basing pointer variable**

*character-value*

> Specify the name of a basing pointer variable. In some languages, the pointer to be changed may be based on a pointer variable. This set of values allows you to explicitly specify as many as 5 basing pointers for the pointer to be changed. The basing pointers must be a HLL pointer (HLLPTR). An MI ODV number cannot be specified for the name, even though the pointer that defines it is an HLL pointer. Each basing pointer name must be enclosed in apostrophes if it contains special characters. If the basing pointer is an array, the subscripts representing an element in the array must be specified. Up to 132 characters can be specified for a basing pointer name. This includes any qualifiers, subscripts, embedded blanks, parentheses, and commas. It does not include the enclosing apostrophes when special characters are used.

> For more information, refer to "Parameter values used for testing and debugging" in "CL concepts and reference" in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

# Pointer to be copied (REFPTR)

Specifies the pointer variable whose value is to be copied into the pointer identified on the **Pointer to be changed (PTR)** parameter.

**Element 1: Program variable**

*character-value*

> Specify the name of the pointer variable whose value is copied into the specified pointer. The pointer variable must be an HLL pointer (HLLPTR). An MI ODV number cannot be specified for the variable name, even though the variable that it defined is an HLL pointer. The name must be enclosed in apostrophes if it contains special characters. If the pointer to be copied is in an array, the subscripts representing the element in the array to be copied must be specified. Up to 132 characters may be specified for this pointer variable. This includes any qualifiers, subscripts,

embedded blanks, parentheses, and commas. It does not include the enclosing apostrophes when special characters are used. An integer, MI ODV number, or numeric variable name can be specified for a subscript.

**Element 2: Basing pointer variable**

*character-value*
> Specify the name of a basing pointer variable. The pointer (program variable) may be based on a pointer variable. This set of values allows you to explicitly specify as many as 5 basing pointers for the pointer to be copied. The basing pointer must be an HLL pointer (HLLPTR). An MI ODV number cannot be specified for the name, even though the pointer that defines it is an HLL pointer. Each basing pointer name must be enclosed in apostrophes if it contains special characters. If the basing pointer is an array, the subscripts representing an element in the array must be specified. Up to 132 characters can be specified for a basing pointer name. This includes any qualifiers, subscripts, embedded blanks, parentheses, and commas. It does not include the enclosing apostrophes when special characters are used.

> For more information, refer to "Parameter values used for testing and debugging" in "CL concepts and reference" in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

## Address to be pointed to (ADR)

Specifies the program variable (if any) to which the specified HLL pointer is to point.

**Single values**

**\*NULL**
> The HLL pointer is set to null; it no longer points to the address of any space object, and it no longer contains a space pointer or any type of pointer value.

**Element 1: Program variable**

*character-value*
> Specify the name of the variable to which the HLL pointer is to point. An HLL variable name must be entered; an MI ODV number cannot be used. The name must be enclosed in apostrophes if it contains special characters. If an array is specified without subscripts, the pointer is set to the address of the first element in the array. Up to 132 characters may be specified for this program variable. This includes any qualifiers, subscripts, embedded blanks, parentheses, and commas. It does not include the enclosing apostrophes when special characters are used. An integer, MI ODV number, or numeric variable name can be specified for a subscript.

> For more information, refer to "Parameter values used for testing and debugging" in "CL concepts and reference" in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Element 2: Basing pointer variable**

*character-value*
> Specify the name of a basing pointer variable. In some languages, the program variable to be changed may be based on a pointer variable. This set of values allows you to explicitly specify as many as 5 basing pointers for the variables to be addressed. The basing pointers must be HLL pointers (HLLPTR). An MI ODV number cannot be specified for the name, even though the pointer that defines it is an HLL pointer. Each basing pointer name must be enclosed in apostrophes if it contains special characters. If the basing pointer is an array, the subscripts representing an element in the array must be specified. Up to 132 characters can be specified for

a basing pointer name. This includes any qualifiers, subscripts, embedded blanks, parentheses, and commas. It does not include the enclosing apostrophes when special characters are used.

For more information, refer to "Parameter values used for testing and debugging" in "CL concepts and reference" in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

## Program (PGM)

Specifies the name of the program that contains the pointer whose value is to be changed.

**\*DFTPGM**
> The program previously specified as the default program contains the pointer whose value is to change.

*name*  Specify the name of the program that contains the pointer whose value is to be changed. The name must already have been specified in the Start Debug (STRDBG) or Add Program (ADDPGM) command.

## Recursion level (RCRLVL)

Specifies which recursion level of the program contains the variable whose value is to be changed. Changes made to static variables automatically affect all recursion levels. Recursion level 1 is the first (or earliest) call of the program, recursion level 2 is the second call of the program, and so on to the last (most recent) recursion level in the stack. For example, if program A calls program B, then program B calls program A, a new recursion level of program A is formed. If the first call of program A contains the variable to be changed, a value of 1 must be specified for the **Recursion level (RCRLVL)** parameter. Some high-level languages also allow recursive procedures. For these programs, refer to the appropriate high-level language manual for more information.

**\*LAST**
> The last (most recent) call of the specified program contains the variable to be changed.

*integer*
> Specify the recursion level of the program that contains the variable to be changed.

## Examples

**Example 1: Setting a Pointer to a Variable Address**

```
CHGHLLPTR    PTR(STACKPTR)   ADR(FIRSTELEM)
```

This command sets the pointer STACKPTR to the address of the variable FIRSTELEM.

**Example 2: Copying the Value of a Pointer**

```
CHGHLLPTR    PTR(NEXT@)   REFPTR(CURRENT@)
```

This command copies the value of the pointer CURRENT@ into the pointer NEXT@. The value copied could be a null pointer.

## Error messages

None

# Change ICF Device Entry (CHGICFDEVE)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Intersystem Communications Function Device Entry (CHGICFDEVE) command changes the attributes of the program device entry in the specified ICF file.

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## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **FILE** | ICF communication file | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: ICF communication file | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **PGMDEV** | Program device | *Character value* | Required, Key, Positional 2 |
| **RMTLOCNAME** | Remote location | *Communications name*, **\*SAME**, *REQUESTER | Optional, Positional 3 |
| **CMNTYPE** | Communication type | **\*ALL**, *APPC, *ASYNC, *BSCEL, *FINANCE, *INTRA, *RETAIL, *SNUF | Optional, Positional 4 |
| **DEV** | Device | *Name*, **\*SAME**, *LOC | Optional |
| **LCLLOCNAME** | Local location | *Communications name*, **\*SAME**, *LOC, *NETATR | Optional |
| **MODE** | Mode | *Communications name*, **\*SAME**, *NETATR | Optional |
| **RMTNETID** | Remote network identifier | *Communications name*, **\*SAME**, *LOC, *NETATR, *NONE | Optional |
| **FMTSLT** | Format select | **\*SAME**, *PGM, *RECID, *RMTFMT | Optional |
| **APPID** | Application identifier | *Name*, **\*SAME**, *DEVD, *USER | Optional |
| **BATCH** | Batch activity | **\*SAME**, *NO, *YES | Optional |
| **HOST** | Host type | **\*SAME**, *DEVD, *CICS, *IMS, *IMSRTR | Optional |
| **ENDSSNHOST** | End session with host | **\*SAME**, *RSHUTD, *TERMSELF | Optional |
| **SPCHOSTAPP** | Special host application | **\*SAME**, *DEVD, *NONE, *FLASH | Optional |
| **INZSELF** | Initialize self | **\*SAME**, *NO, *YES | Optional |
| **HDRPROC** | Header processing | **\*SAME**, *SYS, *USER | Optional |
| **MSGPTC** | Message protection | **\*SAME**, *YES, *NO | Optional |
| **EMLDEV** | Emulation device | Single values: *NONE<br>Other values: *Element list* | Optional |
| | Element 1: Device type | **\*SAME**, 3278, 3284, 3286, 3287, 3288, 3289 | |
| | Element 2: Data format | **\*SAME**, *UNFORMAT, *FIELD, *EXTFIELD, *NOFIELD | |
| **CNVTYPE** | Conversation type | **\*SAME**, *SYS, *USER, *SRCPGM | Optional |
| **BLOCK** | Blocking type | *Element list* | Optional |
| | Element 1: Blocking type | **\*SAME**, *DEVD, *NONE, *ITB, *IRS, *NOSEP, *USER, *SEP | |
| | Element 2: Record separator, if *SEP | *Hexadecimal value*, **X'1E'**, *SAME | |
| **RCDLEN** | Record length | 1-32767, **\*SAME**, *DEVD | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| BLKLEN | Block length | 1-32767, *SAME, *DEVD | Optional |
| TRNSPY | Transmit in transparent mode | *SAME, *DEVD, *NO, *YES | Optional |
| DTACPR | Compress and decompress data | *SAME, *DEVD, *NO, *YES | Optional |
| TRUNC | Truncate trailing blanks | *SAME, *DEVD, *NO, *YES | Optional |
| OVRFLWDTA | Overflow data | *SAME, *DISCARD, *RETAIN | Optional |
| GRPSEP | Group separator type | *SAME, *DEVD, *EOT, *DEV3740, *OFCSYS | Optional |
| RMTBSCEL | Remote BSCEL | *SAME, *DEVD, *NO, *YES | Optional |
| INLCNN | Initial connection | *SAME, *CTLD, *DIAL, *ANS | Optional |

## ICF communication file (FILE)

Specifies the intersystem communications function (ICF) file that contains the ICF program device entry to be changed.

This is a required parameter.

**Qualifier 1: ICF communication file**

*name*  Specify the name of the ICF file.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
        The current library is used to locate the ICF file. If no library is specified as the current library for the job, QGPL is used.

*name*  Specify the library where the ICF file is located.

## Program device (PGMDEV)

Specifies the program device entry name in the ICF file whose attributes are being changed.

This is a required parameter.

*name*  Specify the name of the program device entry in the ICF file whose attributes are to be changed. The program device entry must exist in the specified ICF file.

## Remote location (RMTLOCNAME)

Specifies the remote location name with which the program communicates.

**\*SAME**
        The remote location name does not change.

*communications-name*
> Specify the name of the remote location with which your program communicates. When the program is running, only one program device name associated with each asynchronous (Async), binary synchronous communications equivalence link (BSCEL), or system network architecture upline facility (SNUF) remote location may be acquired to the file at any one time.

**\*REQUESTER**
> The name used to refer to the communication device through which the program is started is used. The target program always uses *REQUESTER as the remote location name in the ICF file to connect to the session that the source program uses to send the EVOKE request. *REQUESTER may be specified for only one program device entry.

> *REQUESTER is valid only for a target system communication job. If it is specified in any other type of job, an escape message is sent when the program device is accessed.

## Communication type (CMNTYPE)

Specifies the communications type that appears in the prompt.

**\*ALL**   All parameters appear in the prompt.

**\*APPC**
> Only the advanced program-to-program communications (APPC) parameters appear in the prompt.

**\*ASYNC**
> Only the asynchronous communications (ASYNC) parameters appear in the prompt.

**\*BSCEL**
> Only the binary synchronous communications equivalence link (BSCEL) parameters appear in the prompt.

**\*FINANCE**
> Only the FINANCE parameters appear in the prompt.

**\*INTRA**
> Only the INTRA parameters appear in the prompt.

**\*RETAIL**
> Only the RETAIL parameters appear in the prompt.

**\*SNUF**
> Only the Systems Network Architecture upline facility (SNUF) parameters appear in the prompt.

## Device (DEV)

Specifies the communications device that is used. The DEV parameter is applies only to advanced program-to-program communications (APPC) and System Network Architecture upline facility (SNUF) communications.

**\*SAME**
> The device name does not change.

**\*LOC**   The device associated with the remote location is used.

*name* Specify the name of a communications device associated with the remote location. If the device name is not valid for the remote location, an escape message is sent when the program device is acquired.

## Local location (LCLLOCNAME)

Specifies the local location name.

**\*SAME**
The local location name does not change.

**\*LOC** The local location name is the same as the remote location name.

**\*NETATR**
The LCLLOCNAME value specified in the system network attributes is used.

*communications-name*
Specify the local location name associated with the program device. The local location name is specified only if you want to indicate a different specific local location name for the remote location. If the local location name is not valid, an escape message is sent when the program device is acquired.

## Mode (MODE)

Specifies the mode name used. This parameter applies only to APPC communications.

**\*SAME**
The mode name does not change.

**\*NETATR**
The mode in the network attributes is used.

**BLANK**
A mode name consisting of 8 blank characters is used.

*communications-name*
Specify a mode name for the APPC communication device. If the mode is not valid for any combination of remote location device, local location, and remote network ID, an escape message is sent when the program device is acquired.

## Remote network identifier (RMTNETID)

Specifies the remote network ID. This parameter applies only to APPC communications.

**\*SAME**
The remote network ID does not change.

**\*LOC** Any remote network ID for the remote location may be used.

**\*NETATR**
The remote network identifier specified in the network attributes is used.

**\*NONE**
No remote network identifier is used.

*communications-name*
>> Specify a remote network ID.

## Format select (FMTSLT)

Specifies the type of record format selection used for input operations for all devices.

**\*SAME**
>> The record format selection value does not change.

**\*PGM**  The program determines record format selections. If an input (read) operation with a record format name is specified, that format is always selected. If a record format is not specified for the input operation, the default format (the first record format in the file) is always selected.

**\*RECID**
>> The RECID keywords specified in the DDS for the file are used to do record selection. If there are no RECID keywords in the file, an error message is sent, the acquire operation of the program device ends, and the device is not acquired.

**\*RMTFMT**
>> The remote format names received from the sending system are used to do record selection. If the device is not an APPC device and \*RMTFMT is specified, a run time error occurs at the time the program device is acquired.

## Application identifier (APPID)

Specifies (in characters) the Virtual Telecommunications Access Method (VTAM) identifier of the Costumer Information Control System for Virtual Storage (CICS/VS) or Information Management System for Virtual Storage (IMS/V) host subsystem sent with the sign-on message. This parameter applies only to SNUF communications.

**\*SAME**
>> The application ID does not change.

**\*DEVD**
>> The application identifier specified in the device description is used.

**\*USER**
>> The application program can send messages or a logon to the host. This is valid only when using the 3270 program interface.

*name*  Specify an application identifier. The specified application identifier is sent with the sign-on message.

## Batch activity (BATCH)

Specifies, for both Customer Information Control System for Virtual Storage (CICS/VS) and Information Management System for Virtual Storage (IMS/VS), whether this session is used for batch jobs. This parameter applies to SNUF, INTRA, and RETAIL communications.

**\*SAME**
>> The value does not change.

**\*NO**   Batch jobs do not occur.

**\*YES**   Batch jobs occur and SNUF does not assemble physical records into logical records. If \*YES is specified, \*NO must be specified for the **Message protection (MSGPTC)** parameter.

## Host type (HOST)

Specifies the host or remote subsystem with which this session is communicating. This parameter applies only to SNUF communications.

**\*SAME**
> The value does not change.

**\*DEVD**
> The host system specified in the device description is used.

**\*CICS**   The session communicates with Customer Information Control System for Virtual Storage.

**\*IMS**   The session communicates with Information Management System for Virtual Storage.

**\*IMSRTR**
> The session communicates with IMS/VS by using the ready-to-receive option.

## End session with host (ENDSSNHOST)

Specifies how the Systems Network Architecture upline facility (SNUF) ends the session with the host.

**\*SAME**
> The end session with host value does not change.

**\*RSHUTD**
> SNUF sends a request to turn off command to the host.

**\*TERMSELF**
> SNUF sends an end-session command to the host. This value may have to be used if the value \*RSHUTD fails to end a session with a non-IBM host.

## Special host application (SPCHOSTAPP)

Specifies whether SNUF customizes support for special host applications outside the CICS or IMS application layer.

**\*SAME**
> The value does not change.

**\*DEVD**
> The special host application specified in the device description is used.

**\*NONE**
> SNUF does not customize support for special host applications.

**\*FLASH**
> SNUF customizes support for the Federal Reserve Flash application.

# Initialize self (INZSELF)

Specifies whether a formatted INIT-SELF is built in place of the unformatted sign-on normally sent by SNUF to the host.

**\*SAME**
   The value does not change.

**\*NO**   The unformatted default sign-on provided by SNUF is used.

**\*YES**   The formatted INIT-SELF provided by SNUF is used.

# Header processing (HDRPROC)

Specifies, for both Customer Information Control System for Virtual Storage (CICS/VS) and Information Management System in Virtual Storage (IMS/VS), whether received function management headers are passed to the application program. This parameter applies to the SNUF communications type only.

**\*SAME**
   The value does not change.

**\*SYS**   SNUF removes function management headers before passing data to the program.

**\*USER**
   Function management headers are passed to the program.

# Message protection (MSGPTC)

Specifies, for both Customer Information Control System for Virtual Storage (CICS/VS) and Information Management Storage for Virtual Storage (IMS/VS), whether message protection is used for this session. This parameter applies only to SNUF communications.

**\*SAME**
   The value does not change.

**\*YES**   Message protection is used. SNUF saves messages until you respond to them, and tries synchronization again if additional errors occur. \*YES is valid only when \*NO is specified for the **Batch activity (BATCH)** parameter.

**\*NO**   Message protection is not used.

# Emulation device (EMLDEV)

Specifies that this program device entry is used to send and receive 3270 data streams. The emulation device parameter consists of an emulation device type and an emulation device data format. The emulation device data format specifies the format of the type 3270 data stream being sent or received. A 20- or 32-byte common header that contains type 3270 command and data flow information is located at the start of the I/O buffer that is sending or receiving the type 3270 data stream. This parameter applies only to SNUF communications. This parameter can be specified as a list of two values (elements) or as a single value (\*NONE).

**Single values**

**\*NONE**
    This program device entry is not used to send and receive 3270 data streams.

**Element 1: Device type**

**\*SAME**
    The emulation device does not change.

**\*NONE**

**3278**    The data stream is for a 3278 or 3277 display device.

**3284**    The data stream is for a 3284 printer device.

**3286**    The data stream is for a 3286 printer device.

**3287**    The data stream is for a 3287 printer device.

**3288**    The data stream is for a 3288 printer device.

**3289**    The data stream is for a 3289 printer device.

**Element 2: Data format**

**\*SAME**
    The emulation device data format does not change.

**\*UNFORMAT**
    An unformatted 3270 data stream is sent or received. The user application program must translate the data stream into a display or printer image.

**\*FIELD**
    A formatted 3270 data stream is sent or received. The formatted 3270 data stream contains a display or printer image that contains field definitions. The field definitions indicate the location and characteristics of fields. \*FIELD is valid only if \*NO is specified for the **Batch activity (BATCH)** parameter.

**\*NOFIELD**
    A formatted 3270 data stream is sent or received. The formatted 3270 data stream contains a display or printer image without field definitions. \*NOFIELD is valid only if \*NO is specified for the BATCH parameter.

**\*EXTFIELD**
    A formatted 3270 data stream is sent or received. The formatted 3270 data stream contains a display or printer image followed by field definitions. The field definitions indicate the location and characteristics of fields. \*EXTFIELD is valid only if \*NO is specified for the BBATCH parameter and 3278 is specified for the device type on this parameter.

# Conversation type (CNVTYPE)

Specifies the conversation type for which the application program is designed. This parameter applies only to advanced program-to-program communications (APPC).

**\*SAME**
    The value does not change.

**\*SYS**    The system gives the length and general data stream identifier values that precede each section of user data in the APPC device protocol. For the LU 6.2 architecture, this is the mapped conversation support.

**\*USER**

> The application program gives the length and general data stream identifier values that precede each section of user data in the APPC device protocol. For the LU 6.2 architecture, this is the basic conversation support.

**\*SRCPGM**

> The target program accepts the conversation type specified by the source program.

# Blocking type (BLOCK)

Specifies whether the system or the user controls how records are combined into blocks when they are sent. This parameter is used only for BSCEL communications. With this parameter, you may specify one of the following conditions of record formatting:

- No blocking or deblocking
- User blocking or deblocking
- System blocking with record separator characters
- System blocking of fixed-length records

If you specify a parameter value other than \*NONE or \*USER, records are blocked as required by the system for output and are deblocked on input.

**Element 1: Blocking type**

**\*SAME**

> The value does not change.

**\*DEVD**

> The block option specified in the device description is used.

**\*NONE**

> Blocking or deblocking is not done by the system.

**\*ITB** The records are blocked or deblocked based on the location of an intermediate text block (ITB) control character.

**\*IRS** The records are blocked or deblocked based on the location of an interrecord separator (IRS) character. For input files, a record is delimited by locating the next IRS character. For output files, an IRS character is added after the record.

**\*NOSEP**

> No record separator character is contained in the transmission block sent to or received from the device. The system blocks and deblocks the records by using a fixed-length record, as specified in the DDS format specifications.

**\*USER**

> The program gives all control characters, including record separator characters, BSCEL framing characters, transparency characters, and so forth, necessary to send records.

**\*SEP** The records are blocked or deblocked based on the location of a record separator character specified by the user. For input files, a record is delimited by locating the next record separator character. For output files, a record separator character is added after the record.

**Element 2: Record separator, if \*SEP**

**X'1E'** The record separator character is a hexadecimal **1E**.

**\*SAME**

> The value does not change.

*hexadecimal-value*
> Specify a unique, 1-byte record separator character. The record separator character may be specified as 2 hexadecimal characters, as in BLOCK(*SEP FD) where X'FD' is the separator character.

> **Note:** See the table in the description of the ADDICFDEVE command for more information about BSC control characters that cannot be used as record separator characters.

## Record length (RCDLEN)

Specifies the maximum record length (in bytes) for data sent and received. This parameter applies only to SNUF and BSCEL communications.

**\*SAME**
> The value does not change.

**\*DEVD**
> The record length specified in the device description is used. If a record is longer than the specified record length, a run time error occurs at the time the record is sent or received.

*1-32767*
> Specify the maximum allowed record length when this device file is used. If a record is longer than the specified record length, a run time error occurs at the time the record is sent or received. Valid values range from 1 through 32767 bytes for SNUF communications. For BSCEL communications, the maximum record length is 8192 bytes.

## Block length (BLKLEN)

Specifies the maximum block length (in bytes) for data sent. This parameter applies only to BSCEL and SNUF communications.

**\*SAME**
> The block length does not change.

**\*DEVD**
> The block length specified in the device description is used.

*1-32767*
> Specify the maximum block length of records sent when this device file is used. The value must be at least the size of the largest record sent. Valid values range from 1 through 32767 bytes for SNUF communications. For BSCEL communications, the maximum block length is 8192 bytes.

## Transmit in transparent mode (TRNSPY)

Specifies whether data is sent in transparent text mode. Transparent text mode allows all 256 extended binary-coded decimal interchange code (EBCDIC) character codes to be sent. Use this function to send packed or binary data fields. This parameter applies only to BSCEL communications.

**\*SAME**
> The value does not change.

**\*DEVD**
> The text transparency option specified in the device description is used.

**\*NO**    Text transparency is not used.

**\*YES**    Text transparency is used, which permits the transmission of all 256 EBCDIC character codes. *YES is valid only when *NONE, *NOSEP, or *USER is specified for the **Blocking type (BLOCK)** parameter.

      **Note:** Transparency of received data is determined by the data stream; therefore, this parameter is not relevant for received data. If TRNSPY(*YES) is specified with BLOCK(*USER), the BSCEL communications type ignores the transparency indicator during write operations. Correct controls must be given with the data to get transparent transmission of data. For example, the data-link escape (DLE) and start-of-text (STX) character control characters must first be specified; the system gives the remaining control characters for transparent sending of data.

## Compress and decompress data (DTACPR)

Specifies whether data compression is performed.

**\*SAME**
>The value does not change.

**\*DEVD**
>The data compression option specified in the device description is used.

**\*NO**    No data compression or decompression occurs.

**\*YES**    Data is compressed for output and decompressed for input.

## Truncate trailing blanks (TRUNC)

Specifies whether trailing blanks are removed from output records. This parameter applies only to BSCEL communications.

**\*SAME**
>The value does not change.

**\*DEVD**
>The trailing blanks specified in the device description are used.

**\*NO**    Trailing blanks are not removed from output records.

**\*YES**    Trailing blanks are removed from output records.

      **Note:** TRUNC(*YES) cannot be specified if BLOCK(*NOSEP) or BLOCK(*ITB) is specified. If TRUNC(*YES) is specified when DTACPR(*YES) or BLOCK(*USER) is specified, then truncation is ignored.

## Overflow data (OVRFLWDTA)

Specifies whether overflow data is discarded or retained.

**\*SAME**
>The value does not change.

**\*DISCARD**
>Overflow data is not kept.

**\*RETAIN**
> Overflow data is kept.

## Group separator type (GRPSEP)

Specifies a separator for groups of data (for example, data sets and documents). This parameter applies only to BSCEL communications.

**\*SAME**
> The value does not change.

**\*DEVD**
> The group separator option specified in the device description is used.

**\*DEV3740**
> A null record (STXETX) is used as a data group separator.

**\*EOT** A block is sent that ends with the BSCEL end-of-transmission (EOT) control character used as a data group separator.

**\*OFCSYS**
> A block is sent that ends with the BSCEL end-of-information (ETX) control character is used as a data group separator.

## Remote BSCEL (RMTBSCEL)

Specifies the type of BSCEL session with the remote system. This parameter applies only to BSCEL communications.

**\*SAME**
> The value does not change.

**\*DEVD**
> The RMTBSCEL option specified in the device description is used.

**\*NO** The remote system cannot recognize BSCEL commands or messages. In most cases, *NO is used when communicating with remote systems such as a 3741 Data Entry Station, an Office System 6, a 5230 Data Collection System, or a System/38.

**\*YES** The remote system recognizes the BSCEL transaction starting commands, transaction ending commands, and online messages. In most cases, *YES indicates that the remote system is another System i5, or a System/38, System/36, or System/34 with BSCEL support.

## Initial connection (INLCNN)

Specifies the method of making a connection on the line for the session being accessed. This parameter applies only to binary synchronous communications equivalence link (BSCEL) communications.

**\*SAME**
> The value does not change.

**\*CTLD**
> The initial connection option specified in the controller description is used.

**\*ANS**    The remote system starts the call, and the local system answers the call.

**\*DIAL**

>    The local system starts the call.

## Examples

### Example 1: Changing the Record Format Selection

```
CHGICFDEVE   FILE(ICFTEST)  PGMDEV(BSCEL2)
             RMTLOCNAME(BSCNYC)  FMTSLT(*RECID)
```

This command changes the program device entry named BSCEL2 in ICF file ICFTEST. The program device is changed to attributes of FMTSLT(*RECID). The remote location name is changed to BSCNYC.

### Example 2: Changing the Conversation Type

```
CHGICFDEVE   FILE(QGPL/ICF1)  PGMDEV(APPC1)
             RMTLOCNAME(*REQUESTER)
             FMTSLT(*RMTFMT)  CNVTYPE(*SYS)
```

This command changes the program device entry named APPC1 in ICF file ICF1 to have the remote location name *REQUESTER. This program device entry is changed to the FMTSLT(*RMTFMT) and CNVTYPE(*SYS) attributes.

### Example 3: Changing the Communications Device

```
CHGICFDEVE   FILE(ICFLIB/ICFAPPL1)  PGMDEV(APPC)
             RMTLOCNAME(APPCMPLS)  DEV(MPLSLINE2)
```

This command changes the program device entry named APPC in file ICFAPPL1. The remote location name is changed to APPCMPLS and the device is changed to MPLSLINE2.

## Error messages

**\*ESCAPE Messages**

**CPF7367**

>    Device not changed in file &1 in &2.

# Change ICF File (CHGICFF)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Intersystem Communications Function File (CHGICFF) command changes the attributes of the ICF file.

Only the information specified on this command can be changed. If the data description specifications (DDS) used to create the file are changed, the ICF file must be re-created for the changes to be made in the file.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| FILE | ICF communication file | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: ICF communication file | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| ACQPGMDEV | Program device to acquire | *Character value*, **\*SAME**, *NONE | Optional |
| MAXPGMDEV | Maximum program devices | 1-256, **\*SAME** | Optional |
| LVLCHK | Record format level check | **\*SAME**, *YES, *NO | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |
| MAXRCDLEN | Maximum record length | 1-32767, **\*SAME**, *CALC | Optional |
| WAITFILE | Maximum file wait time | 1-32767, **\*SAME**, *IMMED, *CLS | Optional |
| WAITRCD | Maximum record wait time | 1-32767, **\*SAME**, *NOMAX, *IMMED | Optional |
| DTAQ | Data queue | Single values: **\*SAME**, *NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Data queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| SHARE | Share open data path | **\*SAME**, *NO, *YES | Optional |

## ICF communication file (FILE)

Specifies the intersystem communications function (ICF) file to be changed.

This is a required parameter.

**Qualifier 1: ICF communication file**

*name*    Specify the name of the ICF file.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library is used to locate the ICF file. If no library is specified as the current library for the job, QGPL is used.

*name*   Specify the library where the ICF file is located.

# Program device to acquire (ACQPGMDEV)

Specifies which program device is acquired when the file is opened.

**\*SAME**
> The name of the acquired program device does not change.

**\*NONE**
> The file is opened without a program device being acquired. All program devices used with this file must be explicitly acquired before input/output operations can be started with them.

*character-value*
> Specify the name of the first program device that is acquired when the file is opened.

# Maximum program devices (MAXPGMDEV)

Specifies the maximum number of program device entries that can be added to the intersystem communications function (ICF) file.

**\*SAME**
> The value does not change.

*1-256*   Specify the maximum number of program device entries.

# Record format level check (LVLCHK)

Specifies whether the level identifiers of the record formats in this device file are checked when the file is opened by a program.

**\*SAME**
> The value does not change.

**\*YES**   The level identifiers of the record formats are checked when the file is opened. If the level identifiers are not all the same or they have not been specified in the program, an open error message is sent to the program that tried to open the file.

**\*NO**   The level identifiers of the record formats are not checked when the file is opened.

# Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
> The text (if any) does not change.

**\*BLANK**
> No text is specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

## Maximum record length (MAXRCDLEN)

Specifies the maximum record length used when the file is opened.

**\*SAME**
> The maximum record length does not change.

**\*CALC**
> The length calculated for the largest record in the file is used when the file is opened.

*1-32767*
> Specify the maximum record length. If the record length is less than the length calculated for the largest record in the file, the calculated value is used.

## Maximum file wait time (WAITFILE)

Specifies the number of seconds that the program waits for the file resources to be allocated when the file is opened. If the file resources cannot be allocated within the specified wait time, an error message is sent to the program.

**\*SAME**
> The wait time does not change.

**\*IMMED**
> The program does not wait. Immediate allocation of file resources is required.

**\*CLS** The job default wait time is used as the wait time for the file resources to be allocated.

*1-32767*
> Specify the number of seconds to wait for file resources to be allocated.

## Maximum record wait time (WAITRCD)

Specifies the number of seconds the program waits for the completion of a read-from-invited-devices operation to a multiple device file in a high-level language program. Refer to the high-level language reference manual to determine when a file is treated as a multiple device file. The program performing the read operation waits for the input form all invited devices currently accessing the file. If a record is not returned from any of the invited program devices in the specified amount of time, a notify message is sent to the program. This parameter has no effect on an input operation directed to a single device.

**\*SAME**
> The wait record value does not change.

**\*NOMAX**
> There is no limit on the amount of time the program waits for completion of the read-from-invited device operation.

**\*IMMED**
　　　　The program does not wait. If a record is not available when the read-from-invited-devices operation is done, a notify message is sent to the program.

*1-32767*
　　　　Specify the number of seconds that the program waits for completion of the read-from-invited-device operation.

## Data queue (DTAQ)

Specifies the data queue on which entries are placed. The specified data queue must have a minimum length of 80 characters. The data queue need not exist when the display file is created since the name specified for this parameter is not evaluated until the file is used.

**Note:** Keyed data queues are not supported for this parameter. If a keyed data queue is specified, a run-time error will occur; but because it is not required that a data queue exist at the time the command is issued, the error will not be flagged.

**Single values**

**\*SAME**
　　　　The data queue name does not change.

**\*NONE**
　　　　No data queue is specified.

**Qualifier 1: Data queue**

*name*　　Specify the name of the data queue on which entries are placed.

**Qualifier 2: Library**

**\*LIBL**　　All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
　　　　The current library is used to locate the data queue. If no library is specified as the current library, QGPL is used.

*name*　　Specify the library where the data queue is located.

## Share open data path (SHARE)

Specifies whether the open data path (ODP) is shared with other programs in the same routing step. When an ODP is shared, the programs accessing the file share facilities such as the file status and the buffer.

**\*SAME**
　　　　The value specified in the file does not change.

**\*NO**　　The ODP is not shared with other programs in the routing step. A new ODP for the file is created and used every time a program opens the file.

**\*YES**　　The same ODP is shared with each program in the job that also specifies \*YES when it opens the file.

## Examples

```
CHGICFF   FILE(ICFHIST)  MAXPGMDEV(10)
```

This command changes the maximum number of program devices that can be added to the ICF file ICFHIST.

## Error messages

**\*ESCAPE Messages**

**CPF7304**
> File &1 in &2 not changed.

# Change Image Catalog (CHGIMGCLG)

**Where allowed to run:** All environments (*ALL)  
**Threadsafe:** No

The Change Image Catalog (CHGIMGCLG) command is used to change the attributes of an image catalog object (*IMGCLG) in library QUSRSYS.

**Restrictions:**

- The following authorities are required to change an image catalog:
    1. Execute (*EXECUTE) authority to library QUSRSYS.
    2. Change (*CHANGE) authority to the image catalog.
    3. Execute (*X) authority to each directory in the image catalog path name.
- If the Directory (DIR) parameter is specified, the following additional authorities are required:
    1. Execute (*X) authority to each directory specified on the DIR parameter.
    2. Read (*R) and object management (*OBJMGT) authorities to each image file in the specified directory for which there is an entry in the image catalog.
- If IMPORT(*YES) is specified, read (*R) and object management (*OBJMGT)authorities are required to the image catalog object in the directory as specified on the Directory (DIR) parameter.
- A directory can only be associated with a single image catalog.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| IMGCLG | Image catalog | *Name* | Required, Key, Positional 1 |
| WRTPTC | Write protect | **\*SAME**, *ALL, *NONE | Optional |
| DIR | Directory | *Path name*, **\*SAME** | Optional |
| IMPORT | Import image catalog | **\*NO**, *YES | Optional |
| CLGASPTHLD | Catalog ASP threshold | 1-99, **\*SAME**, *CALC, *MAX | Optional |
| ALCSTG | Allocate storage size | **\*SAME**, *IMGSIZ, *MIN | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

## Image catalog (IMGCLG)

Specifies the image catalog to be changed.

This is a required parameter.

*name*    Specify the name of the image catalog.

# Write protect (WRTPTC)

Specifies whether to force all catalog entries to be write protected or all entries to not be protected. The image catalog specified on the IMGCLG paramter must not be in ready status.

**\*SAME**
> The value for the write protect will not be changed.

**\*ALL**  The write protect value will be set on for all images.

**\*NONE**
> The write protect value will be set off for all images.

# Directory (DIR)

Specifies the directory to be associated with this image catalog.

**\*SAME**
> The directory will not be changed.

*path-name*
> Specify the path name of the directory to be associated with this image catalog.

# Import image catalog (IMPORT)

Specifies whether to change the catalog by importing the data from the image catalog in the path specified on the **Directory (DIR)** parameter.

**\*NO**  Do not change the catalog by importing the data.

**\*YES**  Change the image catalog by importing the data from image catalog object (QIMGCLG) located in the directory specified on the Directory (DIR) parameter.

> **Note:** The values of the Image catalog (IMGCLG), Directory (DIR), and Text description (TEXT) parameters specified on the Change Image Catalog (CHGIMGCLG) command are used for the image catalog. All other values are imported from image catalog object QIMGCLG.

# Catalog ASP threshold (CLGASPTHLD)

Specifies the auxiliary storage pool (ASP) threshold for this image catalog.

**\*SAME**
> The ASP threshold will not be changed.

**\*CALC**
> The maximum storage threshold is calculated. The ASP space to be used by an image catalog virtual volume is the greater of either 95% or 5GB of space remaining in the ASP. The tape operation will stop with an end of media error when the maximum storage threshold for the virtual volume is reached. Adding of a virtual volume will also check for this limit when ALCSTG(\*IMGSIZ) is specified.

**\*MAX**  The maximum storage available in the ASP where the image catalog directory is located will used by virtual volumes.

*1-99* Specify the percent of image catalog directory ASP space to be used by virtual volumes.

## Allocate storage size (ALCSTG)

Specifies for tape image catalogs, whether to change the storage allocation of image files.

**\*SAME**
The storage allocation for the image files associated with the tape image catalog will not be changed.

**\*MIN** The storage allocation for the image files associated with the tape image catalog will be changed to a size required to contain the data in the image file.

**\*IMGSIZ**
The storage allocation for the image files associated with the tape image catalog will be changed to match the size of the image files.

## Text 'description' (TEXT)

Specifies the text that briefly describes the image catalog.

**\*SAME**
The text description will not be changed.

**\*BLANK**
The text description will be blank.

*character-value*
Specify up to 50 characters of text for this image catalog.

## Examples

**Example 1: Changing the Text Associated with an Image Catalog**
```
CHGIMGCLG   IMGCLG(MYCLG)   TEXT('New Text')
```

This command changes the text associated with image catalog **MYCLG**.

**Example 2: Changing the Directory Associated with an Image Catalog**
```
CHGIMGCLG   IMGCLG(MYCLG)   DIR('/MyDir2')
```

This command changes the directory associated with image catalog **MYCLG** to **/MyDir2**.

**Example 3: Changing an Image Catalog by Importing From the Image Catalog Directory**
```
CHGIMGCLG   IMGCLG(MYCLG)   DIR('/MyDir') IMPORT(*YES)
```

This command changes image catalog **MYCLG** in library QUSRSYS and updates the catalog and entry information from the image catalog object in directory **/MyDir**.

**Example 4: Changing the Allocated Size for all Image Files in a Tape Image Catalog**

```
CHGIMGCLG   IMGCLG(TAPECLG)  ALCSTG(*MIN)
```

This command will change the size of each image file associated with image catalog **TAPECLG** to an allocated size required to contain the data.

## Error messages

*ESCAPE Messages

**CPFBC08**

        Image catalog &1 not changed.

**CPFBC45**

        Image catalog &1 not found.

**CPF9802**

        Not authorized to object &2 in &3.

**CPF9820**

        Not authorized to use library &1.

# Change Image Catalog Entry (CHGIMGCLGE)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Image Catalog Entry (CHGIMGCLGE) command is used to change the attributes of an image catalog entry.

**Restrictions:**

- The following authorities are required to change an image catalog entry:
    1. Execute (*EXECUTE) authority to library QUSRSYS.
    2. Change (*CHANGE) authority to the image catalog.
    3. Execute (*X) authority to each directory in the image catalog path name.
    4. *USE authority to the virtual device description.
- The following parameters are only supported for tape image catalogs:
    1. Image size (IMGSIZ)
    2. Allocate storage size (ALCSTG)

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| IMGCLG | Image catalog | *Name* | Required, Key, Positional 1 |
| IMGCLGIDX | Image catalog index | 1-256, *VOL | Required, Key, Positional 2 |
| VOL | Image catalog volume | *Character value* | Optional, Key, Positional 3 |
| NEWCLGIDX | New catalog index | 1-256, **\*SAME** | Optional |
| WRTPTC | Write protect | **\*SAME**, *YES, *NO | Optional |
| IMGSIZ | Image size | 48-1000000, **\*SAME** | Optional |
| ALCSTG | Allocate storage size | **\*SAME**, *MIN, *IMGSIZ | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME** | Optional |

## Image catalog (IMGCLG)

Specify the image catalog that contains the image to be changed.

This is a required parameter.

*name*    Specify the name of the image catalog.

# Image catalog index (IMGCLGIDX)

Specifies the index number of the image catalog entry to be changed.

This is a required parameter.

**\*VOL**  Change the entry by specifying a volume name.

*1-256*  Specify the image catalog index number to be used.

# Image catalog volume (VOL)

Specifies the volume name of the entry to be changed.

*name*  Specify the volume name of the entry to be changed. For optical image catalogs, the first volume that matches the volume specified will be changed.

# New catalog index (NEWCLGIDX)

Specifies a new index number to be used for the image catalog entry. If an entry currently exists at the specified index location, the new entry will be inserted and all entries at or below the specified index number will be incremented by 1.

**\*SAME**
    The index number will not be changed.

*1-256*  Specify the image catalog index number to be used.

# Write protect (WRTPTC)

Specify whether this catalog entry should be write protected or not. By write protecting this catalog entry, no write operations will be allowed to it. This parameter is not allowed for reference or dependent image catalogs.

**\*SAME**
    The value for write protect will not be changed.

**\*YES**  Specifies that this catalog entry is to be write protected. This will prevent write operation from being done to it.

**\*NO**  Specifies that this catalog entry is not to be write protected. This will allow write operations to be done to this catalog entry.

# Image size (IMGSIZ)

Specifies the maximum size allowed for this tape image file.

If the specified image size is larger then the current file size then the new maximum size is set and the file size is increased.

If the specified size is smaller than current maximum image size and the data stored in the image file is less than the specified value then the file will be reduced to the specified size otherwise the command will fail.

This parameter is only allowed for tape image catalogs.

This parameter is not allowed for reference or dependent image catalogs.

**\*SAME**
> The maximum size for this image file will not be changed.

*48-1000000*
> Specify the maximum number of megabytes allowed for this tape image file.

## Allocate storage size (ALCSTG)

Specifies for tape image files, whether to allocate the entire amount of storage specified on the **Image size (IMGSIZ)** parameter.

This parameter is only allowed for tape image catalogs.

This parameter is not allowed for reference or dependent image catalogs.

**\*SAME**
> The storage allocation for the image file will not be changed.

**\*MIN** The storage allocation will be changed to match the storage required to contain the existing image file data.

**\*IMGSIZ**
> The storage allocation will be the entire amount of storage for this image file. This is the value that was specified on the **Image size (IMGSIZ)** parameter of the ADDIMGCLGE command.

## Text 'description' (TEXT)

Specifies the text that briefly describes the image catalog entry being changed.

**\*SAME**
> The text description will not be changed.

*character-value*
> Specify up to 50 characters of text for this image catalog entry.

## Examples

**Example 1: Changing the Catalog Index Number**
```
CHGIMGCLGE   IMGCLG(MYCLG)  IMGCLGIDX(5)  NEWCLGIDX(2)
```

This command changes the index number associated with the selected image catalog entry from **5** to **2**.

**Example 2: Changing the Catalog Entry Text**

```
CHGIMGCLGE   IMGCLG(MYCLG)  IMGCLGIDX(5)  TEXT('MyText')
```

This command changes the text associated with image catalog entry **5** to **MyText**.

**Example 3: Changing the Catalog Entry Write Protection**

```
CHGIMGCLGE   IMGCLG(MYCLG)  IMGCLGIDX(5)  WRTPTC(*YES)
```

This command write protects the image file associated with image catalog entry **5**.

**Example 4: Changing the Maximum Size for a Tape Image File**

```
CHGIMGCLGE   IMGCLG(TAPECLG)  IMGCLGIDX(*VOL) VOL(VOL002)
             IMGSIZ(10000)  ALCSTG(*IMGSIZ)
```

This command will change the maximum allowed size of image file **VOL002** to be 10000 megabytes and allocate the 10000 megabytes of storage.

## Error messages

**\*ESCAPE Messages**

**CPFBC0B**

   Catalog entry &2 in image catalog &1 not changed.

**CPFBC0C**

   Catalog entry &2 in image catalog &1 not changed.

**CPFBC45**

   Image catalog &1 not found.

**CPF9802**

   Not authorized to object &2 in &3.

**CPF9820**

   Not authorized to use library &1.

# Change IPL Attributes (CHGIPLA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change IPL Attributes (CHGIPLA) command allows you to change the settings of attributes that are used during the initial program load (IPL).

**Restrictions:**

1. To run this command, the user must have security administrator (*SECADM) and all object (*ALLOBJ) special authorities.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| RESTART | Restart type | **\*SAME**, *SYS, *FULL | Optional |
| KEYLCKPOS | Keylock position | **\*SAME**, *NORMAL, *AUTO, *SECURE | Optional |
| HDWDIAG | Hardware diagnostics | **\*SAME**, *MIN, *ALL | Optional |
| CPRJOBTBL | Compress job tables | **\*SAME**, *NONE, *NEXT, *NORMAL, *ABNORMAL, *ALL | Optional |
| CHKJOBTBL | Check job tables | **\*SAME**, *ABNORMAL, *ALL, *SYNC | Optional |
| RBDPRDDIR | Rebuild product directory | **\*SAME**, *NONE, *NORMAL, *ABNORMAL, *ALL | Optional |
| MSFRCY | Mail Server Framework recovery | **\*SAME**, *NONE, *ABNORMAL | Optional |
| DSPSTS | Display status | **\*SAME**, *SYS, *NONE, *ATTEND, *ABNORMAL, *ALL | Optional |
| STRTCP | Start TCP/IP | **\*SAME**, *YES, *NO | Optional |
| SPLFRCY | Spooled file recovery | **\*SAME**, *DETACH, *REMOVE | Optional |
| CLRJOBQ | Clear job queues | **\*SAME**, *YES, *NO | Optional |
| CLROUTQ | Clear output queues | **\*SAME**, *YES, *NO | Optional |
| CLRINCJOB | Clear incomplete joblogs | **\*SAME**, *YES, *NO | Optional |
| STRPRTWTR | Start print writers | **\*SAME**, *YES, *NO | Optional |
| STRRSTD | Start to restricted state | **\*SAME**, *YES, *NO | Optional |

## Restart type (RESTART)

Specifies the point from which the initial program load (IPL) restarts when RESTART(*YES) or RESTART((*YES *IPLA)) are specified on the Power Down System (PWRDWNSYS) command. Specifying *SYS rather than *FULL can reduce the time required to restart the system. The initial (shipped) value for this parameter is *SYS.

**\*SAME**

        The value does not change.

**\*SYS** The operating system is restarted. The hardware is restarted only if a PTF that requires a hardware restart is to be applied.

**\*FULL** All portions of the system, including the hardware, are restarted.

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## Keylock position (KEYLCKPOS)

Specifies the keylock position. A change to this attribute takes effect immediately. The following restrictions apply when the keylock position is being changed:

- The keylock position cannot be set to MANUAL for security reasons.
- If the keylock position is currently SECURE, the keylock position cannot be changed.
- If the system has a keylock and the key is not inserted, the keylock position cannot be changed.

**\*SAME**
The value does not change.

**\*NORMAL**
The keylock position is changed to NORMAL.

**\*AUTO**
The keylock position is changed to AUTO.

**\*SECURE**
The keylock position is changed to SECURE.

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## Hardware diagnostics (HDWDIAG)

Specifies whether certain hardware diagnostics should be performed during the IPL. The list of diagnostics is pre-determined by the system and cannot be modified by the user.

On partitioned AS/400 7xx and iSeries 8xx servers, this IPL attribute can only be changed from the primary partition.

On partitioned eServer i5 servers and System i, this IPL attribute must be changed from the service processor's Advanced System Management (ASM) interface.

For more information on partitions, see the Logical Partitions topic in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/. The initial (shipped) value for this attribute is \*MIN.

**\*SAME**
The value does not change.

**\*MIN** The minimum set of hardware diagnostics is run.

**\*ALL** All hardware diagnostics are run.

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## Compress job tables (CPRJOBTBL)

Specifies when the job tables should be compressed to remove excess unused entries. The Display Job Tables (DSPJOBTBL) command can be used to determine the number of unused entries in the job tables. Excessive unused entries can indicate that job tables need to be compressed. However, compression can take a significant amount of time during IPL. The initial (shipped) value for this attribute is \*NONE.

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**\*SAME**
> The value does not change.

**\*NONE**
> The job tables are not compressed during any IPL.

**\*NEXT**
> The job tables are compressed during the following IPL. This value will be reset to \*NONE after job table compression is started.

**\*NORMAL**
> The job tables are compressed during normal IPLs only.

**\*ABNORMAL**
> The job tables are compressed during abnormal IPLs only.

**\*ALL**  The job tables are compressed during all IPLs.

# Check job tables (CHKJOBTBL)

Specifies when particular damage checks on the job tables should be performed. The initial (shipped) value for this attribute is \*ABNORMAL.

**\*SAME**
> The value does not change.

**\*ABNORMAL**
> The job table checks are performed during an abnormal IPL only.

**\*ALL**  The job table checks are performed during all IPLs.

**\*SYNC**
> The job table checks are performed synchronously during all IPLs.

# Rebuild product directory (RBDPRDDIR)

Specifies when the product directory information should be fully rebuilt. A full rebuild is required during the IPL following the install of the operating system. This attribute is overridden during that IPL. The initial (shipped) value for this attribute is \*NONE.

**\*SAME**
> The value does not change.

**\*NONE**
> The product directory information is not fully rebuilt.

**\*NORMAL**
> The product directory information is fully rebuilt during a normal IPL only.

**\*ABNORMAL**
> The product directory information is fully rebuilt during an abnormal IPL only.

**\*ALL**  The product directory information is fully rebuilt during all IPLs.

## Mail Server Framework recovery (MSFRCY)

Specifies whether Mail Server Framework recovery is done during abnormal IPLs. The initial (shipped) value for this attribute is *NONE.

**\*SAME**
> The value does not change.

**\*NONE**
> Mail Server Framework recovery is not done during IPL. Recovery is done when Mail Server Framework starts.

**\*ABNORMAL**
> Mail Server Framework recovery is done during an abnormal IPL.

## Display status (DSPSTS)

Specifies whether the status of operating system IPL steps is displayed at the console during IPL. Status is not displayed during install IPLs or when the console is not powered on. The initial (shipped) value for this attribute is *ALL.

**\*SAME**
> The value does not change.

**\*SYS**   The status of operating system IPL steps is displayed during attended IPLs and abnormal IPLs.

**\*NONE**
> The status of operating system IPL steps is not displayed during IPL.

**\*ATTEND**
> The status of operating system IPL steps is displayed during attended IPLs.

**\*ABNORMAL**
> The status of operating system IPL steps is displayed during abnormal IPLs.

**\*ALL**   The status of operating system IPL steps is displayed during all IPLs, excepted as noted above.

## Start TCP/IP (STRTCP)

Specifies whether the Start TCP/IP (STRTCP) command is automatically submitted at the completion of IPL and when the controlling subsystem is restarted to bring the system out of the restricted state. The STRTCP command is not submitted during install IPLs or when the system is starting to the restricted state. See the STRTCP command help for more information. The initial (shipped) value for this attribute is *YES.

**\*SAME**
> The value does not change.

**\*YES**   STRTCP command is automatically submitted.

**\*NO**    STRTCP command is not automatically submitted.

## Spooled file recovery (SPLFRCY)

Specifies what should be done with all spooled files during IPL when a job table is detected as damaged, or if *YES is set for these three IPL attributes: **Clear job queues (CLRJOBQ)**, **Clear output queues (CLROUTQ)**, and **Clear incomplete joblogs (CLRINCJOB)**. The initial (shipped) value for this attribute is *DETACH.

**\*SAME**
>        The value does not change.

**\*DETACH**
>        Spooled files are detached from the job and remain on the system.

**\*REMOVE**
>        Spooled files are removed from the system.

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## Clear job queues (CLRJOBQ)

Specifies whether or not to clear the jobs from all job queues. The initial (shipped) value for this attribute is *NO. This attribute is reset to its initial value after each IPL.

**\*SAME**
>        The value does not change.

**\*YES**    The job queues are cleared during the IPL. This attribute is then reset to *NO.

**\*NO**    The job queues are not cleared.

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## Clear output queues (CLROUTQ)

Specifies whether or not to clear all output queues in libraries that are in the system auxiliary storage pool (ASP number 1) or basic user auxiliary storage pools (ASP numbers 2-32), thus removing all spooled output from those output queues. The initial (shipped) value for this attribute is *NO. This attribute is reset to its initial value after each IPL.

**Note:** If *YES is specified for this attribute, and *YES is also specified for both the **Clear job queues (CLRJOBQ)** and **Clear incomplete joblogs (CLRINCJOB)** IPL attributes, then spooled files will be removed only if *REMOVE is specified for the **Spooled file recovery (SPLFRCY)** IPL attribute.

**\*SAME**
>        The value does not change.

**\*YES**    The output queues are cleared during the IPL unless *YES is also specified for the CLRJOBQ and CLRINCJOB IPL attributes and *DETACH is specified for the SPLFRCY IPL attribute. In that case, the spooled files will be detached from the jobs, but will not be removed from the output queues. This attribute is then reset to *NO.

**\*NO**    The output queues are not cleared.

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# Clear incomplete joblogs (CLRINCJOB)

Specifies whether or not to delete the job logs that have not yet been written. This deletes all pending job logs. This affects jobs that were active at the time of the last system power down, jobs whose job log have not yet been written by a job log server, and jobs that specify a value of *PND for the job log output (LOGOUTPUT) job attribute.

To clear incomplete job logs without performing an IPL, use the Remove pending job log (QWTRMVJL) API.

The initial (shipped) value for this attribute is *NO. This attribute is reset to its initial value after each IPL.

**\*SAME**
The value does not change.

**\*YES**   The joblogs are deleted during the IPL. This attribute is then reset to *NO.

**\*NO**   The joblogs are not deleted.

# Start print writers (STRPRTWTR)

Specifies whether or not print writers should be started at IPL time. The initial (shipped) value for this attribute is *YES. This attribute is reset to its initial value after each IPL.

**\*SAME**
The value does not change.

**\*YES**   Print writers are started at IPL time.

**\*NO**   Print writers are not started at IPL time. This attribute is then reset to *YES.

# Start to restricted state (STRRSTD)

Specifies whether or not the system should be started to the restricted state, which means that only the system console will be active. The initial (shipped) value for this attribute is *NO. This attribute is reset to its initial value after each IPL.

**\*SAME**
The value does not change.

**\*YES**   The system is started to the restricted state. This attribute is then reset to *NO.

**\*NO**   The system is not started to the restricted state.

# Examples

```
CHGIPLA   DSPSTS(*ATTEND)
```

This command causes the status of the operating system IPL steps to be displayed during attended IPLs.

# Error messages

**\*ESCAPE Messages**

**CPF1886**

       User not authorized to change IPL attributes.

**CPF1887**

       Error occurred changing IPL attributes.

# Change IP over SNA Interface (CHGIPSIFC)

The Change IP over SNA Interface (CHGIPSIFC) command changes an existing AF_INET Sockets over SNA interface (an IP address by which this local host is known on the SNA transport). This command changes only the subnetmask. It does not change the internet address. The internet address identifies the interface being changed.

**Restrictions:**

1. The user must have *IOSYSCFG authority to use this command.

2. The interface cannot be active when you submit this command. Use the End IP over SNA Interface (ENDIPSIFC) CL command to deactivate the interface.

3. There can be no configured routes whose NEXTHOP internet address can be reached only through the network associated with the IP over SNA interface to be changed.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **INTNETADR** | Internet address | *Character value* | Required, Key, Positional 1 |
| **SUBNETMASK** | Subnet mask | *Character value*, **\*SAME** | Optional, Positional 2 |

## Internet address (INTNETADR)

Specifies the internet address of an interface that has previously been added to the SNA configuration with the Add IP over SNA Interface (ADDIPSIFC) CL command. The internet address is specified in the form *nnn.nnn.nnn.nnn* where *nnn* is a decimal number ranging from 0 through 255.

This is a required parameter.

## Subnet mask (SUBNETMASK)

Specifies the subnet mask, which is a bit mask that defines the part of the network where this interface attaches. The mask is a 32-bit combination that is logically ANDed with the internet address to determine a particular subnetwork. The bits of the mask set to the value one (1) determine the network and subnetwork portions of the address. The bits set to the value zero (0) determine the host portion of the address.

**Notes:**

1. The network portion must be equal to one bit in the subnetmask. The host portion and the subnetmask portion of an address must both be at least two bits wide.

2. The bits that identify the subnetwork are not required to be adjacent in the address. However, it is strongly recommended that the subnet bits be contiguous and located in the most significant bits of the host address.

The possible values are:

**\*SAME**
    The subnet-mask value does not change.

*subnet-mask*
    Specify the mask for the network subnet field and host address field of the internet address that defines a subnetwork. The subnetwork mask is in the form, *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255. The subnet mask must mask off all bits of the network class's network ID portion of the internet address. For more detailed information on subnet masks and an example, see the Add IP over SNA Interface (ADDIPSIFC) CL command.

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## Examples

```
CHGIPSIFC   INTNETADR('9.5.1.248')  SUBNETMASK('255.255.0.0')
```

This command changes the subnet mask of the interface with IP address 9.5.1.248 to 255.255.0.0.

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## Error messages

**\*ESCAPE Messages**

**TCP8050**
    \*IOSYSCFG authority required to use &1.

**TCP9999**
    Internal system error in program &1.

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# Change IP over SNA Location (CHGIPSLOC)

**Where allowed to run:** All environments (*ALL)  
**Threadsafe:** No

The Change IP over SNA Location (CHGIPSLOC) command is used to change an existing AF_INET sockets over SNA location entry. This command only changes the remote network identifier (RMTNETID) and the location name template (LOCTPL). The remote route destination and subnet mask identify the location entry being changed.

**Restriction:** The user must have *IOSYSCFG authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **RMTDEST** | Remote destination | *Character value* | Required, Key, Positional 1 |
| **SUBNETMASK** | Subnet mask | *Character value*, *HOST | Required, Key, Positional 2 |
| **RMTNETID** | Remote network identifier | *Communications name*, **\*SAME**, *NETATR | Optional |
| **LOCTPL** | Location template | *Character value*, **\*SAME** | Optional |

## Remote destination (RMTDEST)

Specifies the remote route destination of the location entry to be changed. The remote route destination is specified in the form *nnn.nnn.nnn.nnn* where *nnn* is a decimal number ranging from 0 through 255.

This is a required parameter.

## Subnet mask (SUBNETMASK)

Specifies the subnet mask of the location entry to be changed.

This is a required parameter.

The possible values are:

**\*HOST**
> Specify this value when the internet address value specified in the remote route destination field is a host address.

*subnet-mask*
> Specify the subnet mask in the form *nnn.nnn.nnn.nnn* where *nnn* is a decimal number ranging from 0 through 255.

# Remote network identifier (RMTNETID)

Specifies the name of the remote SNA network associated with the IP network or IP address specified by the remote route destination.

The possible values are:

**\*SAME**
> The SNA remote network identifier value does not change.

**\*NETATR**
> The remote network identifier specified in the network attributes is used.

*remote-network-identifier*
> Specify a remote network identifier up to eight characters in length. The first character must be A (or a) through Z (or z), or special characters $, #, or @ followed by 0 through 9, A (or a) through Z (or z), $, #, or @.

# Location template (LOCTPL)

Specifies the SNA location names associated with the IP network or subnetwork specified by the remote route destination or a single location name if the remote route destination address is for a single host.

The possible values are:

**\*SAME**
> The SNA location name template or location name value does not change.

*location-name-template*
> Specify an 8 character template to be used by the system for generating remote location names based on the remote IP address specified on socket system calls. The first character must be A (or a) through Z (or z), or special characters $, #, or @ followed by 0 through 9, A (or a) through Z (or z), $, #, @, or ?. The template must specify some of the characters for the location name. The system generates the remaining characters based on the class of the IP address.

> If the RMTDEST is for a group of hosts, a location name template must be specified. A single location name will not work.

> See the Add IP over SNA Location (ADDIPSLOC) CL command for additional information about location name templates.

*location-name*
> Specify the remote location name. This name can be one to eight characters in length. The first character must be A (or a) through Z (or z), or special characters $, #, or @ followed by 0 through 9, A (or a) through Z (or z), $, #, or @.

> If the RMTDEST is for a single host, a single location name must be specified. A location template will not work.

## Examples

```
CHGIPSLOC  RMTDEST('128.2.0.0')  SUBNETMASK('255.255.255.128')
           LOCTPL('ABCD????')
```

This command changes the location name template associated with AF_INET sockets over SNA location entry for a subnetwork with network 128.2 and subnet mask of 255.255.255.128.

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## Error messages

None

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# Change IP over SNA TOS (CHGIPSTOS)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change IP over SNA Type of Service (CHGIPSTOS) command is used to change the SNA mode associated with each IP type of service.

**Notes:**

1. For AF_INET sockets over SNA, the sockets application must select the desired IP type of service before the connection is established. After the connection is established, the sockets application can change the IP type of service, but it has not affect on the SNA mode associated with the underlying APPC conversation carrying the socket connection. The APPC conversation will continue to use the SNA mode that was in effect when the conversation was established.

2. Changes to a SNA mode made with the Change Mode Description (CHGMODD) CL command will not take effect for an APPC device that is currently using that mode until the mode has been started again for the APPC device.

**Restriction:** The user must have *IOSYSCFG authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| TOS | Type of service | *MINDELAY, *MAXTHRPUT, *MAXRLB, *MINCOST, *NORMAL | Required, Key, Positional 1 |
| MODE | Mode | *Communications name*, *NETATR | Required, Positional 2 |

## Type of service (TOS)

Specifies the IP type of service to be changed.

This is a required parameter.

The possible values are:

**\*MINDELAY**
    Minimize delay means that prompt delivery is important for data on this connection.

**\*MAXTHRPUT**
    Maximize throughput means that a high data rate is important for data on this connection.

**\*MAXRLB**
    Maximize reliability means that a higher level of effort to ensure delivery is important for data on this connection.

**\*MINCOST**

      Minimize monetary cost means that lower cost is important for data on this connection.

**\*NORMAL**

      Normal service is used for delivery of data.

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## Mode (MODE)

Specifies the SNA mode description used with this type of service. The mode can be one to eight characters in length. The first character must be A (or a) through Z (or z), or special characters $, #, or @ followed by 0 through 9, A (or a) through Z (or z), $, #, or @.

This is a required parameter.

The possible values are:

**\*NETATR**

      The default mode name defined in the network attributes is used.

*mode*    Specify the name of an SNA mode description.

      **Restriction:** The SNASVCMG and CPSVCMG modes are reserved for system use and cannot be specified for the MODE parameter.

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## Examples

```
CHGIPSTOS   TOS(*MINDELAY)  MODE(MODE1)
```

This command changes the SNA mode for IP type of service *MINDELAY to MODE1.

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## Error messages

**\*ESCAPE Messages**

**CPFA112**

      IP over SNA type of service not changed.

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# Change Job (CHGJOB)

The Change Job (CHGJOB) command changes some of the attributes of a job. With the exception of a change in job queue, the job can be in a job queue or in an output queue, or it can be active in a subsystem. The job queue can only be changed when the job is a batch job and is in a job queue. If the job is in the output queue, only the **Output priority (on OUTQ) (OUTPTY)**, the **Job log output (LOGOUTPUT)**, and the **Spooled file action (SPLFACN)** can be changed. With the exception of the class attributes, the new attributes remain in effect for the duration of the job unless they are changed by another CHGJOB command. The class attributes remain in effect until the routing step that is currently active ends. If no routing step is active when the changes are made, they apply to the next routing step that is started. If an attribute that no longer affects the job is changed, a message is sent to the user of the command. For example, if the job has already completed running, it is too late to change the **Output queue (OUTQ)** and **Job priority (on JOBQ) (JOBPTY)** parameters. If any output files are still on the output queue, however, changing the OUTPTY parameter changes their output priority.

**Restrictions:**

1. The command must be issued from within the job being changed, or the issuer of the command must be running under a user profile which is the same as the job user identity of the job being changed, or the issuer of the command must be running under a user profile which has job control (*JOBCTL) special authority.

   The job user identity is the name of the user profile by which a job is known to other jobs. It is described in more detail in the Work Management Guide.

2. To use this command, the following authorities are required:
   - To change the job queue (JOBQ), you must have use (*USE) authority to the job queue that the job is being changed to and execute (*EXECUTE) authority to the library containing that job queue.
   - To change the output queue (OUTQ), you must have read (*READ) authority to the output queue that is currently allocated to the job and execute (*EXECUTE) authority to the library containing this output queue. This authority can come from adopted authority. When a job changes itself, no authority is required to the OUTQ currently allocated to the job. You also must have read (*READ) authority to the output queue that the job is being changed to use, and execute (*EXECUTE) authority to the library containing that output queue. This authority cannot come from adopted authority.
   - To change the RUNPTY, TIMESLICE, PURGE, DFTWAIT, or TSEPOOL values, you must have job control (*JOBCTL) special authority.
   - To change the sort sequence table (SRTSEQ), you must have use (*USE) authority to the new sort sequence table and execute (*EXECUTE) authority to the library that contains that sort sequence table.

3. This command is conditionally threadsafe. Refer to **Considerations for Attribute Thread Safety** for additional information.

**Considerations for Attribute Thread Safety:**

This command is intended to be used to change the job attributes for a job. All of the attributes are scoped to the job.

The Threadsafe column of the following table indicates whether the attributes can be changed in a manner that is threadsafe.

**Yes:** - Attributes marked with this value are considered to be threadsafe. These attributes can be changed safely by issuing this command from either the initial thread or from a secondary thread. The target job may also be either single threaded or multi threaded.

**No:** - Attributes marked with this value are not threadsafe. An attempt to change these attributes will be denied if multiple threads are active in the job issuing this command or in the target job.

**Attribute and Thread Safety Table:**

```
Attribute                                Threadsafe
---------------------------              ----------
Break message handling (BRKMSG)             Yes
Character identifier control (CHRIDCTL)     Yes
Coded character set ID (CCSID)              Yes
Country or region ID (CNTRYID)              Yes
Date format (DATFMT)                        Yes
Date separator (DATSEP)                     Yes
DDM conversation (DDMCNV)                    No
Decimal format (DECFMT)                     Yes
Default wait time (DFTWAIT)                 Yes
Device recovery action (DEVRCYACN)          Yes
Eligible for purge (PURGE)                  Yes
Inquiry message reply (INQMSGRPY)           Yes
Job date (DATE)                             Yes
Job Log output (LOGOUTPUT)                  Yes
Job message queue full action (JOBMSGQFL)   Yes
Job priority (on JOBQ) (JOBPTY)             Yes
Job queue (JOBQ)                            Yes
Job switches (SWS)                          Yes
Language ID (LANGID)                        Yes
Log CL program commands (LOGCLPGM)          Yes
Message logging (LOG)                       Yes
Output priority (on OUTQ) (OUTPTY)          Yes
Output queue (OUTQ)                         Yes
Print key format (PRTKEYFMT)                Yes
Print text (PRTTXT)                         Yes
Print device (PRTDEV)                       Yes
Run priority (RUNPTY)                       Yes
Schedule date (SCDDATE)                      No
Schedule time (SCDTIME)                      No
Sort sequence (SRTSEQ)                      Yes
Spooled file action (SPLFACN)              Yes
Status message (STSMSG)                     Yes
Time separator (TIMSEP)                     Yes
Time slice (TIMESLICE)                      Yes
Time slice end pool (TSEPOOL)               Yes
```

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| JOB | Job name | Single values: *<br>Other values: *Qualified job name* | Optional, Key, Positional 1 |
| | Qualifier 1: Job name | *Name* | |
| | Qualifier 2: User | *Name* | |
| | Qualifier 3: Number | 000000-999999 | |
| JOBPTY | Job priority (on JOBQ) | 0-9, **\*SAME** | Optional |
| OUTPTY | Output priority (on OUTQ) | 1-9, **\*SAME** | Optional |
| PRTDEV | Print device | *Name*, **\*SAME**, \*USRPRF, \*SYSVAL, \*WRKSTN | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| OUTQ | Output queue | Single values: **\*SAME**, \*USRPRF, \*DEV, \*WRKSTN<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Output queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| RUNPTY | Run priority | 1-99, **\*SAME** | Optional |
| JOBQ | Job queue | Single values: **\*SAME**<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Job queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| PRTTXT | Print text | *Character value*, **\*SAME**, \*SYSVAL, \*BLANK | Optional |
| LOG | Message logging | *Element list* | Optional |
| | Element 1: Level | 0-4, **\*SAME** | |
| | Element 2: Severity | 0-99, **\*SAME** | |
| | Element 3: Text | **\*SAME**, \*MSG, \*SECLVL, \*NOLIST | |
| LOGCLPGM | Log CL program commands | **\*SAME**, \*NO, \*YES | Optional |
| LOGOUTPUT | Job log output | **\*SAME**, \*SYSVAL, \*JOBLOGSVR, \*JOBEND, \*PND | Optional |
| JOBMSGQFL | Job message queue full action | **\*SAME**, \*SYSVAL, \*NOWRAP, \*WRAP, \*PRTWRAP | Optional |
| INQMSGRPY | Inquiry message reply | **\*SAME**, \*RQD, \*DFT, \*SYSRPYL | Optional |
| BRKMSG | Break message handling | **\*SAME**, \*NORMAL, \*NOTIFY, \*HOLD | Optional |
| STSMSG | Status message | **\*SAME**, \*USRPRF, \*SYSVAL, \*NONE, \*NORMAL | Optional |
| DDMCNV | DDM conversation | **\*SAME**, \*KEEP, \*DROP | Optional |
| SCDDATE | Schedule date | *Date*, **\*SAME**, \*CURRENT, \*MONTHSTR, \*MONTHEND,<br>\*MON, \*TUE, \*WED, \*THU, \*FRI, \*SAT, \*SUN | Optional |
| SCDTIME | Schedule time | *Time*, **\*SAME**, \*CURRENT | Optional |
| DATE | Job date | *Date*, **\*SAME** | Optional |
| DATFMT | Date format | **\*SAME**, \*SYSVAL, \*YMD, \*MDY, \*DMY, \*JUL | Optional |
| DATSEP | Date separator | **\*SAME**, \*SYSVAL, \*BLANK, '/', '-', '.', ' ', ',' | Optional |
| TIMSEP | Time separator | **\*SAME**, \*SYSVAL, \*BLANK, ':', '.', ' ', ',' | Optional |
| SWS | Job switches | *Character value*, **\*SAME** | Optional |
| TIMESLICE | Time slice | 1-9999999, **\*SAME** | Optional |
| PURGE | Eligible for purge | **\*SAME**, \*YES, \*NO | Optional |
| DFTWAIT | Default wait time | 1-9999999, **\*SAME**, \*NOMAX | Optional |
| DEVRCYACN | Device recovery action | **\*SAME**, \*SYSVAL, \*MSG, \*DSCMSG, \*DSCENDRQS,<br>\*ENDJOB, \*ENDJOBNOLIST | Optional |
| TSEPOOL | Time slice end pool | **\*SAME**, \*SYSVAL, \*NONE, \*BASE | Optional |
| PRTKEYFMT | Print key format | **\*SAME**, \*SYSVAL, \*NONE, \*PRTBDR, \*PRTHDR,<br>\*PRTALL | Optional |
| SRTSEQ | Sort sequence | Single values: **\*SAME**, \*USRPRF, \*SYSVAL, \*HEX,<br>\*LANGIDUNQ, \*LANGIDSHR<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Sort sequence | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| LANGID | Language ID | *Character value*, **\*SAME**, \*USRPRF, \*SYSVAL | Optional |
| CNTRYID | Country or region ID | *Character value*, **\*SAME**, \*USRPRF, \*SYSVAL | Optional |
| CCSID | Coded character set ID | 1-65535, **\*SAME**, \*USRPRF, \*SYSVAL, \*HEX | Optional |
| DECFMT | Decimal format | **\*SAME**, \*SYSVAL, \*BLANK, I, J | Optional |
| CHRIDCTL | Character identifier control | **\*SAME**, \*USRPRF, \*SYSVAL, \*DEVD, \*JOBCCSID | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| SPLFACN | Spooled file action | *SAME, *SYSVAL, *KEEP, *DETACH | Optional |
| DUPJOBOPT | Duplicate job option | *SELECT, *MSG | Optional |

## Job name (JOB)

Specifies the name of the job whose attributes are being changed.

**\***   This attributes of the job that issues this command are changed.

**Qualifier 1: Job name**

*name*   Specify the name of the job.

**Qualifier 2: User**

*name*   Specify the name of the user profile under which the job is run.

**Qualifier 3: Number**

*000000-999999*
>    Specify the job number assigned by the system.

If no job qualifier is given, all jobs currently in the system are searched for the job name. If more than one occurrence of the specified name is found, a qualified job name must be specified.

## Job priority (on JOBQ) (JOBPTY)

Specifies the scheduling priority used for the job being changed. Valid values range from 0 through 9, where 0 is the highest priority and 9 is the lowest priority.

**\*SAME**
>    The scheduling priority does not change.

*0-9*   Specify the scheduling priority for the job. If the job is currently on the job queue, its position on the queue in relationship to other jobs may be changed. The scheduling priority specified cannot be higher than the priority specified in the user profile under which the job in which this command is entered, is running.

## Output priority (on OUTQ) (OUTPTY)

Specifies the output priority for spooled output files that are produced by this job. The highest priority is 1 and the lowest priority is 9.

**\*SAME**
>    The job's priority for spooled output does not change.

*1-9*   Specify the priority of the job's output files. The output priority specified cannot be higher than the priority specified in the user profile under which the job in which this command entered, is running. Only those spooled output files which are on output queues in the library name space of the thread issuing this command will be changed.

# Print device (PRTDEV)

Specifies the default printer device for this job.

**Note:** This assumes the defaults are specified on the OUTQ parameter for the printer file, job description, user profile and workstation.

**\*SAME**
The default printer device does not change.

**\*USRPRF**
The printer device specified in the user profile under which this job was initially running is used.

**\*SYSVAL**
The value in the system value QPRTDEV is used as the printer device.

**\*WRKSTN**
The default printer device used with this job is the printer device assigned to the work station that is associated with the job.

*name*    Specify the name of the printer device that is used with this job.

# Output queue (OUTQ)

Specifies the output queue used for spooled files that specify OUTQ(\*JOB). This parameter applies only to printer files that have \*JOB specified for the OUTQ parameter.

**Single values**

**\*SAME**
The default output queue does not change.

**\*USRPRF**
The output queue specified in the user profile under which this job was initially running is used.

**\*DEV**    The DEV parameter is determined by one of these printer file commands: Create Printer File (CRTPRTF), Change Printer File (CHGPRTF), or Override with Printer File (OVRPRTF).

**Note:** This assumes the defaults were specified on the OUTQ parameter for the printer file, job description, user profile, and workstation.

**\*WRKSTN**
The default output queue used with this job is the output queue assigned to the work station that is associated with the job at the time the job is started.

**Qualifier 1: Output queue**

*name*    Specify the name of the default output queue used by the job.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
The current library for the thread is used to locate the default output queue. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the library where the default output queue used by the job is located.

## Run priority (RUNPTY)

Specifies the run priority for the job. Run priority is a value, ranging from 1 (highest priority) through 99 (lowest priority), that represents the priority at which the job competes for the processing unit relative to other jobs that are active at the same time. This value represents the relative (not the absolute) importance of the job. For example, a job with a run priority of 25 is not twice as important as one with a run priority of 50. This value is the highest run priority allowed for any thread within the job. Individual threads within the job may have a lower priority. Changing the run priority of the job will affect the run priorities of all threads within the job. For example, the job is running at priority 10, thread A within the job is running at priority 10 and thread B within the job is running at priority 15. The priority of the job is changed to 20. The priority of thread A would then be adjusted to 20 and the priority of thread B would be adjusted to 25.

If the job consists of multiple routing steps, a change to this attribute during a routing step does not apply to subsequent routing steps.

**\*SAME**
> The run priority does not change.

*1-99*  Specify the run priority of the job.

## Job queue (JOBQ)

Specifies the job queue in which this job is placed.

**Single values**

**\*SAME**
> The job queue does not change.

**Qualifier 1: Job queue**

*name* Specify the name of the job queue.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is used to locate the job queue. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the library where the job queue is located.

## Print text (PRTTXT)

Specifies the text that is printed at the bottom of each page of printed output and on separator pages.

**\*SAME**
> The current value of the PRTTXT parameter does not change.

**\*SYSVAL**
>    The system value, QPRTTXT, is used.

**\*BLANK**
>    No text is printed on printed output.

*character-value*
>    Specify the character string that is printed at the bottom of each page. A maximum of 30
>    characters can be entered, enclosed in apostrophes.

## Message logging (LOG)

Specifies the message logging values used to determine the amount and type of information sent to the job log by this job. This parameter has three elements: the message (or logging) level, the message severity, and the level of message text. If no values are specified on this parameter, the values are not changed.

**Element 1: Level**

**\*SAME**
>    The message logging level of the job does not change.

*0-4*     Specify the message logging level used for the job's messages. The possible logging levels are:

>    **0**     No messages are logged.

>    **1**     All messages sent to the job's external message queue with a severity greater than or equal to the message logging severity are logged. This includes the indications of job start, job end, and job completion status.

>    **2**     The following information is logged:
>    - Logging level 1 information
>    - Request messages which result in a high-level message with a severity code greater than or equal to the message logging severity. Both the request message and all associated messages are logged.

>    **Note:** A high-level message is one that is sent to the program message queue of the program that receives the request message. For example, QCMD is an IBM-supplied request processing program that receives request messages.

>    **3**     The following information is logged:
>    - Logging level 1 and 2 information
>    - All request messages
>    - Commands run by a CL program are logged if it is allowed by the logging of CL programs job attribute and the log attribute of the CL program.

>    **4**     The following information is logged:
>    - All request messages and all messages with a severity greater than or equal to the message logging severity, including trace messages.
>    - Commands run by a CL program are logged if it is allowed by the logging of CL programs job attribute and the log attribute of the CL program.

**Element 2: Severity**

**\*SAME**
>    The message logging severity does not change.

**0-99**    Specify the message logging severity that is used in conjunction with the logging level to determine which error messages are logged in the job log.

**Element 3: Text**

**\*SAME**
        The level of message text does not change.

**\*MSG**   Only the message text is written to the job log.

**\*SECLVL**
        Both the message text and the message help (cause and recovery) of the error message are written to the job log.

**\*NOLIST**
        If the job ends normally, no job log is produced. If the job ends abnormally (if the job end code is 20 or higher), a job log is produced. The messages that appear in the job log contain both the message text and the message help.

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# Log CL program commands (LOGCLPGM)

Specifies whether the commands that are run in a control language program are logged to the job log by way of the CL program's message queue. This parameter sets the status of the job's logging flag. If \*JOB has been specified for the **Message logging (LOG)** parameter in the Create CL Program (CRTCLPGM) command, the flag set in the **Log CL program commands (LOGCLPGM)** parameter is used. Other values for the **Message logging (LOG)** parameter override the **Log CL program commands (LOGCLPGM)** parameter. The commands are logged in the same manner as the requests.

**\*SAME**
        The current state of the job's logging flag does not change.

**\*NO**    Commands that come later in a CL program are not written to the job log.

**\*YES**   Commands that come later in a CL program, and are capable of being written, are logged to the job log.

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# Job log output (LOGOUTPUT)

Specifies how the job log will be produced when the job completes. This does not affect job logs produced when the message queue is full and the job message queue full action specifies \*PRTWRAP. Messages in the job message queue are written to a spooled file, from which the job log can be printed, unless the Control Job Log Output (QMHCTLJL) API was used in the job to specify that the messages in the job log are to be written to a database file.

The job log output value can be changed at any time until the job log has been produced or removed. To change the job log output value for a job, use the Change Job (QWTCHGJB) API or the Change Job (CHGJOB) command.

The job log can be displayed at any time until the job log has been produced or removed. To display the job log, use the Display Job Log (DSPJOBLOG) command.

The job log can be removed when the job has completed and the job log has not yet been produced or removed. To remove the job log, use the Remove Pending Job Log (QWTRMVJL) API or the End Job (ENDJOB) command.

**\*SAME**
> The value does not change.

**\*SYSVAL**
> The value specified in the system value QLOGOUTPUT is used.

**\*JOBLOGSVR**
> The job log will be produced by a job log server. For more information about job log servers, refer to the Start Job Log Server (STRLOGSVR) command.

**\*JOBEND**
> The job log will be produced by the job itself. If the job cannot produce its own job log, the job log will be produced by a job log server. For example, a job does not produce its own job log when the system is processing a Power Down System (PWRDWNSYS) command.

**\*PND**  The job log will not be produced. The job log remains pending until removed.

## Job message queue full action (JOBMSGQFL)

Specifies the action that should be taken when the job message queue is full.

**\*SAME**
> The job message queue full option does not change.

**\*SYSVAL**
> The value specified for the QJOBMSGQFL system value is used.

**\*NOWRAP**
> The message queue does not wrap when it is full. This action ends the job.

**\*WRAP**
> The message queue wraps to the start of the message queue when full and starts filling the message queue again.

**\*PRTWRAP**
> The message queue wraps the job message queue when full and prints the messages that are being overlaid because of wrapping.

## Inquiry message reply (INQMSGRPY)

Specifies the way that predefined messages that are sent as a result of running this job are answered. You can specify that the inquiry message reply control is taken from the job description, or that all inquiry messages require a reply, or that a default reply is issued, or that the system reply list is checked for a matching reply as each predefined inquiry message is sent.

**\*SAME**
> The method to use for inquiry message replies does not change.

**\*RQD**  A reply is required by the receiver of the inquiry message for inquiry messages that are sent during the running of this job.

**\*DFT**  The default message reply is used to answer any inquiry messages issued during the running of this job.

**\*SYSRPYL**
> The system reply list is checked to see if there is an entry for any inquiry message issued as a

result of running this job. If a match occurs, the reply value in that entry is used. If no entry exists for that inquiry message, a reply is required.

# Break message handling (BRKMSG)

Specifies how break messages are handled for the job. This is determined by the status of the message queue, the message queue severity, and the setting of this value.

**\*SAME**
> Break message handling does not change.

**\*NORMAL**
> Break message handling is determined by the message queue status.

**\*NOTIFY**
> An audible alarm sounds to indicate the presence of a message. \*NOTIFY is allowed only for interactive jobs.

**\*HOLD**
> Neither break messages, or messages sent to a signed-on work station through the Send Break Message (SNDBRKMSG) command, are shown for message queues in \*BREAK delivery mode. The alarm does not sound for messages sent to message queues in \*NOTIFY delivery mode. The user break message handling program is not started.

# Status message (STSMSG)

Specifies how status messages are handled for the job.

**\*SAME**
> Status message handling does not change.

**\*USRPRF**
> Status messages are shown or not shown as specified in the user profile under which this job was initially running.

**\*SYSVAL**
> Status messages are shown or not shown as specified in the QSTSMSG system value.

**\*NONE**
> Status messages are not shown.

**\*NORMAL**
> Status messages are shown. Text on the bottom line of the display is lost.

# DDM conversation (DDMCNV)

Specifies whether the connections using distributed data management (DDM) protocols remain active when they are not being used. The connections include APPC conversations, active TCP/IP conversations or OptiConnect connections. The DDM protocols are used in Distributed Relational Database Architecture (DRDA) applications, DDM applications, or DB2 Multisystem applications.

**\*SAME**
> The current state of the job's DDM conversation attribute does not change.

**\*KEEP**

The system keeps DDM conversation connections active when there are no users, except when:

- The routing step ends on the source system, either at the job or when the job starts a reroute of the job.
- There is an explicit request that conversations be disconnected, using the Reclaim DDM Conversations (RCLDDMCNV) command or the Reclaim Resources (RCLRSC) command.
- There is a communications failure or internal failure.
- A DRDA connection to an application server not running on the System i ends.

**\*DROP**

The system ends a DDM-allocated conversation when there are no users. Examples include when an application closes a DDM file, or when a DRDA application runs an SQL DISCONNECT statement.

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## Schedule date (SCDDATE)

Specifies the date on which the submitted job becomes eligible to run.

If your system or your job is configured to use the Julian date format, \*MONTHSTR and \*MONTHEND are calculated as if the system or job did not use the Julian date format.

**\*SAME**

This value does not change.

**\*CURRENT**

The submitted job becomes eligible to run on the current date.

**\*MONTHSTR**

The submitted job becomes eligible to run on the first day of the month. If you specify \*MONTHSTR, and if today is the first day of the month and the time you specify on the SCDTIME parameter has not passed, the job becomes eligible to run today. Otherwise, the job becomes eligible on the first day of the next month.

**\*MONTHEND**

The submitted job becomes eligible to run on the last day of the month. If you specify \*MONTHEND, and if today is the last day of the month and the time you specify on the SCDTIME parameter has not passed, the job becomes eligible to run today. Otherwise, the job becomes eligible on the last day of the next month.

**\*MON**

The job becomes eligible to run on Monday.

**\*TUE**  The job becomes eligible to run on Tuesday.

**\*WED**  The job becomes eligible to run on Wednesday.

**\*THU**  The job becomes eligible to run on Thursday.

**\*FRI**  The job becomes eligible to run on Friday.

**\*SAT**  The job becomes eligible to run on Saturday.

**\*SUN**  The job becomes eligible to run on Sunday.

*date*  Specify a date in the job date format with or without separators.

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# Schedule time (SCDTIME)

Specifies the time on the scheduled date at which the job becomes eligible to run.

**Note:** Although the time can be specified to the second, the load on the system may affect the exact time at which the job becomes eligible to run.

**\*SAME**
> This value does not change.

**\*CURRENT**
> The job is submitted on the current time.

*time*    Specify the time you want the job to start. The time is specified in 24-hour format and can be specified with or without a time separator:

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where **hh** = hours, **mm** = minutes, and **ss** = seconds. Valid values for **hh** range from 00 to 23. Valid values for **mm** and **ss** range from 00 to 59.

- With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If this command is entered from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

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# Job date (DATE)

Specifies the date that is assigned to the job. The job date remains the same for the duration of the job, unless it is changed by the user.

**\*SAME**
> The job date does not change.

*date*    Specify the value that is used as the job date for the job. The date must be entered in the current job date format. If no job date is specified for a job, the system date is used as the default for any function requiring a job date. The date specified in this parameter overrides the system date for the running of the job only.

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# Date format (DATFMT)

Specifies the format used for the date.

**\*SAME**
> The date format used does not change.

**\*SYSVAL**
> The system value, QDATFMT, is used.

**\*YMD**  The date format used is year, month, and day.

**\*MDY**  The date format used is month, day, and year.

**\*DMY**  The date format used is day, month, year.

**\*JUL**   The date format used is Julian.

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# Date separator (DATSEP)

Specifies the date separator used for the date.

**\*SAME**
>The date separator does not change.

**\*SYSVAL**
>The system value for the date separator is used.

**\*BLANK**
>A blank is used for the date separator.

**'/'**    A slash (/) is used for the date separator.

**'-'**    A dash (-) is used for the date separator.

**'.'**    A period (.) is used for the date separator.

**' '**    A blank is used for the date separator.

**','**    A comma (,) is used for the date separator.

# Time separator (TIMSEP)

Specifies the time separator used for the job.

**Note:** When specifying time on other commands, you must use the time separator specified on this parameter or no time separator. If a time separator different from the time separator specified here is used to specify time on another command, the command will fail.

**\*SAME**
>The time separator does not change.

**\*SYSVAL**
>The time separator specified in the system value QTIMSEP is used.

**\*BLANK**
>A blank is used for the time separator.

**':'**    A colon (:) is used for the time separator.

**'.'**    A period (.) is used for the time separator.

**' '**    A blank is used for the time separator.

**','**    A comma (,) is used for the time separator.

# Job switches (SWS)

Specifies the switch settings for a group of eight job switches that are used with the job. These switches can be set or tested in a CL program and used to control the flow of the program. The only valid values for each 1-digit switch are 0 (off), 1 (on), or X. The X indicates that a switch value does not change.

**\*SAME**
>The values in the eight job switches do not change.

*character-value*
> Specify any combination (in quotation marks or not) of eight 0's, 1's, or X's to change the job switch settings. If a switch value is not being changed, enter an X in the position representing that switch.

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## Time slice (TIMESLICE)

Specifies the maximum amount of processor time (in milliseconds) given to each thread in the job before other threads in this job and in other jobs are given an opportunity to run. The time slice establishes the amount of time needed by a thread in the job to accomplish a meaningful amount of processing. At the end of the time slice, the thread might be put in an inactive state so that other threads can become active in the storage pool.

If the job consists of multiple routing steps, a change to this attribute during a routing step does not apply to subsequent routing steps.

**\*SAME**
> The value specified for the time slice does not change.

*1-9999999*
> Specify the amount of time (in milliseconds) that each thread in the job is allowed to run when it is given processing time.

> **Note:** A millisecond is one thousandth of a second. So, 9 999 999 milliseconds equals 9999.999 seconds. Although you can specify a value of less than 8, the system takes a minimum of 8 milliseconds to run a process. If you display a job's run attributes, the time slice value is never less than 8.

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## Eligible for purge (PURGE)

Specifies whether the job is eligible to be moved out of main storage and put into auxiliary storage at the end of a time slice or when entering a long wait (such as waiting for a work station user's response). This attribute is ignored when more than one thread is active within the job.

If the job consists of multiple routing steps, a change to this attribute during a routing step does not apply to subsequent routing steps.

**\*SAME**
> The value specified for the purge option does not change.

**\*YES**   The job is eligible to be moved out of main storage and put into auxiliary storage. However, a job with multiple threads is never purged from main storage.

**\*NO**   The job is not eligible to be moved out of main storage and put into auxiliary storage. However, when main storage is needed, pages belonging to a thread in this job may be moved to auxiliary storage. Then, when a thread in this job runs again, its pages are returned to main storage as they are needed.

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# Default wait time (DFTWAIT)

Specifies the default maximum time (in seconds) that a thread in the job waits for a system instruction, such as the LOCK machine interface (MI) instruction, to acquire a resource. This default wait time is used when a wait time is not otherwise specified for a given situation. Normally, this is the amount of time the system is willing to wait for the system before the request is ended. The wait time specified for this parameter is ignored for read operations to database files.

If the job consists of multiple routing steps, a change to this attribute during a routing step does not apply to subsequent routing steps.

**\*SAME**
> The default maximum wait time does not change.

**\*NOMAX**
> There is no maximum wait time.

*1-9999999*
> Specify the number of seconds for the maximum time that the system waits for the instruction to acquire a resource.

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# Device recovery action (DEVRCYACN)

Specifies the recovery action to take for the job when an I/O error is encountered on the \*REQUESTER device for interactive jobs. This parameter can be specified only for interactive jobs.

**\*SAME**
> The work station recovery action does not change.

**\*SYSVAL**
> The value in the system value, QDEVRCYACN, is used as the device recovery action for this job.

**\*MSG**  The application program requesting the I/O operation receives an error message indicating the I/O operation has failed.

**\*DSCMSG**
> The job is automatically disconnected. When the job is reconnected, it receives an error message indicating that an I/O error has occurred but the device has been recovered. Although the device has been recovered, the contents of the display prior to the error must be shown again.

**\*DSCENDRQS**
> The job is automatically disconnected. Once it is reconnected, the ENDRQS command is issued specifying the previous request processor. If there is no request processor, an error message is issued.

**\*ENDJOB**
> The job is ended with the \*IMMED option. A job log is produced for the job.

**\*ENDJOBNOLIST**
> The job is ended with the \*IMMED option. No job log is produced for the job.

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# Time slice end pool (TSEPOOL)

Specifies whether threads in interactive jobs should be moved to another main storage pool when they reach the time slice end. When a long wait occurs, the thread is moved back to the pool in which it was originally running. This may minimize the effect on the interactive response time of other interactive jobs. This parameter can be specified only for interactive jobs.

**\*SAME**
> The value for the time slice end pool does not change.

**\*SYSVAL**
> The value in the system value, QTSEPOOL, at the time the CHGJOB command is issued is used as the time slice end pool action for this job.

**\*NONE**
> A thread in the job is not moved when it reaches the end of its time slice.

**\*BASE**
> A thread in the job is moved to the base pool when it reaches the end of its time slice.

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# Print key format (PRTKEYFMT)

Specifies whether border and header information is printed when the print key is pressed.

**\*SAME**
> The value specified for this parameter does not change.

**\*SYSVAL**
> The value specified on the system value QPRTKEYFMT determines whether header or border information is printed.

**\*NONE**
> Border information and header information are not printed.

**\*PRTBDR**
> Border information is printed.

**\*PRTHDR**
> Header information is printed.

**\*PRTALL**
> Border information and header information are printed.

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# Sort sequence (SRTSEQ)

Specifies the sort sequence table to be used for string comparisons for this job.

**Single values**

**\*SAME**
> This value does not change.

**\*USRPRF**
> The sort table specified in the user profile under which this job was initially running is used.

**\*SYSVAL**
> The system value QSRTSEQ is used.

**\*HEX**  A sort sequence table is not used. The hexadecimal values of the characters are used to determine the sort sequence.

**\*LANGIDUNQ**
> A unique-weight sort table is used.

**\*LANGIDSHR**
> A shared-weight sort table is used.

**Qualifier 1: Sort sequence**

*name*  Specify the name of the sort sequence table to be used with this job.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is used.

*name*  Specify the library where the sort sequence table is located.

## Language ID (LANGID)

Specifies the language identifier to be associated with this job. The language identifier is used when *LANGIDUNQ or *LANGIDSHR is specified on the **Sort sequence (SRTSEQ)** parameter. If the job CCSID is 65535, this parameter is also used to determine the value of the job default CCSID (DFTCCSID).

**\*SAME**
> The value does not change.

**\*USRPRF**
> The language ID specified in the user profile under which this job was initially running is used.

**\*SYSVAL**
> The system value QLANGID is used.

*character-value*
> Specify the language identifier to be used by the job.

## Country or region ID (CNTRYID)

Specifies the country or region identifier to be used by the job.

**\*SAME**
> The value does not change.

**\*USRPRF**
> The country or region ID specified in the user profile under which this job was initially running is used.

**\*SYSVAL**
> The system value QCNTRYID is used.

*character-value*
> Specify the country or region identifier to be used by the job.

# Coded character set ID (CCSID)

Specifies the coded character set identifier (CCSID) used for this job.

**\*SAME**
    The CCSID value does not change.

**\*USRPRF**
    The CCSID specified in the user profile under which this job was initially running is used.

**\*SYSVAL**
    The CCSID specified in the system value QCCSID is used.

**\*HEX**    The CCSID 65535 is used, which indicates that the character data in the fields is treated as bit data and is not converted.

*1-65535*
    Specify the CCSID.

# Decimal format (DECFMT)

Specifies the decimal format used for the job.

**\*SAME**
    The value does not change.

**\*SYSVAL**
    The value specified for the QDECFMT system value is used.

**\*BLANK**
    A period (.) is used for the decimal format, zero suppression.

**I**        A comma (,) is used for the decimal format, zero suppression.

**J**        A comma (,) is used for the decimal format, one leading zero.

# Character identifier control (CHRIDCTL)

Specifies the character identifier control used for the job. This attribute controls the type of CCSID conversion that occurs for display files, printer files and panel groups. The \*CHRIDCTL special value must be specified on the CHRID command parameter on the create, change or override commands for display files, printer files and panel groups before this attribute will be used.

**\*SAME**
    The value does not change.

**\*USRPRF**
    The character identifier control specified in the user profile under which this job was initially running is used.

**\*SYSVAL**
    The value specified for the QCHRIDCTL system value will be used.

**\*DEVD**

The \*DEVD special value performs the same function as on the CHRID command parameter for display files, printer files and panel groups.

**\*JOBCCSID**

The \*JOBCCSID special value performs the same function as on the CHRID command parameter for display files, printer files and panel groups.

## Spooled file action (SPLFACN)

Specifies whether or not spooled files are accessed through job interfaces after the job ends. Keeping spooled files with jobs allows job commands such as Work with Submitted Jobs (WRKSBMJOB) to work with the spooled files even after the job has ended. Detaching spooled files from jobs reduces the use of system resources by allowing job structures to be recycled when the jobs end.

**\*SAME**

The value does not change.

**\*SYSVAL**

The value specified in the system value QSPLFACN is used.

**\*KEEP**

When the job ends, as long as spooled files for the job exist in the system auxiliary storage pool (ASP 1) or in a basic user ASP (ASPs 2-32), the spooled files are kept with the job and the status of the job is updated to indicate that the job has completed. If all remaining spooled files for the job are in independent ASPs (ASPs 33-255), the spooled files will be detached from the job and the job will be removed from the system.

**\*DETACH**

When the job ends, the spooled files are detached from the job and the job is removed from the system. If the job has already ended, this change will immediately detach the spooled files from the job and remove the job from the system.

## Duplicate job option (DUPJOBOPT)

Specifies the action taken when duplicate jobs are found by this command.

**\*SELECT**

The selection display is shown when duplicate jobs are found during an interactive session. Otherwise, a message is issued.

**\*MSG**  A message is issued when duplicate jobs are found.

## Examples

**Example 1: Changing Message Logging Values**
```
CHGJOB   JOB(123581/DEPT2/WS1)  LOG(2 40 *SECLVL)
```

This command changes the job WS1, which is associated with the user profile DEPT2, and has the job number 123581. It receives only commands and associated diagnostic messages (help text) if the messages have a severity level greater than or equal to 40. Help text, in addition to the message text, is logged in the job log.

**Example 2: Changing Scheduling Priority and Job Switches**

```
CHGJOB   JOB(PAYROLL)  JOBPTY(4)  OUTPTY(3)  SWS(10XXXX00)
```

This command changes the scheduling priority for the job PAYROLL to 4 and the priority of the job's output to 3. Also, four of the eight job switches are changed: switches 1 and 2 are set to 1 and 0, switches 3 through 6 remain the same, and switches 7 and 8 are both set to 0. Because only the simple name of the job is specified, there can be only one job named PAYROLL in the system.

**Example 3: Moving a Job to Another Queue**

```
CHGJOB   JOB(MYJOB)  JOBQ(MYLIB/MYJOBQ)  INQMSGRPY(*SYSRPYL)
```

This command moves the job from the job queue it is currently in to the job queue MYJOBQ in library MYLIB. For this change to be made, the job must not have begun running and must be a batch job. Also, the job is changed so that any inquiry message that is issued on behalf of this job that has an entry in the system automatic reply list is answered according to the reply in that system reply list entry. For any inquiry message not represented in the system reply list, a reply is required.

**Example 4: Changing Run Priority and Default Wait Time**

```
CHGJOB   JOB(MYJOB)  RUNPTY(10)  DFTWAIT(150)
```

This command changes the run priority of the job MYJOB to 10 and the default wait time to 150 seconds, if the issuer of the command has job control authority. If the job is active, these changes take effect immediately. If the job is on a job queue, when the next routing step for the job is started, the run priority and default wait times become these values and not what was specified in the class associated with the routing entry used to start the step.

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# Error messages

## *ESCAPE Messages

**CPF1317**
No response from subsystem for job &3/&2/&1.

**CPF1321**
Job &1 user &2 job number &3 not found.

**CPF1332**
End of duplicate job names.

**CPF1334**
Must be an interactive job for requested change.

**CPF1336**
Errors on CHGJOB command for job &3/&2/&1.

**CPF1337**

&3/&2/&1 not authorized to change parameters.

**CPF1340**

Job control function not performed.

**CPF1341**

Reader or writer &3/&2/&1 not allowed as job name.

**CPF1343**

Job &3/&2/&1 not valid job type for function.

**CPF1344**

Not authorized to control job &3/&2/&1.

**CPF1351**

Function check occurred in subsystem for job &3/&2/&1.

**CPF1352**

Function not done. &3/&2/&1 in transition condition.

**CPF1634**

Specified date or time has passed.

**CPF1635**

Requested change no longer allowed.

**CPF1642**

Schedule date &1 not correct.

**CPF1644**

Scheduled date and time not changed.

**CPF1650**

Both scheduled date and time must be changed.

**CPF1651**

Sort sequence table not accessed.

**CPF180E**

&4 not changed.

**CPF1846**

Request did not complete. System value not available.

**CPF1854**

Value &1 for CCSID not valid.

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# Change Job Description (CHGJOBD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Job Description (CHGJOBD) command changes the job-related attributes contained in a job description object. Any attribute can be changed, except for the authority attribute. Refer to the Revoke Object Authority (RVKOBJAUT) command and Grant Object Authority (GRTOBJAUT) command for more information on changing object authorizations.

**Restrictions:**

1. To use this command, you must have:
   - object operational (*OBJOPR), object management (*OBJMGT), and read (*READ) authority to the job description and execute (*EXECUTE) authority to the library containing that job description.
   - use (*USE) authority to the user profile specified in the **User (USER)** parameter.
2. To change the **Accounting code (ACGCDE)** parameter to a value other than *USRPRF, you must have use (*USE) authority to the Change Accounting Code (CHGACGCDE) command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| JOBD | Job description | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Job description | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| JOBQ | Job queue | Single values: **\*SAME**<br>Other values: *Qualified object name* | Optional, Positional 3 |
| | Qualifier 1: Job queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| JOBPTY | Job priority (on JOBQ) | 1-9, **\*SAME** | Optional |
| OUTPTY | Output priority (on OUTQ) | 1-9, **\*SAME** | Optional |
| PRTDEV | Print device | *Name*, **\*SAME**, *USRPRF, *SYSVAL, *WRKSTN | Optional |
| OUTQ | Output queue | Single values: **\*SAME**, *USRPRF, *DEV, *WRKSTN<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Output queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |
| USER | User | *Name*, **\*SAME**, *RQD | Optional, Positional 2 |
| ACGCDE | Accounting code | *Character value*, **\*SAME**, *USRPRF, *BLANK | Optional |
| PRTTXT | Print text | *Character value*, **\*SAME**, *SYSVAL, *BLANK | Optional |
| RTGDTA | Routing data | *Character value*, **\*SAME**, *RQSDTA | Optional |
| RQSDTA | Request data or command | *Character value*, **\*SAME**, *NONE, *RTGDTA | Optional |
| INLLIBL | Initial library list | Single values: **\*SAME**, *SYSVAL, *NONE<br>Other values (up to 250 repetitions): *Name* | Optional |
| INLASPGRP | Initial ASP group | *Name*, **\*SAME**, *NONE | Optional |

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| Keyword | Description | Choices | Notes |
|---|---|---|---|
| LOG | Message logging | *Element list* | Optional |
| | Element 1: Level | 0-4, **\*SAME** | |
| | Element 2: Severity | 0-99, **\*SAME** | |
| | Element 3: Text | **\*SAME**, \*MSG, \*SECLVL, \*NOLIST | |
| LOGCLPGM | Log CL program commands | **\*SAME**, \*NO, \*YES | Optional |
| LOGOUTPUT | Job log output | **\*SAME**, \*SYSVAL, \*JOBLOGSVR, \*JOBEND, \*PND | Optional |
| JOBMSGQMX | Job message queue maximum size | 2-64, **\*SAME**, \*SYSVAL | Optional |
| JOBMSGQFL | Job message queue full action | **\*SAME**, \*SYSVAL, \*NOWRAP, \*WRAP, \*PRTWRAP | Optional |
| SYNTAX | CL syntax check | 0-99, **\*SAME**, \*NOCHK | Optional |
| ENDSEV | End severity | 0-99, **\*SAME** | Optional |
| INQMSGRPY | Inquiry message reply | **\*SAME**, \*RQD, \*DFT, \*SYSRPYL | Optional |
| HOLD | Hold on job queue | **\*SAME**, \*NO, \*YES | Optional |
| DATE | Job date | *Date*, **\*SAME**, \*SYSVAL | Optional |
| SWS | Job switches | *Character value*, **\*SAME** | Optional |
| DEVRCYACN | Device recovery action | **\*SAME**, \*SYSVAL, \*MSG, \*DSCMSG, \*DSCENDRQS, \*ENDJOB, \*ENDJOBNOLIST | Optional |
| TSEPOOL | Time slice end pool | **\*SAME**, \*SYSVAL, \*NONE, \*BASE | Optional |
| ALWMLTTHD | Allow multiple threads | **\*SAME**, \*NO, \*YES | Optional |
| SPLFACN | Spooled file action | **\*SAME**, \*SYSVAL, \*KEEP, \*DETACH | Optional |
| DDMCNV | DDM conversation | **\*SAME**, \*KEEP, \*DROP | Optional |

# Job description (JOBD)

Specifies the name and library of the job description being changed.

**Note:** You cannot specify the job description QSYSJOBD on this parameter. This job description is the backup job description for the system and cannot be changed by the user.

This is a required parameter.

**Qualifier 1: Job description**

*name*    Specify the name of the job description.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**

> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*    Specify the library where the job description is located.

# Job queue (JOBQ)

Specifies the name and library of the default job queue where jobs submitted using this job description are placed.

**Single values**

**\*SAME**
> The job queue does not change.

**Qualifier 1: Job queue**

*name*    Specify the name of the job queue.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*    Specify the library where the job queue is located.

> **Note:** If the job queue does not exist when the job description is changed, a library qualifier must be specified because the qualified job queue name is kept in the job description.

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# Job priority (on JOBQ) (JOBPTY)

Specifies the job queue scheduling priority used for jobs that use this job description. The highest priority is 1 and the lowest priority is 9.

**\*SAME**
> The scheduling priority does not change.

*1-9*    Specify the scheduling priority of jobs that use this job description.

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# Output priority (on OUTQ) (OUTPTY)

Specifies the output priority of spooled output files produced by jobs that use this job description. The highest priority is 1 and the lowest priority is 9.

**\*SAME**
> The output priority for spooled output does not change.

*1-9*    Specify a value ranging from 1 through 9 for the output priority of the spooled output files that are produced by jobs that use this job description. The highest priority is 1 and the lowest priority is 9.

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# Print device (PRTDEV)

Specifies the qualified name of the default printer device for this job. If the printer file being used to create the output specifies to spool the file, the spooled file is placed on the device's output queue, which is named the same as the device.

**Note:** This assumes the defaults are specified on the **Output queue (OUTQ)** parameter for the printer file, job description, user profile and workstation.

**\*SAME**
> The default printer device does not change.

**\*USRPRF**
> The printer device specified on the user profile associated with the job at the time the job is started is used

**\*SYSVAL**
> The value in the system value QPRTDEV at the time the job is started is used as the printer device.

**\*WRKSTN**
> The printer device assigned to the work station that is associated with the job at the time the job is started is used.

*name*　Specify the printer device that is used by jobs that use this job description.

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# Output queue (OUTQ)

Specifies the name and library of the output queue used as the default output queue for jobs that use this job description. This parameter applies only to spooled printer files that specify *JOB for the output queue.

**Single values**

**\*SAME**
> The default output queue does not change.

**\*USRPRF**
> The output queue name for jobs using this job description is taken from the user profile associated with the job at the time the job is started.

**\*DEV**　The output queue associated with the printer specified on the **Device (DEV)** parameter of the printer file is used. The output queue has the same name as the printer. The printer file DEV parameter is determined by the Create Printer File (CRTPRTF), Change Printer File (CHGPRTF), or the Override with Printer File (OVRPRTF) commands.

> **Note:** This assumes the defaults were specified on the **Output queue (OUTQ)** parameter for the printer file, job description, user profile, and workstation.

**\*WRKSTN**
> The output queue used with this job description is the output queue assigned to the work station that is associated with the job at the time the job is started.

**Qualifier 1: Output queue**

*name*　Specify the name of the output queue.

**Qualifier 2: Library**

**\*LIBL** All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the library where the output queue is located.

> **Note:** If the output queue does not exist when the job description is changed, a library qualifier must be specified, because the qualified output queue name is kept in the job description.

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
> The text, if any, is not changed.

**\*BLANK**
> No text is specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

## User (USER)

Specifies the name of the user profile associated with this job description. The names QSECOFR, QSPL, QDOC, QDBSHR, QRJE, QSYS, QLPAUTO, QLPINSTALL, QTSTRQS, and QDFTOWN are not valid entries for this parameter.

**\*SAME**
> The name of the user profile does not change.

**\*RQD** A user name is required to use the job description. For work station entries, you must enter a user name when signing on at the work station; the associated user name becomes the name used for the job. \*RQD is not valid for job descriptions specified for autostart job entries or for those used by the Batch Job (BCHJOB) command. It is valid on the Submit Job (SBMJOB) command only if \*CURRENT is specified on the **User (USER)** parameter.

*name* Specify the user name that identifies the user profile associated with batch jobs using this job description. For interactive jobs, this is the default user name used to sign on the system without typing a user name.

## Accounting code (ACGCDE)

Specifies the accounting code that is used when logging system resource use for jobs that use this description. To specify an accounting code other than \*USRPRF, you must be authorized to the Change Accounting Code (CHGACGCDE) command.

**\*SAME**
> The accounting code does not change.

**\*USRPRF**

> The accounting code for jobs using this job description is obtained from the user profile associated with the job.

**\*BLANK**

> An accounting code of 15 blanks is assigned to jobs that use this job description.

*character-value*

> Specify the accounting code for jobs that use this job description and have accounting statistics logged in the system accounting journal QACGJRN. If less than 15 characters are entered, the string is padded with blanks on the right.

# Print text (PRTTXT)

Specifies the printing of a line of text at the bottom of each page.

**\*SAME**

> The print text does not change.

**\*SYSVAL**

> The value in the system value QPRTTXT is used.

**\*BLANK**

> No text is printed.

*character-value*

> Specify the character string that is printed at the bottom of each page. A maximum of 30 characters can be entered enclosed in apostrophes.

# Routing data (RTGDTA)

Specifies the routing data used with this job description to start jobs.

**\*SAME**

> The routing data does not change.

**\*RQSDTA**

> Up to the first 80 characters of the request data specified on the **Request data or command (RQSDTA)** parameter are used as the routing data for the job.

*character-value*

> Specify the routing data for jobs that use this job description. A maximum of 80 characters can be typed (enclosed in apostrophes if necessary).

# Request data or command (RQSDTA)

Specifies the request data that is placed as the last entry in the job's message queue for jobs using this job description.

**\*SAME**

> The request data does not change.

**\*NONE**

> No request data is placed in the job's message queue.

**\*RTGDTA**

The routing data specified on the **Routing data (RTGDTA)** parameter is placed as the last entry in the job's message queue.

*character-value*

Specify the character string that is placed as the last entry in the job's message queue as a single request. A maximum of 256 characters can be entered (enclosed in apostrophes if necessary). When a CL command is entered, it must be enclosed in single apostrophes, and where apostrophes would normally be used **inside** the command, double apostrophes must be used instead.

# Initial library list (INLLIBL)

Specifies the initial user part of the library list to be used for jobs using this job description.

**Note:** Duplication of library names in the library list is not allowed.

**\*SAME**

The initial user part of the library list does not change.

**\*SYSVAL**

The system default library list is used for jobs that use this job description. The default library list contains the library names that were specified in the system value QUSRLIBL at the time a job using this job description is started.

**\*NONE**

The user part of the library list is empty; only the system portion is used.

**Other values (up to 250 repetitions)**

*name*    Specify the library in the user part of the library list to be used for jobs using this job description.

**Note:** Libraries are searched in the same order as they are listed here.

# Initial ASP group (INLASPGRP)

Specifies the initial setting for the auxiliary storage pool (ASP) group name for the initial thread of jobs using this job description. A thread can use the Set ASP Group (SETASPGRP) command to change its library name space. When an ASP group is associated with a thread, all libraries in the independent ASPs in the ASP group are accessible and objects in those libraries can be referenced using regular library-qualified object name syntax. The libraries in the independent ASPs in the specified ASP group plus the libraries in the system ASP (ASP number 1) and basic user ASPs (ASP numbers 2 - 32) form the library name space for the thread.

**Restrictions:**

1. The job descriptions QGPL/QDFTJOBD and QGPL/QDFTSVR cannot be changed to specify the name of an ASP group. For these job descriptions, the INLASPGRP must be \*NONE.

**\*SAME**

The value does not change.

**\*NONE**

Specifies the initial thread of jobs using this job description will be started with no ASP group.

The library name space will not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs will be in the library name space.

*name* Specifies the name of the ASP group to be set for the initial thread of jobs using this job description. The ASP group name is the name of the primary ASP device within the ASP group. All libraries from all ASPs in this ASP group will be included in the library name space.

## Message logging (LOG)

Specifies the message logging values used to determine the amount and type of information sent to the job log by this job. This parameter has three elements: the message (or logging) level, the message severity, and the level of message text.

**Element 1: Level**

**\*SAME**
The message logging level does not change.

*0-4* Specify the message logging level to be used for the job's messages.

**0** No messages are logged.

**1** All messages sent to the job's external message queue with a severity greater than or equal to the message logging severity are logged. This includes the indications of job start, job end, and job completion status.

**2** The following information is logged:
- Logging level 1 information
- Request messages which result in a high-level message with a severity code greater than or equal to the message logging severity. Both the request message and all associated messages are logged.

**Note:** A high-level message is one that is sent to the program message queue of the program that receives the request message. For example, QCMD is an IBM-supplied request processing program that receives request messages.

**3** The following information is logged:
- Logging level 1 and 2 information
- All request messages
- Commands run by a CL program are logged if it is allowed by the logging of CL programs job attribute and the log attribute of the CL program.

**4** The following information is logged:
- All request messages and all messages with a severity greater than or equal to the message logging severity, including trace messages.
- Commands run by a CL program are logged if it is allowed by the logging of CL programs job attribute and the log attribute of the CL program.

**Element 2: Severity**

**\*SAME**
The message severity level does not change.

*0-99* Specify the message severity level to be used in conjunction with the logging level to determine which error messages are logged in the job log.

**Element 3: Text**

**\*SAME**
    The message text level value does not change.

**\*MSG**  Only the message text is written to the job log.

**\*SECLVL**
    Both the message text and the message help (cause and recovery) of the error message are written to the job log.

**\*NOLIST**
    If the job ends normally, no job log is produced. If the job ends abnormally (if the job end code is 20 or higher), a job log is produced. The messages that appear in the job log contain both the message text and the message help.

# Log CL program commands (LOGCLPGM)

Specifies whether the commands that can be logged and were run in a control language program are logged to the job log by way of the CL program's message queue. This parameter sets the status of the job's logging flag. If \*NO is specified, the logging flag status is **off** and CL commands are not logged. If \*YES is specified here and \*JOB is specified on the **Message logging (LOG)** parameter of the Create CL Program (CRTCLPGM) command, all commands in the CL program that can be logged are logged to the job log.

**\*SAME**
    The value does not change.

**\*NO**   The commands in a CL program are not logged to the job log.

**\*YES**   The commands in a CL program are logged to the job log.

# Job log output (LOGOUTPUT)

Specifies how the job log will be produced when the job completes. This does not affect job logs produced when the message queue is full and the job message queue full action specifies \*PRTWRAP. Messages in the job message queue are written to a spooled file, from which the job log can be printed, unless the Control Job Log Output (QMHCTLJL) API was used in the job to specify that the messages in the job log are to be written to a database file.

The job log output value can be changed at any time until the job log has been produced or removed. To change the job log output value for a job, use the Change Job (QWTCHGJB) API or the Change Job (CHGJOB) command.

The job log can be displayed at any time until the job log has been produced or removed. To display the job log, use the Display Job Log (DSPJOBLOG) command.

The job log can be removed when the job has completed and the job log has not yet been produced or removed. To remove the job log, use the Remove Pending Job Log (QWTRMVJL) API or the End Job (ENDJOB) command.

**\*SAME**
    The value does not change.

**\*SYSVAL**
> The value specified in the system value QLOGOUTPUT is used.

**\*JOBLOGSVR**
> The job log will be produced by a job log server. For more information about job log servers, refer to the Start Job Log Server (STRLOGSVR) command.

**\*JOBEND**
> The job log will be produced by the job itself. If the job cannot produce its own job log, the job log will be produced by a job log server. For example, a job does not produce its own job log when the system is processing a Power Down System (PWRDWNSYS) command.

**\*PND**  The job log will not be produced. The job log remains pending until removed.

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## Job message queue maximum size (JOBMSGQMX)

Specifies the maximum size of the job message queue.

**\*SAME**
> The job message queue maximum size will not change.

**\*SYSVAL**
> The value in QJOBMSGQMX (system value) at the time the job is started is used as the maximum size of the job message queue.

**2-64**  Specify the maximum size, in megabytes, of the job message queue.

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## Job message queue full action (JOBMSGQFL)

Specifies the action that should be taken when the job message queue is full.

**\*SAME**
> The job message queue full option will not change.

**\*SYSVAL**
> The value specified for the QJOBMSGQFL system value is used.

**\*NOWRAP**
> The message queue does not wrap when it is full. This action ends the job.

**\*WRAP**
> The message queue wraps to the start of the message queue when it is full and starts filling the message queue again.

**\*PRTWRAP**
> The message queue wraps the job message queue when it is full and prints the messages that are being overlaid because of wrapping.

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# CL syntax check (SYNTAX)

Specifies whether requests placed on the job message queue (for jobs using this job description) are checked for syntax as CL commands. When syntax checking is specified, the commands are checked for syntax as they are submitted instead of when the job is run, thus providing an earlier diagnosis of syntax errors. If checking is specified, the message severity that causes a syntax error to end processing of a job is also specified.

**\*SAME**
> The syntax checking does not change.

**\*NOCHK**
> The request data is not checked for syntax as CL commands.

*0-99*   Specify the lowest message severity that can cause running of a job to end. The request data is checked for syntax as CL commands. If a syntax error occurs that is equal to or greater than the error message severity specified here, the running of the job containing the erroneous command is suppressed.

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# End severity (ENDSEV)

Specifies the message severity level of escape messages that can cause a batch job to be ended. The batch job is ended when a request in the batch input stream results in an escape message whose severity code is equal to or greater than that specified here being sent to the request processing program QCMD or QCL. This parameter value is compared with the severity of any escape message not monitored that occurs as a result of running a noncompiled CL command in a batch job.

**\*SAME**
> The current value of this parameter does not change.

*0-99*   Specify the message severity of an escape message that results from a request in the batch input stream and that causes the jobs that use this job description to be ended. Because escape messages typically have a maximum severity level of 50, a value of 50 or lower must be specified in order for a job to be ended as a result of an escape message. An unhandled escape message whose severity is equal to or greater than the value specified causes the job to be ended.

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# Inquiry message reply (INQMSGRPY)

Specifies the way that inquiry messages are answered for jobs that use this job description. You can specify that inquiry messages are to be answered in the usual manner, that a default reply be issued, or that if certain conditions are met, an answer is issued to the inquiry based on those conditions. The conditions met are listed in the system reply list entries of the Add Reply List Entry (ADDRPYLE) command.

**\*SAME**
> The method to use for inquiry message replies does not change.

**\*RQD**   A reply is required for any predefined inquiry message that is issued by a job that uses this job description.

**\*DFT**   The default message reply is used to answer any predefined inquiry messages issued during running of a job that uses this job description. The default reply is either defined in the message description or is the default system reply.

**\*SYSRPYL**

> The system reply list is checked to determine whether an entry matches the message identifier and optional compare value for any inquiry message issued by a job that uses this job description. If a match occurs, the reply value in that reply list entry is used. If no entry exists for that message, a reply is required.

## Hold on job queue (HOLD)

Specifies whether jobs using this job description are put on the job queue in the hold condition. A job placed on the job queue in the hold condition is held until it is released by the Release Job (RLSJOB) command, or it is ended, either by the End Job (ENDJOB) command or by the Clear Job Queue (CLRJOBQ) command.

**\*SAME**

> The job hold condition does not change.

**\*NO**   Jobs that use this job description are not held when they are put on the job queue.

**\*YES**   Jobs that use this job description are held when they are put on the job queue.

## Job date (DATE)

Specifies the date that is assigned to the job that uses this job description when the job is started.

**\*SAME**

> The job date does not change.

**\*SYSVAL**

> The value in the QDATE system value at the time the job is started is used as the job date.

*date*   Specify the job date for the job being started. The format currently specified for the DATFMT job attribute must be used.

## Job switches (SWS)

Specifies the initial switch settings for a group of eight job switches used for jobs that use this job description. These switches can be set or tested in a CL program and used to control the flow of the program. The only values that are valid for each single-digit switch are 0 (off) or 1 (on).

**\*SAME**

> The eight job switch values do not change.

*character-value*

> Specify any combination (enclosed in apostrophes if necessary) of eight 0's or 1's to change the job switch settings.

## Device recovery action (DEVRCYACN)

Specifies the recovery action to take for the job when an I/O error is encountered on the *REQUESTOR device for interactive jobs that use this job description. This attribute is ignored for non-interactive jobs.

**\*SAME**
    The work station recovery action does not change.

**\*SYSVAL**
    The value in the system value QDEVRCYACN at the time the job is started is used as the device recovery action for this job.

**\*MSG**    The application program requesting the I/O operation receives an error message indicating that the I/O operation has failed.

**\*DSCMSG**
    The job is automatically disconnected. Once the job has reconnected, it receives an error message indicating an I/O error has occurred and that the device has been recovered. Even though the device has been recovered, the contents of the screen when the error occurred must be displayed again.

**\*DSCENDRQS**
    The job is automatically disconnected. Once the job has reconnected, the End Request (ENDRQS) command is issued specifying the processor that made the previous request. If there is no available request processor, the ENDRQS command fails, and an error message will be issued.

**\*ENDJOB**
    The job is ended with the \*IMMED option. A job log is produced for the job.

**\*ENDJOBNOLIST**
    The job is ended with the \*IMMED option. No job log is produced for the job.

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# Time slice end pool (TSEPOOL)

Specifies whether interactive jobs are moved to another main storage pool when the end of the time slice is reached. When a long wait occurs, the job is moved back to the pool in which it was originally running. This may help minimize the effect on interactive response time.

**\*SAME**
    The value for the time slice end pool does not change.

**\*SYSVAL**
    The system value in QTSEPOOL at the time the job is started is to be used as the time slice end pool action for this job description.

**\*NONE**
    The job is not moved when the end of the time slice is reached.

**\*BASE**
    The job is moved to the base pool when the time slice end pool is reached.

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# Allow multiple threads (ALWMLTTHD)

Specifies whether or not the job can run with multiple user threads. This attribute does not prevent the operating system from creating system threads in the job. This job attribute is not allowed to be changed once a job starts. This attribute applies to autostart jobs, prestart jobs, batch jobs submitted from job schedule entries and jobs started using the Submit Job (SBMJOB) and Batch Job (BCHJOB) commands. This attribute is ignored when starting all other types of jobs. This attribute should be set to \*YES only in job descriptions used exclusively with functions that create multiple user threads.

**\*SAME**
> The value does not change.

**\*NO**    The job cannot run with multiple user threads.

**\*YES**    The job can run with multiple user threads.

# Spooled file action (SPLFACN)

Specifies whether or not spooled files are accessed through job interfaces after the job ends. Keeping spooled files with jobs allows job commands such as the Work with Submitted Jobs (WRKSBMJOB) command to work with the spooled files even after the job has ended. Detaching spooled files from jobs reduces the use of system resources by allowing job structures to be recycled when the jobs end.

**\*SAME**
> The value does not change.

**\*SYSVAL**
> The value specified in the system value QSPLFACN is used.

**\*KEEP**
> When the job ends, as long as at least one spooled file for the job exists in the system auxiliary storage pool (ASP 1) or in a basic user ASP (ASPs 2-32), the spooled files are kept with the job and the status of the job is updated to indicate that the job has completed. If all remaining spooled files for the job are in independent ASPs (ASPs 33-255), the spooled files will be detached from the job and the job will be removed from the system.

**\*DETACH**
> When the job ends, the spooled files are detached from the job and the job is removed from the system.

# DDM conversation (DDMCNV)

Specifies whether the connections using distributed data management (DDM) protocols remain active when they are not being used. The connections include APPC conversations, active TCP/IP conversations or OptiConnect connections. The DDM protocols are used in Distributed Relational Database Architecture (DRDA) applications, DDM applications, or DB2 Multisystem applications. For more information on distributed data management, see the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**\*SAME**
> The value does not change.

**\*KEEP**
> The system keeps DDM conversation connections active when they are no longer being used, except when:
> - The routing step ends on the source system.
> - There is an explicit request that conversations be disconnected, using the Reclaim DDM Conversations (RCLDDMCNV) command or the Reclaim Resources (RCLRSC) command.
> - There is a communications failure or internal failure.
> - A DRDA connection to an application server not running on the System i ends.

**\*DROP**

> The system ends a DDM-allocated conversation when it is no longer being used. Examples include when an application closes a DDM file, or when a DRDA application runs an SQL DISCONNECT statement.

## Examples

**Example 1: Setting Job Running and Output Priorities**

```
CHGJOBD   JOBD(QGPL/QPGMR)  JOBPTY(2)  OUTPTY(2)
```

This command allows jobs using the IBM-supplied job description QPGMR in the QGPL library to process with a higher job and output priority than originally specified for QPGMR. QPGMR originally sets job running and output priorities at level 5. More information about the IBM-supplied job description parameter values is in the CL Programming book.

**Example 2: Changing Priority Limits**

Assume that the user profile was created as follows:

Part 1:

```
CRTUSRPRF   USRPRF(JLRAY)  PASSWORD(GAMMA)  SPCAUT(*JOBCTL)
            PTYLMT(4)  AUT(*NONE)
```

Then attempt to change the priority limits of the job description BATCH5 with the following command:

Part 2:

```
CHGJOBD   JOBD(BATCH5)  USER(JLRAY)  JOBPTY(1)  OUTPTY(1)
```

Because the priority limit specified in the user profile takes precedence over any limit specified in a job description, an error message is sent and a priority of 4 is assumed for both job and output priority levels.

**Example 3: Requiring a Password to Sign On at Work Station**

```
CHGJOBD   JOBD(INT4)  USER(*RQD)  RTGDTA(QCMDI)  LOG(*SAME)
          ACGCDE('USERXYZ CODE123')  TEXT(*BLANK)
```

The USER parameter indicates the user of the job description INT4 must enter a password to sign on at a work station. The characters QCMDI are used as the routing data being compared with the routing table of the subsystem under which the job is run. All values of the LOG parameter list are not changed. Jobs that use this job description have accounting data recorded under the accounting code, 'USERXYZ CODE123', when job accounting is active. The text for this job description is changed to all blanks.

**Example 4: Directing Jobs Using This System to a Specific Job Queue**

```
CHGJOBD    JOBD(BATCH3)  JOBQ(NIGHTQ)  JOBPTY(4)  OUTPTY(4)
           RTGDTA(QCMDB)  INQMSGRPY(*DFT)
           TEXT('Batch #3 JOBD for high priority night work')
```

This command changes a job description named BATCH3 found in the library search list. The jobs using this description are now placed on the job queue NIGHTQ. The priority for jobs using this description and their spooled files is 4. QCMDB is the routing data that is compared with entries in the routing table of the subsystem where the job is run. The text is changed to indicate that this job description is for high priority night work. The INQMSGRPY parameter specifies that all messages of type *INQ that are issued from a job using this job description automatically causes the default reply message to be issued.

## Error messages

**<u>*ESCAPE Messages</u>**

**CPF1618**

> Job description &1 in library &2 damaged.

**CPF1625**

> Job description &1 in library &2 not changed.

**CPF9872**

> Program or service program &1 in library &2 ended. Reason code &3.

# Change Job MLB Attributes (CHGJOBMLBA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Job MLB Attributes (CHGJOBMLBA) command allows a user to change the media library resource allocation attributes for a job.

**Restrictions:**

1. The job being changed must use the same user profile as the user issuing the command, or the issuer must have job control special authority (*JOBCTL).

2. Only a user with job control special authority (*JOBCTL) can change the resource allocation priority.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| JOB | Job name | Single values: *<br>Other values: *Qualified job name* | Optional, Key, Positional 1 |
| | Qualifier 1: Job name | *Name* | |
| | Qualifier 2: User | *Name* | |
| | Qualifier 3: Number | 000000-999999 | |
| MLB | Library device | *Name*, **\*ALL** | Optional, Key, Positional 2 |
| RSCALCPTY | Resource allocation priority | 1-99, **\*SAME**, *DEV, *JOB | Optional |
| INLMNTWAIT | Initial mount wait time | 1-600, **\*SAME**, *DEV, *JOB, *IMMED, *NOMAX | Optional |
| EOVMNTWAIT | End of volume mount wait time | 1-600, **\*SAME**, *DEV, *JOB, *IMMED, *NOMAX | Optional |

## Job name (JOB)

Specifies the name of the job whose attributes are being changed.

**Single values**

**\*** The job whose information is changed is the job from which this command is entered.

**Qualifier 1: Job name**

*name* Specify the job name of the job whose attributes are to be changed.

If no job qualifier is given, all jobs currently in the system are searched for the job name. If more than one occurrence of the specified name is found, a qualified job name must be specified.

**Qualifier 2: User**

*name* Specify the user name of the job whose attributes are to be changed.

**Qualifier 3: Number**

*000000-999999*
>    Specify the job number of the job whose attributes are to be changed.

# Library device (MLB)

Specifies the name of the tape media library device whose attributes are to be changed. The device name must have been created previously on the system using the Create Device Media Library (CRTDEVMLB) command.

**\*ALL**    The attribute change is to apply to all the media library devices.

*name*    Specify the name of the tape media library device whose attributes are to be changed.

# Resource allocation priority (RSCALCPTY)

Specifies the media library device resource allocation priority for this job. If the resource allocation priority has not been changed for a media library device for the job, \*DEV is used.

**\*SAME**
>    The value does not change.

**\*DEV**    The resource allocation priority will be retrieved from the device description.

**\*JOB**    The priority of the job is used as the resource allocation priority.

*1-99*    Specify the priority this job is given when requesting a resource, from 1 (highest) through 99 (lowest).

# Initial mount wait time (INLMNTWAIT)

Specifies the maximum amount of time a request will wait for the allocation of a tape resource for the initial mount. If the initial mount wait time has not changed for a media library device for the job, \*DEV is used.

**\*SAME**
>    The value does not change.

**\*DEV**    The initial mount wait time will be retrieved from the device description.

**\*JOB**    The initial mount wait time is determined by rounding the default wait time attribute of the job requesting the allocation to the next highest minute.

**\*IMMED**
>    The request will not wait for a tape resource to become available.

**\*NOMAX**
>    The request will wait until a tape resource is available.

*1-600*    Specify the number of minutes a request will wait for allocation of a tape resource.

## End of volume mount wait time (EOVMNTWAIT)

Specifies the maximum amount of time a request will wait for allocation of a tape resource to mount the next volume. If the end of volume mount wait time has not changed for a media library device for the job, *DEV is used.

**\*SAME**
> The value does not change.

**\*DEV**   The end of volume mount wait time will be retrieved from the device description.

**\*JOB**   The end of volume mount wait time is determined by rounding the default wait time attribute of the job requesting the allocation to the next highest minute.

**\*IMMED**
> The request will not wait for a tape resource to become available.

**\*NOMAX**
> The request will wait until a tape resource is available.

*1-600*   Specify the number of minutes a request will wait for allocation of a tape resource.

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## Examples

**Example 1: Changing the resource allocation priority for the current job**

```
CHGJOBMLBA   RSCALCPTY(50)
```

This command changes the resource allocation priority for all tape media library devices for the current job to 50.

**Example 2: Changing the initial mount wait time for a specific job**

```
CHGJOBMLBA   JOB(002345/USERX/QDFTJOBD)   INLMNTWAIT(2)
```

This command changes the initial mount wait time for all tape media library devices for the specified job to 2 minutes.

**Example 3: Changing the resource allocation priority for all tape media libraries used by the current job**

```
CHGJOBMLBA   MLB(*ALL)   RSCALCPTY(50)
```

This command changes the resource allocation priority for all tape media library devices for the current job to 50.

**Example 4: Changing the resource allocation priority for a specific tape media library used by the current job**

```
CHGJOBMLBA   MLB(TAPMLB01)   RSCALCPTY(50)
```

This command changes the resource allocation priority for TAPMLB01 for the current job to 50.

# Error messages

**_*ESCAPE Messages_**

**CPF1069**

      End of duplicate names.

**CPF1070**

      Job &3/&2/&1 not found.

**CPF1343**

      Job &3/&2/&1 not valid job type for function.

**CPF1344**

      Not authorized to control job &3/&2/&1.

**CPF6708**

      Command ended due to error.

**CPF6745**

      Device &1 not a media library device.

**CPF67B5**

      &3/&2/&1 not authorized to change attribute.

**CPF9814**

      Device &1 not found.

**CPF9825**

      Not authorized to device &1.

# Change Job Queue (CHGJOBQ)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change Job Queue (CHGJOBQ) command allows the user to change the attributes of the specified job queue.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| JOBQ | Job queue | *Qualified object name* | Required, Key, Positional 1 |
|  | Qualifier 1: Job queue | *Name* |  |
|  | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB |  |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |
| OPRCTL | Operator controlled | **\*SAME**, *YES, *NO | Optional, Positional 2 |
| AUTCHK | Authority to check | **\*SAME**, *OWNER, *DTAAUT | Optional |

## Job queue (JOBQ)

Specifies the job queue that is to have its attributes changed.

This is a required parameter.

**Qualifier 1: Job queue**

*name*   Specify the name of the job queue to be changed.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name*   Specify the name of the library in which the job queue is located.

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
> The text, if any, is not to be changed.

**\*BLANK**

>No text is to be specified.

*'description'*

>Specify no more than 50 characters, enclosed in apostrophes.

## Operator controlled (OPRCTL)

Specifies whether a user with job control authority is allowed to control and make changes to jobs with entries on this job queue.

**\*SAME**

>The current value specified for the operator control attribute of the job queue does not change.

**\*YES**  A user with job control authority can control the queue and make changes to the entries on the queue.

**\*NO**  This queue and its entries cannot be manipulated or changed by users with job control authority unless they also have some other special authority.

## Authority to check (AUTCHK)

Specifies what type of authorities to the job queue allow the user to control all the jobs on the queue. Users with some special authority may also be able to control the jobs.

**\*SAME**

>The current value of the authority check attribute that is specified for the job queue is not to be changed.

**\*OWNER**

>The requester must have ownership authority to the job queue to pass the job queue authorization test. The requester can have ownership authority by being the owner of the job queue, sharing a group profile with the queue owner, or running a program that adopts the owner's authority.

**\*DTAAUT**

>Any user with add, read, and delete authority to the job queue can control all jobs on the queue.

## Examples

```
CHGJOBQ   JOBQ(QBATCH)   OPRCTL(*NO)
```

This command takes away the ability to control or manage jobs on job queue QBATCH for users with job control special authority unless the user has some other special authority.

## Error messages

**\*ESCAPE Messages**

**CPF2207**

Not authorized to use object &1 in library &3 type *&2.

**CPF3330**

Necessary resource not available.

**CPF3307**

Job queue &1 in &2 not found.

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# Change Job Queue Entry (CHGJOBQE)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Job Queue Entry (CHGJOBQE) command changes an existing job queue entry in the specified subsystem description. This command can be issued while a subsystem is active or inactive. A job queue entry identifies the job queue from which jobs are selected to run in the subsystem. Jobs can be placed on a job queue by spooling readers or by using the following commands:

- Submit Job (SBMJOB)
- Submit Data Base Jobs (SBMDBJOB)
- Submit Diskette Jobs (SBMDKTJOB)
- Transfer Job (TFRJOB)
- Transfer Batch Job (TFRBCHJOB)

In a subsystem, job queues with lower sequence numbers are processed first.

**Restrictions:**

1. To use this command, you must have object operational (*OBJOPR), object management (*OBJMGT), and read (*READ) authority to the specified subsystem description and execute (*EXECUTE) authority to the library containing that subsystem description.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| SBSD | Subsystem description | *Qualified object name* | Required, Positional 1 |
| | Qualifier 1: Subsystem description | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| JOBQ | Job queue | *Qualified object name* | Required, Positional 2 |
| | Qualifier 1: Job queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| MAXACT | Maximum active jobs | 0-1000, **\*SAME**, *NOMAX | Optional, Positional 3 |
| SEQNBR | Sequence number | 1-9999, **\*SAME** | Optional |
| MAXPTY1 | Max active priority 1 | 0-99, **\*SAME**, *NOMAX | Optional |
| MAXPTY2 | Max active priority 2 | 0-99, **\*SAME**, *NOMAX | Optional |
| MAXPTY3 | Max active priority 3 | 0-99, **\*SAME**, *NOMAX | Optional |
| MAXPTY4 | Max active priority 4 | 0-99, **\*SAME**, *NOMAX | Optional |
| MAXPTY5 | Max active priority 5 | 0-99, **\*SAME**, *NOMAX | Optional |
| MAXPTY6 | Max active priority 6 | 0-99, **\*SAME**, *NOMAX | Optional |
| MAXPTY7 | Max active priority 7 | 0-99, **\*SAME**, *NOMAX | Optional |
| MAXPTY8 | Max active priority 8 | 0-99, **\*SAME**, *NOMAX | Optional |
| MAXPTY9 | Max active priority 9 | 0-99, **\*SAME**, *NOMAX | Optional |

## Subsystem description (SBSD)

Specifies the name and library of the subsystem description that contains the job queue entry being changed.

This is a required parameter.

**Qualifier 1: Subsystem description**

*name*  Specify the name of the subsystem description where the job queue entry is being changed.

> **Note:** The IBM-supplied object QSYSSBSD is not valid on this parameter.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*  Specify the library where the subsystem description is located.

## Job queue (JOBQ)

Specifies the name and library of the job queue that is a source of batch jobs that are started by the subsystem. If the job queue does not exist when the entry is added or changed, a library qualifier other than \*LIBL must be specified because the job queue name is kept in the subsystem description.

This is a required parameter.

**Qualifier 1: Job queue**

*name*  Specifies the name of the job queue that is a source of batch jobs that are started by the subsystem.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*  Specify the library where the job queue is located.

## Maximum active jobs (MAXACT)

Specifies the maximum number of jobs that can be active at the same time from this job queue.

**\*SAME**
> The maximum number of jobs that can be active at the same time does not change.

**\*NOMAX**
> There is no maximum for the number of jobs that can be started at the same time through this job queue entry. However, the maximum activity level of the routing entries, the subsystem, or the specific job priority level might prevent jobs from being started. If \*NOMAX is specified, all the jobs on the job queue are started, even though the activity level of the storage pool being used might prohibit them from running at the same time.

**0-1000** Specify the maximum number of jobs that can be active at the same time from this job queue.

## Sequence number (SEQNBR)

Specifies a sequence number for this job queue, which is used by the subsystem to determine the order in which the job queues are processed.

The subsystem first selects jobs from the job queue with the lowest sequence number. When all jobs on that queue have been processed or the number of jobs specified on the **Maximum active jobs (MAXACT)** parameter has been reached, the subsystem processes jobs on the queue with the next higher sequence number. This sequence continues until all job queue entries have been processed, or until the subsystem has reached its limit for overall maximum jobs. In some cases, the sequence is interrupted and the subsystem processes a job queue with a lower sequence number. This occurs for this subsystem when one of the following conditions occurs:

- A held job or job queue is released.
- A job is placed on or transferred to a job queue.
- A new job queue is allocated.
- A job ends.

**\*SAME**
> The sequence number assigned to this job queue does not change.

**1-9999** Specify the sequence number assigned to this job queue. The sequence number must be unique in the subsystem description.

## Max active priority 1 (MAXPTY1)

Specifies the number of jobs that can be started for a specified job priority level.

**\*SAME**
> The number of jobs started in a specific priority level does not change.

**\*NOMAX**
> The number of jobs started in a specific priority level is not limited.

**0-99** Specify the number of jobs started in a specific priority level. A value of 0 indicates that no jobs are started from a specific priority level.

## Max active priority 2 (MAXPTY2)

Specifies the number of jobs that can be started for a specified job priority level.

**\*SAME**
> The number of jobs started in a specific priority level does not change.

**\*NOMAX**
> The number of jobs started in a specific priority level is not limited.

*0-99*    Specify the number of jobs started in a specific priority level. A value of 0 indicates that no jobs are started from a specific priority level.

## Max active priority 3 (MAXPTY3)

Specifies the number of jobs that can be started for a specified job priority level.

**\*SAME**
> The number of jobs started in a specific priority level does not change.

**\*NOMAX**
> The number of jobs started in a specific priority level is not limited.

*0-99*    Specify the number of jobs started in a specific priority level. A value of 0 indicates that no jobs are started from a specific priority level.

## Max active priority 4 (MAXPTY4)

Specifies the number of jobs that can be started for a specified job priority level.

**\*SAME**
> The number of jobs started in a specific priority level does not change.

**\*NOMAX**
> The number of jobs started in a specific priority level is not limited.

*0-99*    Specify the number of jobs started in a specific priority level. A value of 0 indicates that no jobs are started from a specific priority level.

## Max active priority 5 (MAXPTY5)

Specifies the number of jobs that can be started for a specified job priority level.

**\*SAME**
> The number of jobs started in a specific priority level does not change.

**\*NOMAX**
> The number of jobs started in a specific priority level is not limited.

*0-99*    Specify the number of jobs started in a specific priority level. A value of 0 indicates that no jobs are started from a specific priority level.

## Max active priority 6 (MAXPTY6)

Specifies the number of jobs that can be started for a specified job priority level.

**\*SAME**
> The number of jobs started in a specific priority level does not change.

**\*NOMAX**
The number of jobs started in a specific priority level is not limited.

**0-99** Specify the number of jobs started in a specific priority level. A value of 0 indicates that no jobs are started from a specific priority level.

## Max active priority 7 (MAXPTY7)

Specifies the number of jobs that can be started for a specified job priority level.

**\*SAME**
The number of jobs started in a specific priority level does not change.

**\*NOMAX**
The number of jobs started in a specific priority level is not limited.

**0-99** Specify the number of jobs started in a specific priority level. A value of 0 indicates that no jobs are started from a specific priority level.

## Max active priority 8 (MAXPTY8)

Specifies the number of jobs that can be started for a specified job priority level.

**\*SAME**
The number of jobs started in a specific priority level does not change.

**\*NOMAX**
The number of jobs started in a specific priority level is not limited.

**0-99** Specify the number of jobs started in a specific priority level. A value of 0 indicates that no jobs are started from a specific priority level.

## Max active priority 9 (MAXPTY9)

Specifies the number of jobs that can be started for a specified job priority level.

**\*SAME**
The number of jobs started in a specific priority level does not change.

**\*NOMAX**
The number of jobs started in a specific priority level is not limited.

**0-99** Specify the number of jobs started in a specific priority level. A value of 0 indicates that no jobs are started from a specific priority level.

## Examples

```
CHGJOBQE   SBSD(QGPL/QBATCH)  JOBQ(QGPL/QBATCH)  MAXACT(4)
           MAXPTY1(1)  MAXPTY2(*NOMAX)
```

This command changes the maximum number of jobs that can be active at the same time from the job queue QBATCH in library QGPL. The sequence number of the job queue entry does not change. Up to four jobs from the QBATCH job queue can be active at the same time. Up to one job can be active from priority level 1. There is no maximum for the number of jobs that can be active at the same time from priority level 2. Priority levels 3 through 9 do not change.

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## Error messages

**\*ESCAPE Messages**

**CPF1619**

Subsystem description &1 in library &2 damaged.

**CPF1691**

Active subsystem description may or may not have changed.

**CPF1697**

Subsystem description &1 not changed.

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# Change Job Schedule Entry (CHGJOBSCDE)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Job Schedule Entry (CHGJOBSCDE) command allows you to change an entry in the job schedule.

The job schedule entry contains all of the information needed to automatically submit a batch job. You can use this command to change:

- The command the job runs
- The date and time at which a job is scheduled to run
- The recovery action the system takes if the job cannot be submitted at the scheduled time
- The job description and user profile under which the job is run
- The job queue on which the job is placed when it is submitted
- The message queue to which messages are sent

Each job schedule entry is identified by the job name, which is specified for the JOB parameter of this command, and an entry number, which is assigned by the system when the entry is added. The message sent when an entry is added contains the entry number. If there is more than one entry with the same job name, you may need to specify the number when changing the entry using this command, removing the entry using the Remove Job Schedule Entry (RMVJOBSCDE) command, or when holding or releasing the entry using the Hold Job Schedule Entry (HLDJOBSCDE) or Release Job Schedule Entry (RLSJOBSCDE) command. You can use the Work with Job Schedule Entries (WRKJOBSCDE) command to show or print entries.

More information is in the Work management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Restrictions:**

1. The issuer of this command must be running under a user profile which is the same as the job user identity of the job schedule entry being changed, or the issuer of the command must be running under a user profile which has job control (*JOBCTL) special authority.

   The job user identity is the name of the user profile by which a job is known to other jobs. More information about the job user identity is in the Work management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

2. To use this command, you must have:
   - use (*USE) authority to the command specified by the **Command to run (CMD)** parameter and execute (*EXECUTE) authority to the library containing that command.
   - use (*USE) authority to the job description (JOBD) and execute (*EXECUTE) authority to the library containing that job description.
   - use (*USE) authority to the job queue (JOBQ) and execute (*EXECUTE) authority to the library containing that job queue. Authority to the job queue cannot come from adopted authority.
   - use (*USE) authority to the user profile (USER) that the job is to run under.
   - use (*USE) and add (*ADD) authority to the message queue (MSGQ), and execute (*EXECUTE) authority to the library containing that message queue. Authority to the message queue cannot come from adopted authority.

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- change (*CHANGE) authority to object QDFTJOBSCD, type *JOBSCD, in library QUSRSYS and execute (*EXECUTE) authority to library QUSRSYS.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| JOB | Job name | *Name* | Required, Key, Positional 1 |
| ENTRYNBR | Entry number | 000001-999999, **\*ONLY** | Optional, Key |
| CMD | Command to run | *Command string* | Optional |
| FRQ | Frequency | **\*SAME**, *ONCE, *WEEKLY, *MONTHLY | Optional |
| SCDDATE | Schedule date | *Date*, **\*SAME**, *CURRENT, *MONTHSTR, *MONTHEND, *NONE | Optional |
| SCDDAY | Schedule day | Single values: **\*SAME**, *NONE, *ALL<br>Other values (up to 7 repetitions): *MON, *TUE, *WED, *THU, *FRI, *SAT, *SUN | Optional |
| SCDTIME | Schedule time | *Time*, **\*SAME**, *CURRENT | Optional |
| RELDAYMON | Relative day of month | Single values: **\*SAME**<br>Other values (up to 5 repetitions): *LAST, 1, 2, 3, 4, 5 | Optional |
| SAVE | Save | **\*SAME**, *NO, *YES | Optional |
| OMITDATE | Omit date | Single values: **\*SAME**, *NONE<br>Other values (up to 20 repetitions): *Date* | Optional |
| RCYACN | Recovery action | **\*SAME**, *SBMRLS, *SBMHLD, *NOSBM | Optional |
| JOBD | Job description | Single values: **\*SAME**, *USRPRF<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Job description | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| JOBQ | Job queue | Single values: **\*SAME**, *JOBD<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Job queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| USER | User | *Name*, **\*SAME**, *JOBD, *CURRENT | Optional |
| MSGQ | Message queue | Single values: **\*SAME**, *USRPRF, *NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

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## Job name (JOB)

Specifies the name of the job schedule entry.

This is a required parameter.

*name*   Specify the name of the job schedule entry that you want to change.

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# Entry number (ENTRYNBR)

Specifies the number of the job schedule entry you want to change. The message sent when an entry is successfully added contains the entry number. You can also determine the entry number by using the Work with Job Schedule Entries (WRKJOBSCDE) command. Press F11 from the Work with Job Schedule Entries display to show the entry numbers of the selected entries.

**\*ONLY**

Only one entry in the job schedule has the job name specified for the JOB parameter. If \*ONLY is specified and more than one entry has the specified job name, no entries are changed and an error message is sent.

*000001-999999*

Specify the number of the job schedule entry you want to change.

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# Command to run (CMD)

Specifies the command that runs in the submitted job. The IBM-supplied default routing program QCMD must be used when the job is started or the job will not run. Because the command you specify is used for the request data, the value specified for the RQSDTA parameter in the job description is ignored. The command you specify is syntax-checked when the entry is added.

*command-string*

Specify a maximum of 512 characters.

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# Frequency (FRQ)

Specifies how often the job is submitted to run.

**\*SAME**

The value does not change.

**\*ONCE**

The job is submitted once.

**\*WEEKLY**

The job is submitted on the same day or days of each week at the scheduled time.

**\*MONTHLY**

The job is submitted on the same day or days of each month at the scheduled time.

If you specify \*MONTHLY and a month does not contain the day specified for the SCDDATE parameter, the job is not run that month. For example, if SCDDATE(01/31/93) and FRQ(\*MONTHLY) are specified, the job will run on 01/31, 03/31, 5/31, 7/31, 8/31, 10/31 and 12/31, but will not run in February, April, June, September, or November. To submit a job on the last day of every month, specify SCDDATE(\*MONTHEND).

If you specify \*MONTHLY and your system or your job is configured to use Julian date format, the job is submitted to run on the day of the month that it would run if the system or job did not use Julian date format.

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# Schedule date (SCDDATE)

Specifies the date on which the job is submitted to run.

If your system or your job is configured to use the Julian date format, *MONTHSTR and *MONTHEND are calculated as if the system or job did not use the Julian date format.

**\*SAME**
> The value does not change.

**\*CURRENT**
> The job is submitted on the current date.

**\*MONTHSTR**
> The job is submitted on the first day of the month. If you specify *MONTHSTR, and if today is the first day of the month and the time you specify on the SCDTIME parameter has not passed, the job is submitted today. Otherwise, the job is submitted on the first day of the next month.

**\*MONTHEND**
> The job is submitted on the last day of the month. If you specify *MONTHEND, and if today is the last day of the month and the time you specify on the SCDTIME has not passed, the job is submitted today. Otherwise it is submitted on the last day of the next month.

**\*NONE**
> No date is specified for a job to be submitted. When SCDDATE(*NONE) is specified, a value other than *NONE must be specified for SCDDAY.

*date*   Specify the date in the job date format.

# Schedule day (SCDDAY)

Specifies the day of the week on which the job is submitted.

The SCDDATE and SCDDAY parameters are mutually exclusive.

If today is the day of the week specified for this parameter and the time specified for the SCDTIME parameter has not passed, the job is submitted today. Otherwise, the job is submitted on the next occurrence of the specified day. For example, if SCDDAY(*FRI) and SCDTIME(12:00:00) are specified, and you are adding this job schedule entry at 11:00 a.m. on a Friday, the job is submitted today. If you are adding the entry at 4:00 p.m. on a Friday, or at 11:00 a.m. on a Monday, the job is submitted the following Friday.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No day is specified for a job to be submitted. SCDDAY(*NONE) is not valid when SCDDATE(*NONE) is specified.

**\*ALL**   The job is submitted every day.

**Other values (up to 7 repetitions)**

**\*MON**
> The job is submitted on Monday.

**\*TUE**   The job is submitted on Tuesday.

**\*WED**   The job is submitted on Wednesday.

**\*THU**   The job is submitted on Thursday.

**\*FRI**   The job is submitted on Friday.

**\*SAT**   The job is submitted on Saturday.

**\*SUN**   The job is submitted on Sunday.

## Schedule time (SCDTIME)

Specifies the time on the scheduled date at which the job is submitted to run.

**Note:** Although the time can be specified to the second, the activity involved in submitting a job and the load on the system may affect the exact time at which the job is submitted.

**\*SAME**
The value does not change.

**\*CURRENT**
The job is submitted at the current time. If you specify SCDTIME(\*CURRENT) and SCDDATE(\*CURRENT), the job is immediately submitted to the job queue specified.

*time*   Specify the time you want the job to be submitted. The time is specified in 24-hour format and can be specified with or without a time separator:

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where **hh** = hours, **mm** = minutes, and **ss** = seconds. Valid values for **hh** range from 00 to 23. Valid values for **mm** and **ss** range from 00 to 59.

- With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If this command is entered from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

## Relative day of month (RELDAYMON)

Specifies the relative day of the month on which the job is submitted to run.

This parameter is valid only if a value is specified for the SCDDAY parameter and FRQ(\*MONTHLY) is specified.

**\*SAME**
The value does not change.

**Other values (up to 5 repetitions)**

**1**      The job is submitted on the specified day of the week the first time it occurs in the month. For example, if you specify SCDDAY(\*TUE), FRQ(\*MONTHLY) and RELDAYMON(1), the job is submitted on the first Tuesday of every month.

**2**      The job is submitted on the specified day of the week the second time it occurs in the month.

**3**      The job is submitted on the specified day of the week the third time it occurs in the month.

**4**      The job is submitted on the specified day of the week the fourth time it occurs in the month.

**5**      The job is submitted on the specified day of the week the fifth time it occurs in the month.

**\*LAST**
> The job is submitted on the specified day of the week the last time it occurs in the month.

## Save (SAVE)

Specifies whether the entry for a job that is submitted only once is kept after the job is submitted. This parameter is valid only if FRQ(\*ONCE) is specified.

**\*SAME**
> The value does not change.

**\*NO**   The entry is not kept after the job is submitted.

**\*YES**   The entry is kept after the job is submitted. If you specify \*YES, the job is submitted once. The job is not submitted again until the Change Job Schedule Entry (CHGJOBSCDE) command is used to specify a new date and time.

## Omit date (OMITDATE)

Specifies a maximum of 20 dates on which the job is not submitted. You can, for example, use this parameter to prevent recurring jobs from running on holidays. The date must be specified in the job date format.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> There are no dates when a job is not submitted.

**Other values (up to 20 repetitions)**

*date*   Specify a date when a job is not submitted.

## Recovery action (RCYACN)

Specifies the recovery action to be taken if the job cannot be submitted at the designated time because the system is powered down or in restricted state. The action specified for this parameter occurs at the next IPL or when the system comes out of restricted state.

Jobs submitted during IPL or when the system comes out of restricted state are submitted in the same order that they would have been had the jobs been submitted at the times specified in the job schedule entries. If multiple occurrences of a recurring job are missed, the job is submitted only once. The first missed occurrence of a recurring job is used to order the jobs. The next occurrence of the job is calculated from the current date.

Since the scheduler portion of IPL need not be complete for the IPL of the system to be complete, other jobs may start on the system before all of the jobs have been submitted.

This parameter does not apply:

- When a job is released after being held at the date and time it was to be submitted
- When the date and time at which a job is to be submitted passes because of changes to date and time system values

**\*SAME**
> The value does not change.

**\*SBMRLS**
> The job is submitted in the released state (RLS).

**\*SBMHLD**
> The job is submitted in the held state (HLD).

**\*NOSBM**
> The job is not submitted.
>
> Specifying \*NOSBM affects only missed occurrences of the job. If the job schedule entry is a recurring job, future occurrences are not affected.

## Job description (JOBD)

Specifies the qualified name of the job description used when submitting the job.

**Single values**

**\*SAME**
> The value does not change.

**\*USRPRF**
> The job description specified in the user profile under which the submitted job runs is used. The USER parameter specifies the user profile.

**Qualifier 1: Job description**

*name*   Specify the name of the job description.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*   Specify the name of the library where the job description is located.

## Job queue (JOBQ)

Specifies the qualified name of the job queue on which this job is placed.

You must have authority to the queue to specify a name on this parameter. Authority to the queue cannot come from adopted authority.

**Single values**

**\*SAME**
> The value does not change.

**\*JOBD**

> The submitted job is placed on the job queue specified in the job description. The JOBD
> parameter specifies the job description.

**Qualifier 1: Job queue**

*name*    Specify the name of the job queue.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**

> The current library for the thread is used to locate the object. If no library is specified as the
> current library for the thread, the QGPL library is used.

*name*    Specify the name of the library where the job queue is located.

# User (USER)

Specifies the name of the user profile under which the job is submitted.

**\*SAME**

> The value does not change.

**\*CURRENT**

> The job is submitted under the user profile of the user that is changing the entry.

**\*JOBD**

> The user profile specified for the USER parameter of the job description is used. The JOBD
> parameter of this command specifies the job description. This value is not valid if USER(*RQD) is
> specified in the job description.

*name*    Specify the name of the user profile that is used. You must be authorized to the user profile. The
> user profile must be authorized to the job queue, job description, and message queue specified on
> this command.

# Message queue (MSGQ)

Specifies the name of the message queue to which messages are sent.

Messages are sent when the job is submitted and when a submitted job has completed running. Messages
indicating a serious error are sent to the QSYSOPR message queue regardless of the value specified for
this parameter when:

- The message queue specified for this parameter is damaged.
- MSGQ(*NONE) is specified.
- MSGQ(*USRPRF) and USER(*JOBD) are specified, and the job description specified for the JOBD
  parameter is changed to USER(*RQD) after the entry is added.

**Single values**

**\*SAME**

> The value does not change.

**\*USRPRF**
> The message queue specified in the user profile under which the submitted job runs is used. The USER parameter specifies the user profile.

**\*NONE**
> Completion messages are not sent. Error messages are sent to the QSYSOPR message queue.

**Qualifier 1: Message queue**

*name*   Specify the name of the message queue.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*   Specify the name of the library where the message queue is located.

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
> The value does not change.

**\*BLANK**
> No text is specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

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## Examples

**Example 1: Changing a Job Schedule Entry**

```
CHGJOBSCDE   JOB(BACKUP)   ENTRYNBR(001584)   JOBQ(QGPL/QBATCH)
```

This command changes job schedule entry BACKUP number 001584 so that its jobs are submitted to job queue QBATCH in library QGPL.

**Example 2: Changing a Job Schedule Entry**

```
CHGJOBSCDE   JOB(EXAMPLE)   ENTRYNBR(*ONLY)   CMD(CALL PGM(A))
             FRQ(*WEEKLY) SCDDATE(121503)   SCDTIME(110000)
```

This command schedules a batch job to run program A at 11 a.m. on 12/15/03 and every week on that same day.

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# Error messages

**CPF1620**

Job schedule entry &3 number &4 not changed.

**CPF9872**

Program or service program &1 in library &2 ended. Reason code &3.

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# Change Journal (CHGJRN)

The Change Journal (CHGJRN) command changes the journal receiver, the journal message queue, the manage receiver attribute, the delete receiver attribute, the receiver size options, the journal state, allowing minimized entry specific data, journal caching, the journal receiver's threshold, the journal object limit, the journal recovery count, or the text associated with the specified journal. The command allows one journal receiver to be attached to the specified journal. This replaces the previously attached journal receiver. The newly-attached journal receiver begins receiving journal entries for the journal immediately.

The sequence numbering of journal entries can be reset when the receiver is changed. If the sequencing is not reset, an informational message is sent indicating the first sequence number in the newly attached receiver. If RCVSIZOPT(*MAXOPT1 or *MAXOPT2) is in effect for the journal, an informational message (CPF7019) is sent to the system operator recommending that the sequence numbers be reset when the first sequence number is greater than 9,500,000,000. If RCVSIZOPT(*MAXOPT3) is in effect for the journal, an informational message (CPF7019) is sent to the system operator recommending that the sequence numbers be reset when the first sequence number is greater than 18,446,600,000,000,000. Otherwise, CPF7019 is sent when the first sequence number is greater than 2,000,000,000.

If *SAME is specified on the JRNRCV parameter, the currently attached journal receiver remains attached.

The journal receiver can be changed when these journal functions are in progress: comparing images, displaying journals, receiving or retrieving journal entries, applying or removing journal changes, working with journal attributes, restoring journal receivers, or displaying journal receiver attributes.

**Restrictions:**

- To use this command, the user must be signed on as QPGMR, QSYSOPR, or QSRV, or have *ALLOBJ authority.
- The receiver specified must be created before issuing this command, and it must be empty (that is, the receiver must not have been previously attached to a journal or have been in the process of being attached to a journal).
- No more than one journal receiver can be attached to the journal at any specific time.
- Resetting of sequence numbers is not valid if JRNRCV(*SAME) is specified, if any objects being journaled contain changes that have not yet been forced to auxiliary storage, or if any commit control changes associated with the journal are pending. When the maximum sequence number is reached, an error message is sent (entry not journaled) and all subsequent operations that require journaling fail.
- If one of the *MAXOPT values from the RCVSIZOPT parameter is not to be in effect for the journal, the maximum threshold value that can be specified for any journal receiver being attached is 1,919,999 kilobytes.
- SEQOPT(*RESET) must be specified if the journal currently has one of the *MAXOPT values for the RCVSIZOPT parameter in effect, and no *MAXOPT value is being specified as part of the CHGJRN request.
- If the library containing the journal is on an independent ASP then the journal receiver specified must be located on an independent ASP that is in the same ASP group as the journal's library. Likewise, if the library containing the journal is not on an independent ASP, then the journal receiver specified cannot be located on an independent ASP.

- RCVSIZOPT(*MINFIXLEN) and FIXLENDTA cannot be used for the system security audit journal QSYS/QAUDJRN. Journal entries in the security audit journal are required to contain all possible data that could be used for auditing purposes.
- SEQOPT(*RESET) must be specified if the journal currently has RCVSIZOPT(*MAXOPT3) in effect, and *MAXOPT3 is not being specified as part of the CHGJRN request.
- JRNOBJLMT(*MAX10M) is only valid if one of the *MAXOPT values was specified for the RCVSIZOPT parameter.
- JRNOBJLMT(*MAX10M), once specified for a journal, cannot be changed.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| JRN | Journal | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Journal | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| JRNRCV | Journal receiver | Single values: **\*SAME**<br>Other values: *Element list* | Optional, Positional 2 |
| | Element 1: Journal receiver | Single values: *GEN<br>Other values: *Qualified object name* | |
| | Qualifier 1: Journal receiver | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| | Element 2: Journal receiver | Single values: *GEN<br>Other values: *Qualified object name* | |
| | Qualifier 1: Journal receiver | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| SEQOPT | Sequence option | **\*CONT**, *RESET | Optional |
| MSGQ | Journal message queue | Single values: **\*SAME**<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Journal message queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| MNGRCV | Manage receivers | **\*SAME**, *SYSTEM, *USER | Optional |
| DLTRCV | Delete receivers | **\*SAME**, *NO, *YES | Optional |
| RCVSIZOPT | Receiver size options | Single values: **\*SAME**, *SYSDFT, *NONE<br>Other values (up to 3 repetitions): *RMVINTENT, *MINFIXLEN, *MAXOPT1, *MAXOPT2, *MAXOPT3 | Optional |
| JRNSTATE | Journal state | **\*SAME**, *ACTIVE, *INACTIVE, *STANDBY | Optional |
| MINENTDTA | Minimize entry specific data | Single values: **\*SAME**, *NONE<br>Other values (up to 2 repetitions): *FILE, *FLDBDY, *DTAARA | Optional |
| JRNCACHE | Journal caching | **\*SAME**, *NO, *YES | Optional |
| MNGRCVDLY | Manage receiver delay time | 1-1440, **\*SAME** | Optional |
| DLTRCVDLY | Delete receiver delay time | 1-1440, **\*SAME** | Optional |
| FIXLENDTA | Fixed length data | Single values: **\*SAME**, *JOBUSRPGM<br>Other values (up to 9 repetitions): *JOB, *USR, *PGM, *PGMLIB, *SYSSEQ, *RMTADR, *THD, *LUW, *XID | Optional |
| THRESHOLD | Journal receiver threshold | 100000-1000000000, **\*SAME**, *NONE | Optional |
| JRNOBJLMT | Journal object limit | **\*SAME**, *MAX10M | Optional |
| JRNRCYCNT | Journal recovery count | 10000-2000000000, **\*SAME**, *SYSDFT | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| TEXT | Text 'description' | *Character value*, *BLANK, **<u>*SAME</u>** | Optional |

## Journal (JRN)

Specifies the name and library of the journal for which journal receivers or operational attributes are being changed.

This is a required parameter.

*journal-name*
> Specify the journal having journal receivers or operational attributes changed.

**<u>*LIBL</u>**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the job is searched. If no library is specified as the current library for the job, QGPL is used.

*library-name*
> Specify the name of the library to be searched.

## Journal receiver (JRNRCV)

Specifies which journal receiver to attach to the specified journal.

**Note:** This parameter cannot be specified for remote journals.

**Single values**

**<u>*SAME</u>**
> The value does not change.

**\*GEN**   The journal receiver is created by the system and then attached to the specified journal. The journal receiver is created with the same attributes, with the same owner, with the same authorities, with the same audit level, and in the same library as the currently attached journal receiver. The name of the new journal receiver is derived by appending a 4-digit number to a portion of the name of the current receiver, or by adding 1 to the number in the name of the current journal receiver. The name of the journal receiver that was created and attached is returned in an informational message. More information on generated journal receiver names is in the Journal management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Element 1: Journal receiver**

**Qualifier 1: Journal receiver**

*receiver-name*
> Specify the name of the journal receiver being attached to the identified journal. The journal receiver must have been previously created in the specified library, and must not have been previously attached to a journal or have been in the process of being attached to a journal.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

> The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*library-name*

> Specify the name of the library to be searched.

**Element 2: Journal receiver**

The second journal receiver, if specified, is ignored.

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## Sequence option (SEQOPT)

Specifies whether the journal sequence number is continued from the currently attached journal receiver or the journal sequence number is reset to 1 in the newly attached journal receiver.

**Note:** This parameter cannot be specified for remote journals.

**\*CONT**

> The journal sequence number of the next journal entry created is one greater than the sequence number of the last journal entry in the currently attached journal receiver.

**\*RESET**

> The journal sequence number of the first journal entry in the newly attached journal receiver is reset to 1. \*RESET is not valid if \*SAME is specified on the **Journal receiver (JRNRCV)** parameter, if any object being journaled contains changes that have not yet been forced to auxiliary storage, or if any commitment control changes associated with the journal are pending.

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## Journal message queue (MSGQ)

Specifies the qualified name of the message queue associated with the journal. A message is sent to this queue when one of the following occurs:

- When an attached journal receiver's threshold is surpassed, the message CPF7099 is sent if the journal has the MNGRCV(\*USER) attribute.

- When an attached journal receiver's threshold is surpassed, the system attempts to create and attach a new receiver if the journal has the MNGRCV(\*SYSTEM) attribute. When the old receiver is detached, the message CPF7020 is sent. If the attempt fails due to lock conflicts, the system sends the message CPI70E5 and then tries again every 10 minutes (or as often as requested via the MNGRCVDLY parameter) until the change journal operation is successful.

- If the journal receiver was attached while RCVSIZOPT(\*MAXOPT1 or \*MAXOPT2) was in effect for the journal, message CPI70E7 is sent when the sequence number exceeds 9,900,000,000. If the journal receiver was attached while RCVSIZOPT(\*MAXOPT3) was in effect for the journal, message CPI70E7 is sent when the sequence number exceeds 18,446,644,000,000,000,000. Otherwise, message CPI70E7 is sent when a journal receiver's sequence number exceeds 2,147,000,000.

- When the system cannot determine if the journal has the MNGRCV(\*SYSTEM) attribute, or if the attempt to create and attach a new journal receiver fails because of something other than a lock conflict, the message CPI70E3 is sent.

- When remote journal operations occur, see the Journal management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/ for more details.

- When the system cannot delete a receiver due to a lock conflict, an exit program indicating that the receiver cannot be deleted, or the receiver is not yet fully replicated to all remote journals, CPI70E6 is sent and the operation will be retried every 10 minutes (or as often as requested via the DLTRCVDLY parameter). If a delete fails for any other reason, CPI70E1 is sent.

To set the threshold value, refer to the **Journal receiver threshold (THRESHOLD)** parameter or the Create Journal Receiver (CRTJRNRCV) command description.

**Note:** A message queue that is in library QTEMP cannot be specified on this parameter.

**Note:** Some messages that are sent to the journal message queue will also be sent to the QSYSOPR message queue and QHST.

**Single values**

**\*SAME**
    The value does not change.

**Qualifier 1: Journal message queue**

*journal-message-queue-name*
    Specify the name of the journal message queue that replaces the message queue previously specified and to which the journal messages are sent. If this message queue is not available when a message is to be sent, the message is sent to the QSYSOPR message queue.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
    The current library for the job is used to locate the journal message queue. If no library is specified as the current library for the job, QGPL is used.

*library-name*
    Specify the library where the journal message queue is located.

# Manage receivers (MNGRCV)

Specifies how the changing of journal receivers (detaching the currently attached journal receiver and attaching a new journal receiver) is managed.

**Note:** This parameter cannot be specified for remote journals.

**\*SAME**
    The value does not change.

**\*SYSTEM**
    The system manages the changing of journal receivers (this function is called system change-journal management). When an attached journal receiver reaches its size threshold, the system detaches the attached journal receiver and creates and attaches a new journal receiver. Message CPF7020 is sent to the journal message queue when the journal receiver is detached. If changing to \*SYSTEM and \*GEN is specified for the **Journal receiver (JRNRCV)** parameter, and the currently attached receiver has no threshold specified, the new receiver will be given a threshold of 1500000KB. \*SYSTEM is not valid if \*SAME is specified on the **Journal receiver (JRNRCV)** parameter.

Also, if the journal receiver was attached while RCVSIZOPT(*MAXOPT1 or *MAXOPT2) was in effect for the journal, the system attempts to perform a CHGJRN command to reset the sequence number when the journal receiver's sequence number exceeds 9,900,000,000. If the journal receiver was attached while RCVSIZOPT(*MAXOPT3) was in effect for the journal, the system attempts to perform a CHGJRN command to reset the sequence number when the journal receiver's sequence number exceeds 18,446,644,000,000,000. For all other journal receivers, the system attempts this CHGJRN when the sequence number exceeds 2,147,000,000.

Additionally, during an initial program load (IPL) or the vary on of an independent ASP, the system performs a CHGJRN command to create and attach a new journal receiver and to reset the journal sequence number of journals that are not needed for commitment control recovery for that IPL or vary on, unless the RCVSIZOPT is *MAXOPT3. The sequence number will not be reset and a new journal receiver will not be attached if the RCVSIZOPT is *MAXOPT3 unless the sequence number exceeds the sequence number threshold which is 18,446,600,000,000,000.

**Notes:**

1. The journal receiver threshold value must be non-zero to specify MNGRCV(*SYSTEM). The journal receiver threshold value can be specified on the THRESHOLD parameter of this command or by specifying a threshold value on the Create Journal Receiver (CRTJRNRCV) command.

2. Specifying MNGRCV(*SYSTEM) does not prevent you from using this command to manage journal receiver.

3. The sequence number will also not be reset if there are only a couple of journal entries.

**\*USER**
> The user manages the changing of journal receivers by issuing the CHGJRN command to attach a new receiver and detach an old receiver.

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## Delete receivers (DLTRCV)

Specifies whether the system deletes journal receivers when they are no longer needed or leaves them on the system for the user to delete after they have been detached by system change-journal management or by a user-issued CHGJRN command.

**Note:** This parameter can be specified only if MNGRCV(*SYSTEM) is specified, or if the journal currently has the MNGRCV(*SYSTEM) attribute, or if the journal is a remote journal.

**\*SAME**
> The value does not change.

**\*NO**  The journal receivers are not deleted by the system.

**\*YES**  The journal receivers are deleted by the system. To specify this value, no receivers other than the currently attached receiver can be in the receiver directory.

> **Note:** To find out which journal receivers are in the receiver directory, you can view the Work with Receiver Directory display, which can be accessed using the Work with Journal Attributes (WRKJRNA) command.

> When the journal has the DLTRCV(*YES) attribute, the following conditions can prevent the system from deleting the receiver. When one of these conditions occurs, the system sends message CPI70E6 and then retries the delete operation every 10 minutes (or as often as requested via the DLTRCVDLY parameter) until the operation is successful.

> • A lock conflict occurs for either the journal receiver or its journal.

> • An exit program that was registered by way of the QIBM_QJO_DLT_JRNRCV exit point indicates that a receiver is not eligible for deletion.

- A journal has remote journals associated with it and one or more of the associated remote journals do not yet have full copies of this receiver.

## Receiver size options (RCVSIZOPT)

Specifies the options that affect the size of the receiver attached to the journal.

**Note:** To remove a receiver size option, specify all the receiver size options you want to keep and do not specify the one you want to remove.

**Note:** *SYSDFT, *NONE, *RMVINTENT, *MINFIXLEN, *MAXOPT1, *MAXOPT2, and *MAXOPT3 are not valid if *SAME is specified on the **Journal receiver (JRNRCV)** parameter.

**Note:** This parameter cannot be specified for remote journals.

**Note:** You can specify only one of the three choices between *MAXOPT1, *MAXOPT2, and *MAXOPT3.

**Single values**

**\*SAME**
    The value does not change.

**\*SYSDFT**
    The system uses the current recommended values. Specifying this value is currently equivalent to specifying *MAXOPT2 and *RMVINTENT.

**\*NONE**
    No options affect the size of the journal entries attached to the receiver. All journal entries placed on the receiver are permanent. The fixed length data as defined by FIXLENDTA will be included in every journal entry deposited into the attached journal receiver. If this is specified for the journal, the journal receiver attached to that journal can have a maximum receiver size of approximately 2 gigabytes (2,147,483,647) and a maximum sequence number of 2,147,483,136. Additionally, the maximum size of the journal entry which can be deposited is 15,761,440 bytes.

**Other values (up to 3 repititions)**

**\*RMVINTENT**
    The size of the receiver attached to the journal is reduced by automatic removal of the internal entries required only for initial program load (IPL) or independent ASP vary on recovery when these entries are no longer required.

**\*MINFIXLEN**
    The size of the journal entries that are deposited into the attached journal receiver is reduced by the automatic removal of fixed-length data that is deemed not to be required for recovery purposes. This option is not valid when FIXLENDTA is also specified.

**\*MAXOPT1**
    If this is specified for the journal, the journal receiver attached to that journal can have a maximum receiver size of approximately one terabyte (1,099,511,627,776 bytes) and a maximum sequence number of 9,999,999,999. Additionally, the maximum size of the journal entry which can be deposited is 15,761,440 bytes. This value cannot be specified if *MAXOPT2 or *MAXOPT3 is specified.

**\*MAXOPT2**
    If this is specified for the journal, the journal receiver attached to that journal can have a maximum receiver size of approximately one terabyte (1,099,511,627,776 bytes) and a maximum

sequence number of 9,999,999,999. Additionally, the maximum size of the journal entry which can be deposited is 4,000,000,000 bytes. This value cannot be specified if *MAXOPT1 or *MAXOPT3 is specified.

***MAXOPT3**

If this is specified for the journal, the journal receiver attached to that journal can have a maximum receiver size of approximately one terabyte (1,099,511,627,776 bytes) and a maximum sequence number of 18,446,744,073,709,551,600. Additionally, the maximum size of the journal entry which can be deposited is 4,000,000,000 bytes. These journal receivers cannot be saved and restored to any releases prior to V5R3M0 nor can they be replicated to any remote journals on any systems at releases prior to V5R3M0. Also, during an initial program load (IPL) or the vary on of an independent ASP, when MNGRCV(*SYSTEM) is specified, the system will not automatically perform a CHGJRN command to create and attach a new journal receiver and reset the journal sequence number unless the sequence number exceeds the sequence number threshold which is 18,446,600,000,000,000,000. This value cannot be specified if *MAXOPT1 or *MAXOPT2 is specified.

## Journal state (JRNSTATE)

Specifies whether journal entries are allowed to be deposited into the journal.

**Note:** Values *ACTIVE, *INACTIVE, and *STANDBY are only valid when JRNRCV(*SAME) is specified.

***SAME**

The value does not change.

***ACTIVE**

All journal entries are allowed to be deposited into the journal.

**Note:** This value cannot be specified for remote journals.

***INACTIVE**

This state only applies to remote journals. When a remote journal is *INACTIVE, no entries are being received from the source system. When the journal state is changed to *ACTIVE, the outstanding entries will be sent from the source system.

**Note:** If this value is specified, the remaining parameters except for JRN, must specify *SAME.

***STANDBY**

Most journal entries are not deposited into the journal. If an attempt is made to deposit an entry into the journal, there will be no errors indicating that the entry was not deposited. While in *STANDBY state, journaling can be started or stopped. However, using commitment control is not allowed while in *STANDBY state. Because commitment control is not allowed, functions where the system uses commitment control internally are also not allowed. Similarly, access paths built over files journaled to a journal in *STANDBY state will not be eligible for System-Managed Access Path Protection (SMAPP). This may impact system performance, system IPL, or independent auxiliary storage pool (IASP) vary-on duration, or both system performance and IPL or vary-on duration, as the system tries to achieve the specified access path recovery time.

**Note:** This value cannot be specified for remote journals.

**Note:** See the Journal management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/ for which journal entries are allowed to be deposited in these states. Search for "journal entry finder".

# Minimize entry specific data (MINENTDTA)

Specifies which object types allow journal entries to have minimized entry specific data.

Journal receivers using the *FLDBDY option to minimize the entry specific data cannot be saved and restored to any release prior to V5R4M0 nor can they be replicated to any remote journal on a system at a release prior to V5R4M0. See the Journal management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/ for restrictions and usage of journal entries with minimized entry specific data.

**Note:** *NONE, *FILE, FLDBDY, and *DTAARA are not valid if *SAME is specified on the **Journal receiver (JRNRCV)** parameter.

**Note:** This parameter cannot be specified for remote journals.

**\*SAME**
> The value does not change.

**\*NONE**
> No object type allows a journal entry with minimized entry specific data. Journal entries for all journaled objects will be deposited in the journal with complete entry specific data.

**\*FILE**  Journaled files may have journal entries deposited with minimized entry specific data. The minimizing will not occur on field boundaries. Therefore, the entry specific data may not be viewable and may not be used for auditing purposes. This value cannot be specified if *FLDBDY is specified.

**\*FLDBDY**
> Journaled files may have journal entries deposited with minimized entry specific data. The minimizing for journaled files will occur on field boundaries. Therefore, the entry specific data will be viewable and may be used for auditing purposes.

**\*DTAARA**
> Journaled data areas may have journal entries deposited with minimized entry specific data.

# Journal caching (JRNCACHE)

Specifies whether journal entries will be cached before being written out to disk.

**Note:** This parameter cannot be specified for remote journals.

**\*SAME**
> The value does not change.

**\*NO**  Journal entries are written to disk immediately if needed to assure single-system recovery.

**\*YES**  Journal entries are written to main memory. When there are several journal entries in main memory then the journal entries are written from main memory to disk. If the application performs large numbers of changes, this may result in fewer synchronous disk writes resulting in improved performance. However, it is **not** recommended to use this option if it is unacceptable to lose even one recent change in the event of a system failure where the contents of main memory are not preserved. This type of journaling is directed primarily toward batch jobs and may not be suitable for interactive applications where single system recovery is the primary reason for journaling.

> **Note:** Applications using commitment control will likely see less performance improvement because commitment control already performs some journal caching.

**Note:** Entries that are in the cache are not displayable using the Display Journal (DSPJRN) command, Receive Journal Entries (RCVJRNE) command, Retrieve Journal Entries (RTVJRNE) command, or the QjoRetrieveJournalEntries API. Also, entries that are in the cache are not sent to a target system with remote journal. However, these journal entries are included in the last journal sequence number for the journal receiver returned via the Display Journal Receiver Attributes (DSPJRNRCVA) command or QjoRtvJrneReceiverInformation API.

**Note:** This value cannot be specified if the journal-name starts with a Q and the journal-library starts with a Q, unless the library is QGPL.

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## Manage receiver delay time (MNGRCVDLY)

Specifies the time (in minutes) to be used to delay the next attempt to attach a new journal receiver to this journal if the journal is system managed (MNGRCV(*SYSTEM)).

**Note:** This parameter cannot be specified for remote journals.

**\*SAME**
> The value does not change.

**1-1440** When the system cannot allocate an object needed to attach a new journal receiver to this journal, it will wait the specified number of minutes before trying again.

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## Delete receiver delay time (DLTRCVDLY)

If the system cannot allocate an object needed to delete a journal receiver associated with this journal and the journal has DLTRCV(*YES) specified, this parameter specifies the time (in minutes) to be used to delay the next attempt to delete the journal receiver.

**\*SAME**
> The value does not change.

**1-1440** System waits the specified number of minutes before trying again.

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## Fixed length data (FIXLENDTA)

Specifies the data that is included in the fixed-length portion of the journal entries that are deposited into the attached journal receiver. This parameter is not valid when RCVSIZOPT(*MINFIXLEN) is also specified.

**\*SAME**
> The value does not change.

**\*JOBUSRPGM**
> The job name, user name and program name will be included in the journal entries deposited into the attached journal receiver.

**\*JOB** The job name will be included in the journal entries deposited into the attached journal receiver.

**\*USR** The effective user profile name will be included in the journal entries deposited into the attached journal receiver.

**\*PGM** The program name will be included in the journal entries deposited into the attached journal receiver.

**\*PGMLIB**
The program library name and the auxiliary storage pool device name that contains the program library will be included in the journal entries deposited into the attached journal receiver.

**\*SYSSEQ**
The system sequence number will be included in the journal entries deposited into the attached journal receiver. The system sequence number gives a relative sequence to all journal entries in all journal receivers on the system.

**\*RMTADR**
If appropriate, the remote address, the address family and the remote port will be included in the journal entries deposited into the attached journal receiver.

**\*THD** The thread identifier will be included in the journal entries deposited into the attached journal receiver. The thread identifier helps distinguish between multiple threads running in the same job.

**\*LUW** If appropriate, the logical unit of work identifier will be included in the journal entries deposited into the attached journal receiver. The logical unit of work identifies work related to specific commit cycles.

**\*XID** If appropriate, the transaction identifier will be included in the journal entries deposited into the attached journal receiver. The transaction identifier identifies transactions related to specific commit cycles.

FIXLENDTA cannot be specified for remote journals and FIXLENDTA is not valid when JRNRCV(\*SAME) is specified.

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## Journal receiver threshold (THRESHOLD)

Specifies a storage space threshold value (in KB) for the journal receiver.

**Note:** If RCVSIZOPT(\*RMVINTENT) is specified for the journal, the internal space occupied by the internal entries applies toward the receiver threshold. Sometime after the journal receiver is detached, the space for the internal entries will be freed. At that time the size of the journal receiver will be less than the specified threshold value.

**Note:** You must also specify JRNRCV(\*GEN) to specify a threshold value other than \*SAME.

If the threshold value is exceeded during journaling, one of the following occurs:
* The message CPF7099 is sent to the journal message queue if the journal has the MNGRCV(\*USER) attribute.
* The system attempts to create and attach a new receiver if the journal has the MNGRCV(\*SYSTEM) attribute. When the old receiver is detached, the message CPF7020 is sent to the journal message queue. If the attempt fails due to lock conflicts, the system sends the message CPI70E5 and then tries again every ten minutes (or as often as requested via the MNGRCVDLY parm) until the change journal operation is successful.
* When the system cannot determine if the journal has the MNGRCV(\*SYSTEM) attribute, or if the attempt to create and attach a new journal receiver fails because of something other than a lock conflict, the message CPI70E3 is sent.

The journal message queue is specified on MSGQ parameter of this command or on the CRTJRN (Create Journal) command.

**Note:** The value for the MNGRCV parameter is specified for the journal on the MNGRCV parameter of this command or on the CRTJRN command. If you have not specified MNGRCV(*SYSTEM), and the threshold value is exceeded, you may want to take some action, such as issuing a CHGJRN command.

**\*SAME**
> The value does not change.

**\*NONE**
> No threshold value is specified. This value cannot be specified when MNGRCV(*SYSTEM) has been specified.

***100000-1000000000***
> Specify the journal receiver threshold value in kilobytes (KB) of storage. Each 1000 KB specifies 1,024,000 bytes of storage space. When the size of the space for the journal receiver is larger than the size specified by this value, a message is sent to the identified message queue if appropriate, and journaling continues.
>
> **Notes:**
>
> 1. If you plan to generate a journal receiver for a journal that does not have one of the *MAXOPT values from the RCVSIZOPT parameter specified, the maximum threshold you should specify is 1,919,999 in kilobytes.

## Journal object limit (JRNOBJLMT)

Specifies the option that affects the maximum number of objects that can be journaled to the journal.

**\*SAME**
> The value does not change.

**\*MAX10M**
> The maximum number of objects that can be journaled to the journal is 10,000,000. Any journal receivers associated with such a journal cannot be saved or restored to any releases prior to V5R4M0 nor can they be replicated via remote journaling to any releases prior to V5R4M0.
>
> Once this value is specified for the journal, the JRNOBJLMT cannot be set to the lower limit.
>
> A new receiver must be attached at the same time as this value is changed.
>
> Runtime performance concerns should be considered when choosing this option. With this new attribute, there is an opportunity for a greater number of objects journaled to one journal. Thus there is a potential opportunity of more objects that can be actively changing at the same time which can affect journal runtime performance. Therefore if the frequency of journal entries being deposited to this one journal is causing runtime performance concerns, then a better alternative would be to split the journaled objects to more than one journal.
>
> Be aware that increasing the quantity of objects associated with a single journal may increase your IPL time, independent ASP vary on time, or disaster recovery time. As a general rule-of-thumb, if the number of actively changing objects is likely to be greater than 5,000 consider journaling some of these objects to a separate journal. The larger the number of actively changing objects for a given journal at system termination, the longer it will take to recover the journal at IPL or vary on of an independent ASP.

# Journal recovery count (JRNRCYCNT)

The journal recovery count allows a user to choose between faster abnormal IPL or independent ASP vary on recovery and decreased run time processing. The value specified influences the frequency with which journaled objects are forced to auxiliary storage as those objects are changed. The specified journal recovery count indicates the approximate number of journaled changes that would need to be recovered during journal synchronization for this journal in the event of an abnormal IPL or vary on. Specifying a smaller value decreases the number of changes that would need to be recovered from this journal during an abnormal IPL or vary on by increasing the frequency with which changed objects are forced. Specifying a larger value increases the number of changes that would need to be recovered for this journal during an abnormal IPL or vary on by decreasing the frequency with which changed objects are forced. Changing this value may affect overall system performance as it affects the utilization of auxiliary storage devices.

All journals are created with the system default journal recovery count. If a value other than the system default (*SYSDFT) is specified, the system default journal recovery count will no longer be in effect for this journal.

**Note:** The operating system is shipped with a system default journal recovery count of 250,000. If there is a need to change the system default journal recovery count for all newly created journals and all existing journals that have the system default (*SYSDFT) specified for their journal recovery count, please refer to the Change Journal Recovery Count (QJOCHRVC) API in the APIs topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Note:** Values *SYSDFT and 10000-2000000000 are only valid when JRNRCV(*SAME) is specified.

**\*SAME**

      The value does not change.

**\*SYSDFT**

      The value is set to the system default journal recovery count.

*10000-2000000000*

      Specifies the number of journal entries that may need to be recovered from this journal during an abnormal IPL or vary on.

# Text 'description' (TEXT)

Specifies the text that briefly describes the journal.

**\*SAME**

      The text does not change.

**\*BLANK**

      The text is replaced by blanks.

*'description'*

      Specify no more than 50 characters of text, enclosed in apostrophes. The variable specified becomes the new text associated with this journal.

# Examples

### Example 1: Detaching Journal Receiver and Resetting Sequence Numbers

```
CHGJRN   JRN(JRNLA)  JRNRCV(RCV10)  SEQOPT(*RESET)
```

This command detaches the journal receiver currently attached to journal JRNLA (JRNLA is found by using the library search list *LIBL). Journal receiver RCV10 (found using the library search list *LIBL) is attached to journal JRNLA. Because SEQOPT(*RESET) is specified, the first journal entry in journal receiver RCV10 has a sequence number of one.

### Example 2: Creating and Attaching a New Journal Receiver

```
CHGJRN   JRN(JRNLA)  JRNRCV(*GEN) THRESHOLD(1500000)
```

This command detaches the journal receiver currently attached to journal JRNLA. A new journal receiver is created and attached to journal JRNLA. The library, owner, authority, and auditing level of the new journal receiver is the same as that of the detached receiver. The name of the new receiver depends on the name of the detached receiver. (For example, if the receiver is named RCVJRNA, the new receiver is named RCVJRN0001. If the receiver is named RCVJRN0001, the new receiver is named RCVJRN0002.) The first journal entry in the new journal receiver has a sequence number one greater than the last sequence number in the detached receiver. The new receiver will have a receiver size threshold of approximately 1500000 kilobytes.

### Example 3: Changing to Use System Receiver Management

```
CHGJRN   JRN(LIBY/JRN) JRNRCV(LIBX/RCV0001)
         MNGRCV(*SYSTEM) DLTRCV(*YES)
         RCVSIZOPT(*MAXOPT2) MNGRCVDLY(10) DLTRCVDLY(30)
```

This command detaches the journal receiver currently attached to journal JRN. The user previously created the journal receiver RCV0001 in library LIBX. This specified journal receiver is attached to the journal JRN. This new journal receiver will have a maximum size of approximately one terabyte. It will allow the sequence number to reach 9,999,999,999 and the maximum size of a journal entry that can be deposited in the journal receiver is 4,000,000,000 bytes. The first journal entry in the new journal receiver has a sequence number one greater than the last sequence number in the detached receiver. From this point on the system will manage attaching and detaching journal receivers. If the system cannot allocate an object during this process, it will wait 10 minutes and try again. From this point on, the system will also manage deleting the detached receivers. If the system cannot allocate an object while trying to delete the journal receiver it will wait 30 minutes and try again.

### Example 4: Changing to Allow a Larger Object Limit

```
CHGJRN   JRN(QGPL/DBJRN) JRNRCV(*GEN)
         JRNOBJLMT(*MAX10M)
```

This command changes the journal DBJRN in library QGPL to allow up to 10,000,000 objects to be journaled to it. A new receiver is attached to the journal. The first entry in the new journal receiver has a sequence number one greater than the last sequence number in the detached receiver. After this change, more than 250,000 objects can be journaled to this journal.

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# Error messages

<u>*ESCAPE Messages</u>

**CPF69A9**

   Internal error detected, error code &2.

**CPF70A0**

   FIXLENDTA parameter not allowed.

**CPF70A1**

   FIXLENDTA parameter not allowed with RCVSIZOPT(*MINFIXLEN).

**CPF70A2**

   JRNRCV(*SAME) not allowed.

**CPF70A5**

   RCVSIZOPT value specified not allowed.

**CPF70B4**

   RCVSIZOPT(&1) can not be removed.

**CPF70B5**

   JRNOBJLMT(&1) not allowed.

**CPF70B6**

   Receiver &1 threshold is too small.

**CPF70B8**

   MINENTDTA values specified not allowed.

**CPF70C9**

   State of journal &1 in &2 not changed.

**CPF70CF**

   Cannot inactivate remote journal with given parameters.

**CPF70DB**

   Remote journal environment ended for journal &1 in library &2.

**CPF70DD**

   Cannot attach dual receivers to journal &1.

**CPF70DE**

   State of journal &1 in &2 not changed.

**CPF70DF**

   Cannot change attribute for a remote journal.

**CPF70D1**

   Cannot activate remote journal through CHGJRN command.

**CPF70D2**

   Cannot detach journal receiver &3.

**CPF70D9**

   Changing journal state not allowed. Reason code &3.

**CPF70E0**

   Operation on &1 not allowed.

**CPF70E2**

   DLTRCV(*YES) not allowed.

**CPF70E3**

Only attached receivers allowed in receiver directory

**CPF70E4**

MNGRCV(*SYSTEM) not allowed.

**CPF70E5**

RCVSIZOPT values specified not allowed.

**CPF70E7**

MINENTDTA value not allowed with JRNRCV(*SAME).

**CPF70F1**

Journal receiver threshold too big for journal.

**CPF70F5**

Receiver threshold value is not valid.

**CPF70F6**

RCVSIZOPT value specified not allowed.

**CPF70F8**

RCVSIZOPT, FIXLENDTA, and JRNOBJLMT value not allowed with JRNRCV(*SAME).

**CPF7003**

Entry not journaled to journal &1. Reason code &3.

**CPF7004**

Maximum number of objects journaled to journal &1.

**CPF701A**

Journal receiver not eligible for operation.

**CPF701B**

Journal recovery of an interrupted operation failed.

**CPF7011**

Not enough storage or resources.

**CPF7013**

Journal receiver not created.

**CPF7015**

Error on JRNRCV specifications.

**CPF7017**

Library QTEMP not valid for message queue parameter.

**CPF7018**

Resetting sequence number not allowed. Reason code &3.

**CPF704E**

RCVSIZOPT(*MINFIXLEN) not allowed.

**CPF708D**

Journal receiver found logically damaged.

**CPF708E**

Journal receiver not allowed with *MAXOPT1 or *MAXOPT2 or *MAXOPT3.

**CPF708F**

Cannot place a remote journal in standby.

**CPF709F**

Start of journal caching not allowed. Reason code &3.

**CPF9801**

Object &2 in library &3 not found.

**CPF9802**

Not authorized to object &2 in &3.

**CPF9803**

Cannot allocate object &2 in library &3.

**CPF9804**

Object &2 in library &3 damaged.

**CPF9806**

Cannot perform function for object &2 in library &3.

**CPF9810**

Library &1 not found.

**CPF9820**

Not authorized to use library &1.

**CPF9825**

Not authorized to device &1.

**CPF9830**

Cannot assign library &1.

**CPF9873**

ASP status is preventing access to object.

**CPF9875**

Resources exceeded on ASP &1.

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# Change Journal Attributes (CHGJRNA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change Journal Attributes (CHGJRNA) command is used to change system wide attributes for all journal environments on the system.

When a system wide journal attribute is changed, the changed attribute will go into effect immediately for all applicable journal environments on the system. Not every journal environment will be affected by a change to a system wide journal attribute. For example, if caching is not enabled for a local journal then the cache wait time will have no affect on that journal environment. Also, if the journal recovery count for a local journal is not set to *SYSDFT then the system wide journal recovery count will have no effect on that journal environment.

**Restrictions:**

- You must have job control (*JOBCTL) special authority to change the JRNRCYCNT or CACHEWAIT parameters.
- This command is shipped with public *EXCLUDE authority, and the QPGMR and QSYSOPR user profiles have private authorities to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| JRNRCYCNT | Journal recovery count | 10000-2000000000, **\*SAME**, *SYSDFT | Optional |
| CACHEWAIT | Cache wait time | 1-600, **\*SAME**, *SYSDFT | Optional |

## Journal recovery count (JRNRCYCNT)

Specifies the system default journal recovery count. The journal recovery count allows you to choose between faster runtime processing of changes to journaled objects and faster IPL or vary on recovery after an abnormal shutdown. The value specified influences the frequency with which journaled objects are forced to auxiliary storage as those objects are changed. The specified journal recovery count indicates the approximate number of journaled changes that would need to be recovered during journal synchronization for this journal in the event of an IPL or vary on after an abnormal shutdown. Specifying a smaller value decreases the number of changes that would need to be recovered from this journal by increasing the frequency with which changed objects are forced to disk. Specifying a larger value increases the runtime processing of changes to journaled objects by decreasing the frequency with which changed objects are forced to disk. Changing this value may affect overall system performance as it affects the utilization of auxiliary storage devices.

**Note:** This parameter changes the system default journal recovery count for all newly created journals on the system and all existing journals that have the system default (*SYSDFT) specified for their journal

recovery count. To set the journal recovery count of a specific journal to a value other than the system default, please refer to the Journal recovery count (JRNRCYCNT) parameter on the Change Journal (CHGJRN) command.

**\*SAME**
> This value does not change.

**\*SYSDFT**
> The system wide journal recovery count is set to the default value of 250,000.

***10000-2000000000***
> Specify the system wide journal recovery count.

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# Cache wait time (CACHEWAIT)

Specifies the cache wait time for journal environments with caching enabled. The cache wait time is the maximum number of seconds that the system will wait before writing any lingering journal entries from main memory to disk.

When a journal environment has journal caching enabled, the system stores journal entries in main memory until the sum of all the journal entries equals the maximum amount of data that can be written in one disk write. Then all the journal entries are written to disk together. This allows for optimum journal performance when the journal is busy. However, if the journal is not busy, the system will wait for the entries in main memory to accumulate until they equal the maximum size of one disk write. This parameter guarantees that the system will wait no longer than specified number of seconds before writing any lingering journal entries in main memory to disk.

**Note:** This parameter only applies to journals that have caching enabled. To enable or disable journal caching, please refer to the Journal caching (JRNCACHE) parameter on the Create Journal (CRTJRN) or Change Journal (CHGJRN) command.

**\*SAME**
> This value does not change.

**\*SYSDFT**
> The cache wait time is set to the system default of 30 seconds.

***1-600***   Specify the cache wait time in seconds.

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# Examples

**Example 1: Changing the System Wide Journal Recovery Count**

```
CHGJRNA     JRNRCYCNT(500000)
```

This command changes the system wide journal recovery count to 500,000.

**Example 2: Changing the System Wide Cache Wait Time**

```
CHGJRNA     CACHEWAIT(60)
```

This command changes the system wide cache wait time to 60 seconds.

# Error messages

**\*ESCAPE Messages**

**CPF90FF**

> *JOBCTL special authority required to do requested operation.

# Change Journaled Object (CHGJRNOBJ)

The Change Journaled Object (CHGJRNOBJ) command changes the journaling attributes of a journaled object without the need to end and restart journaling for the object.

The command can be used to change the **Images (IMAGES)** value for a database file (*FILE) or a data area (*DTAARA) object without the need to end and restart journaling for the object. Otherwise the Start Journal Physical File (STRJRNPF) command can be used to set this value for database files. The Start Journal (STRJRN) command or the Start Journal Object (STRJRNOBJ) command can be used to set this value for data areas.

The command can be used to change the **Omit journal entry (OMTJRNE)** value for a database file (*FILE), an integrated file system stream file (*STMF) or directory (*DIR) object without the need to end and restart journaling for the object. Otherwise the Start Journal Physical File (STRJRNPF) command can be used to set this value for database files. The Start Journal (STRJRN) command can be used to set this value for integrated file system objects.

The command can be used to change the **New objects inherit journaling (INHERIT)** value for an integrated file system directory (*DIR) object without the need to end and restart journaling for the object. Otherwise the Start Journal (STRJRN) command can be used to set this value for integrated file system objects.

The command can also be used to allow a database file (*FILE), that contains changes for partial transactions, to be used. Partial transactions can only exist for an object that can be changed under commitment control. Database file objects (*FILE) are the only objects that can be opened using commitment control.

Partial transactions can exist for two reasons:

1. The most common reason that an object may have partial transactions is that the object was saved while it was in the middle of a transaction and this saved version has been restored. In this case, the preferred method to complete all partial transactions is to use the Apply Journaled Changes (APYJRNCHG) command or Remove Journaled Changes (RMVJRNCHG) command. If the journal receivers needed for APYJRNCHG or RMVJRNCHG are not available, then as a last resort, the **Partial transactions (PTLTNS)** parameter can be used to allow the database file to be opened and used, without completing the transactions.

2. The other reason that partial transactions may exist is that the object was involved in a long running rollback operation that was interrupted. In this case, APYJRNCHG and RMVJRNCHG cannot be used to complete the partial transactions. If there is no saved version of the file to restore, then as a last resort, the **Partial transactions (PTLTNS)** parameter can be used to allow the file to be opened and used, without completing the transaction.

The command can be used to change the **Inherit rules (INHRULES)** value for a library (*LIB) without the need to end and restart journaling for the library. Otherwise the Start Journal Library (STRJRNLIB) command can be used to set this value for libraries. Use the Display Library Description (DSPLIBD) command to see the current inherit rules of a library.

If a change does not apply to an object type, the objects of that type are ignored and processing continues with the next object. Also, if the object already has the correct value for the attribute being changed no error will be returned.

**Restrictions:**

- Only one journaling attribute can be changed at a time.
- Changing the IMAGES, OMTJRNE, INHERIT, or INHRULES parameters can only be done if the object specified is currently being journaled.
- All object (*ALLOBJ) special authority is required if PTLTNS(*ALWUSE) is specified.
- Lock Processing

  The object being modified is locked with a read exclusive lock (*EXCLRD).

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| OBJ | Objects | Values (up to 300 repetitions): *Element list* | Optional |
| | Element 1: Object | *Qualified object name* | |
| | Qualifier 1: Object | *Generic name, name*, *ALL | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| | Element 2: Object type | *FILE, *DTAARA, *LIB | |
| OBJPATH | Objects | Values (up to 300 repetitions): *Element list* | Optional |
| | Element 1: Name | *Path name* | |
| | Element 2: Include or omit | **\*INCLUDE**, *OMIT | |
| OBJFID | File identifier | Values (up to 300 repetitions): *Hexadecimal value* | Optional |
| SUBTREE | Directory subtree | **\*NONE**, *ALL | Optional |
| PATTERN | Name pattern | Values (up to 20 repetitions): *Element list* | Optional |
| | Element 1: Pattern | *Character value*, **\*** | |
| | Element 2: Include or omit | **\*INCLUDE**, *OMIT | |
| ATR | Attribute | *IMAGES, *OMTJRNE, *INHERIT, *PTLTNS, *INHRULES | Optional |
| IMAGES | Images | **\*SAME**, *AFTER, *BOTH | Optional |
| OMTJRNE | Omit journal entry | **\*SAME**, *NONE, *OPNCLOSYN | Optional |
| INHERIT | New objects inherit journaling | **\*SAME**, *NO, *YES | Optional |
| PTLTNS | Partial transactions | **\*SAME**, *ALWUSE | Optional |
| INHRULES | Inherit rules | Single values: **\*SAME** <br> Other values (up to 20 repetitions): *Element list* | Optional |
| | Element 1: Object type | **\*ALL**, *FILE, *DTAARA, *DTAQ | |
| | Element 2: Operation | **\*ALLOPR**, *CREATE, *MOVE, *RESTORE, *RSTOVRJRN | |
| | Element 3: Rule action | **\*INCLUDE**, *OMIT | |
| | Element 4: Images | **\*OBJDFT**, *AFTER, *BOTH | |
| | Element 5: Omit journal entry | **\*OBJDFT**, *NONE, *OPNCLO | |

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# Objects (OBJ)

Specifies an object or list of objects for which their journaling attributes are to be changed.

**Element 1: Object**

**Qualifier 1: Object**

**\*ALL**    All objects in the specified library of the specified type who are currently being journaled have their journaling attributes changed. The library name must be specified. If \*ALL is specified and the user does not have the required authority for all objects in the library, a message is sent and the processing continues with the next object. \*ALL is not allowed when \*LIBL is specified for the library name.

*generic-name*
   Specify the generic name of the object for which changes are to be journaled. A generic name is a character string that contains one or more characters followed by an asterisk (\*). If a generic name is specified, all objects of the specified object type that have names with the same prefix as the generic name will have their changes journaled. A generic name is not allowed when \*LIBL is specified for the library name.

*name*    Specify the name of the object that is to have its journaling attributes changed.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
   The current library for the job is searched. If no library is specified as the current library for the job, QGPL is used.

*library-name*
   Specify the name of the library to be searched.

**Element 2: Object type**

Specify the object type of the object that is to have its journaling attributes changed.

**\*DTAARA**
   Journaling attributes for data areas are changed.

**\*FILE**    Journaling attributes for database file members are changed.

**\*LIB**    Journaling attributes for libraries are changed.

# Objects (OBJPATH)

Specifies a maximum of 300 objects for which journaling attributes are to be changed. Only objects whose path name identifies an object of type \*STMF, \*DIR, or \*SYMLNK that is in the "root" (/), QOpenSys, or user-defined file systems, or objects of type \*FILE, \*DTAARA, or \*LIB are supported. Objects found that match the specified selection criteria but are not currently being journaled are ignored.

**Element 1: Name**

*path-name*
   Specify the name of the object that is to have its journaling attributes changed.

   Symbolic links within the path name will not be followed.

Additional information about path name patterns is in the Integrated file system topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/ i/infocenter/ for additional information.

**Element 2: Include or omit**

The second element specifies whether names that match the path name or a pattern should be included or omitted from the operation. Note that in determining whether a name matches a pattern, relative name patterns are always treated as relative to the current working directory.

**\*INCLUDE**
> The objects that match the object name pattern are to be included in the list of objects for which journaling attributes are to be changed, unless overridden by an *OMIT specification.

**\*OMIT**
> The objects that match the object name pattern are not to be included in the list of objects for which journaling attributes are to be changed. This overrides an *INCLUDE specification and is intended to be used to omit a subset of a previously selected pattern.

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# File identifier (OBJFID)

Specifies a maximum of 300 file identifiers (FIDs) for which journaling attributes are to be changed. FIDs are a unique identifier associated with integrated file system related objects. This field is input in hexadecimal format. Only objects whose FID identifies an object of type *STMF, *DIR, or *SYMLNK that is in the "root" (/), QOpenSys, or user-defined file systems, or objects of type *DTAARA, *FILE, or *LIB are supported.

*file-identifier*
> Objects identified with the FID have their attributes changed.

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# Directory subtree (SUBTREE)

Specifies whether the directory subtrees are included in determining the objects for which journaling attributes are to be changed.

**Note:** This parameter is only valid if one or more path names were specified on the **Objects (OBJPATH)** parameter.

**\*NONE**
> Only the objects that match the selection criteria are processed. The objects within selected directories are not implicitly processed.

**\*ALL**   All objects that meet the selection criteria are processed in addition to the entire subtree of each directory that matches the selection criteria. The subtree includes all subdirectories and the objects within those subdirectories.

> Once the command has begun processing a specific directory subtree, the objects which will be found and processed may be affected by operations that update the organization of objects within the specified directory tree. This includes, but is not limited to, the following:
> * Adding, removing, or renaming object links
> * Mounting or unmounting file systems

- Updating the effective root directory for the process calling the command
- Updating the contents of a symbolic link

In order to process the directory subtree, the system code may increase the process-scoped maximum number of file descriptors that can be opened during processing. This is done so that the command is not likely to fail due to a lack of descriptors. This process-scoped maximum value is not reset when the command completes.

## Name pattern (PATTERN)

Specifies a maximum of 20 patterns to be used to include or omit objects for which journaling attributes are to be changed.

**Note:** This parameter is only valid if one or more path names were specified on the **Objects (OBJPATH)** parameter.

**Note:** This parameter applies to objects that exist when the change journal object command is processed. This parameter does not apply to objects that will be created later in a journaled directory where new objects inherit journaling.

**Element 1: Pattern**

'*'    All objects that match the OBJPATH parameter are to be included.

*name-pattern*
>    Specify the pattern to be used to include or omit objects for which journaling attributes will be changed. Only the last part of the path name will be considered for the name pattern match. Path name delimiters are not allowed in the name pattern.

Additional information about path name patterns is in the Integrated file system topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/ for additional information.

**Element 2: Include or omit**

The second element specifies whether names that match the pattern should be included or omitted from the operation. Note that in determining whether a name matches a pattern, relative name patterns are always treated as relative to the current working directory.

**\*INCLUDE**
>    The objects that match the object name pattern are included in the operation, unless overridden by an \*OMIT specification.

**\*OMIT**
>    The objects that match the object name pattern are not to be included in the operation. This overrides an \*INCLUDE specification and is intended to be used to omit a subset of a previously selected pattern.

# Attribute (ATR)

Specifies which attribute will be selected to be changed.

**\*IMAGES**

> The attribute controlled by the **Images (IMAGES)** parameter is to be changed.

**\*OMTJRNE**

> The attribute controlled by the **Omit journal entry (OMTJRNE)** parameter is to be changed.

**\*INHERIT**

> The attribute controlled by the **New objects inherit journaling (INHERIT)** parameter is to be changed.

**\*PTLTNS**

> The attribute controlled by the **Partial transactions (PTLTNS)** parameter is to be changed.

**\*INHRULES**

> The attribute controlled by the **Inherit rules (INHRULES)** parameter is to be changed.

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# Images (IMAGES)

Specifies the kinds of images that are written to the journal receiver for changes to objects.

**\*SAME**

> This value does not change.

**\*AFTER**

> Only *after* images are generated for changes to objects.

**\*BOTH**

> The system generates both *before* and *after* images for changes to objects.

> **Note:** The value \*BOTH is ignored for all object types except data area (\*DTAARA) and database file (\*FILE) objects.

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# Omit journal entry (OMTJRNE)

Specifies the journal entries that are omitted.

**\*SAME**

> This value does not change.

**\*NONE**

> No entries are omitted.

**\*OPNCLOSYN**

> Open and close entries are omitted for \*FILE objects. Open, close and force entries are omitted for \*DIR and \*STMF objects. Open, close and force operations on the specified objects do not generate open, close and force journal entries. This prevents the use of TOJOBO and TOJOBC entries on the Apply Journaled Changes (APYJRNCHG) command, but it saves some storage space in the journal receivers.

> **Note:** The value \*OPNCLOSYN is ignored for all object types except \*FILE, \*DIR and \*STMF objects.

> **Note:** The value \*OPNCLOSYN is the same as OMTJRNE(\*OPNCLO) on the Start Journal Physical File (STRJRNPF) command for \*FILE objects.

# New objects inherit journaling (INHERIT)

Specifies whether new objects created within a journaled directory, moved into a journaled directory, or restored into a journaled directory should inherit the journal state of the parent directory.

**Note:** The INHERIT parameter is ignored for all object types except *DIR objects.

**\*SAME**
>  This value does not change.

**\*NO**   New objects created within the directory, objects moved into the directory, and objects restored into the directory will not inherit the journal state of the parent directory.

**\*YES**   New objects created within the directory, objects moved into the directory, and objects restored into the directory will inherit the journal state of the parent directory.

# Partial transactions (PTLTNS)

Specifies whether an object that contains changes for partial transactions can be used or not.

**Note:** The PTLTNS parameter is ignored for all object types except *FILE objects.

**\*SAME**
>  This value does not change.

**\*ALWUSE**
>  The object that contains changes for partial transactions is changed to allow it to be used but the partial transactions are not themselves completed. Any changes to the object that are pending because of the partial transactions will remain in the object.
>
>  **Note:** All object (*ALLOBJ) special authority is required if *ALWUSE is specified.

# Inherit rules (INHRULES)

Specifies which objects created within a journaled library, moved into a journaled library, or restored into a journaled library should inherit the journal state of the library and which journaling attributes those objects should have.

Each rule defines object types and operations that the rule applies to. Multiple rules can be defined for the same set of objects. If multiple rules are defined for the same object and operation, the last rule defined for that object will be applied.

**Note:** If a data area named QDFTJRN exists within the library, no objects created, moved, or restored into the library will inherit the journal state of the library. Objects created, moved, and restored into the library will automatically start journaling based on the data area information.

**Single values**

**\*SAME**
>  The value does not change.

**Element 1: Object type**

Specify the object type of the objects that are identified by this rule.

**\*ALL**   This rule applies to all object types that can be journaled.

**\*DTAARA**
> This rule applies to data areas.

**\*DTAQ**
> This rule applies to data queues.

**\*FILE**   This rule applies to database physical files.

**Element 2: Operation**

Specifies the operation or operations identified by this rule.

**\*ALLOPR**
> This rule applies to all objects created in, moved into, or restored into the library. This is a combination of the values *CREATE, *MOVE, and *RESTORE. See their descriptions for further information.

**\*CREATE**
> This rule applies to all objects created in the library.

**\*MOVE**
> This rule applies to all objects moved into the library, if they are not already journaled.

**\*RESTORE**
> This rule applies to all objects restored into the library. If an object is restored over a currently existing object, the restored object will retain the same journal state and journaling attributes of the object it was restored over. If an object was never journaled when it was saved, journaling is started for the object when it is restored into the library. Otherwise, if an object was journaled when it was saved, it will first attempt to start journaling to the journal it was journaled to when it was saved, with the same journaling attributes it had when it was saved. If that journal does not exist, the object will start journaling to the same journal the library is journaled to, with the journaling attributes defined by this rule. A rule with *RESTORE specified will override any previous rule for the same object type with *RSTOVRJRN specified.
>
> If the accompanying rule action is set to *OMIT and the object is not restored over an existing object, the restored object will retain the same journal state and journaling attributes as it had when it was saved. The journal state of the library is ignored.

**\*RSTOVRJRN**
> This rule applies to all objects restored into the library. If an object is restored over a currently existing object, the restored object will retain the same journal state and journaling attributes of the object it was restored over. Otherwise, the object will start journaling to the same journal the library is journaled to, with the journaling attributes defined by this rule. A rule with *RSTOVRJRN specified will override any previous rule for the same object type with *RESTORE specified.
>
> If the accompanying rule action is set to *OMIT and the object is not restored over an existing object, the restored object will retain the same journal state and journaling attributes as it had when it was saved. The journal state of the library is ignored.

**Element 3: Rule action**

Specifies whether or not the objects that match object type and operation in this rule will be included or omitted from the list of objects that inherit the journal state of the library.

**\*INCLUDE**

All objects that match the object type and operation will inherit the journal state of the library, and will use the journaling attributes defined by this rule.

**\*OMIT**

All objects that match object type and operation will not inherit the journal state of the library. This overrides an \*INCLUDE specification and is intended to be used to omit a subset of a previously defined rule.

### Element 4: Images

Specifies the kinds of images that are written to the journal receiver for changes to objects for objects that inherit the journal state of the library.

**Note:** This element is ignored if \*OMIT is specified for Rule action.

**\*OBJDFT**

The default value for each object type will be used for this journaling attribute when an object inherits the journal state of the library. Database files (\*FILE) will have both *before* and *after* images generated by the system (\*BOTH). All other object types will have only *after* images generated by the system (\*AFTER).

**\*AFTER**

Only *after* images are generated for objects that inherit the journal state of the library.

**\*BOTH**

Both *before* and *after* images are generated for objects that inherit the journal state of the library.

**Note:** The value \*BOTH is only valid for data area (\*DTAARA) and database file (\*FILE) objects. If \*BOTH is specified and \*ALL is specified for Object type, the system will generate both *before* and *after* images for data areas and database files. All other object types will only generate *after* images.

### Element 5: Omit journal entry

Specifies the journal entries that are omitted for objects that inherit the journal state of the library.

**Note:** This element is ignored if \*OMIT is specified for Rule action.

**\*OBJDFT**

The default value for each object type will be used for this journaling attribute when an object inherits the journal state of the library. Database files (\*FILE) will omit open and close entries. No other object types will omit journal entries.

**\*NONE**

No journal entries will be omitted for objects that inherit the journal state of the library.

**\*OPNCLO**

Open and close entries are omitted for database file (\*FILE) objects that inherit the journal state of the library. This prevents the use of TOJOBO and TOJOBC entries on the Apply Journaled Changes (APYJRNCHG) command, but it saves some storage space in the journal receivers.

**Note:** The value \*OPNCLO is only valid for database files (\*FILE). If \*OPNCLO is specified and \*ALL is specified for Object type, database files will omit open and close entries. All other object types will not omit any journal entries.

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# Examples

### Example 1: Change File Journaling Attribute IMAGES

```
CHGJRNOBJ   OBJ((LIBA/FILEA *FILE))  ATR(*IMAGES) IMAGES(*BOTH)
```

This command will change the attribute of file FILEA in library LIBA to now journal both before and after images for the file without having to end journaling and start journaling of the file.

### Example 2: Change File Journaling Attribute OMTJRNE

```
CHGJRNOBJ   OBJ((LIBB/FILEB *FILE))  ATR(*OMTJRNE) OMTJRNE(*OPNCLOSYN)
```

This command will change the attribute of file FILEB in library LIBB to now omit open and close entries.

### Example 3: Change Object Journaling Attribute OMTJRNE

```
CHGJRNOBJ   OBJFID(00000000000000007E09BDB000000009)
            ATR(*OMTJRNE) OMTJRNE(*OPNCLOSYN)
```

This command will change the attribute of the object represented by the specified file identifier to now omit open, close and force entries. This object can be an object of type *DIR or *STMF.

### Example 4: Change File Attribute PTLTNS

```
CHGJRNOBJ   OBJ((LIBC/FILEC *FILE))  ATR(*PTLTNS) PTLTNS(*ALWUSE)
```

This command will change the file so that it can be used again, however the partial transactions are not themselves completed. This method should only be used in rare circumstances when the file could not be recovered by applying or removing the journaled changes.

### Example 5: Change Library Journaling Attribute INHRULES

```
CHGJRNOBJ   OBJ((LIBD *LIB))  ATR(*INHRULES)
            INHRULES((*FILE *CREATE *INCLUDE *BOTH *NONE))
```

This command will change the inherit rules of the library so that all database files created in library LIBD automatically start journaling to the same journal as LIBD is journaled to. The files will be journaled with IMAGES(*BOTH) and OMTJRNE(*NONE).

# Error messages

### *ESCAPE Messages

**CPF7057**
> *LIBL not allowed with *ALL or *ALLLIB or a generic name.

**CPF70B1**
> &1 of &2 objects changed.

**CPF70B2**

&2 may not be specified with ATR(*&1).

**CPF70B3**

Not authorized to use the PTLTNS parameter.

# Change Java Program (CHGJVAPGM)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Java Program (CHGJVAPGM) command changes attributes of Java programs(s) which are attached to Java class, ZIP, or JAR files. The command also recreates Java programs so that they are up to date with the current level of the operating system.

The CHGJVAPGM replaces existing Java programs only. Because of implicit creation of Java programs during run time, it is possible that only some classes in a ZIP or JAR file are represented in Java programs. This command will only change programs that already exist. The CRTJVAPGM command can be used to create programs for all classes in a ZIP or JAR file.

**Restrictions:** The file must be in one of the following file systems: QOpenSys, "root", or a user-defined file system.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **CLSF** | Class file or JAR file | *Path name* | Required, Positional 1 |
| **OPTIMIZE** | Optimization | 10, *INTERPRET, 20, 30, 40, **\*SAME** | Optional |
| **ENBPFRCOL** | Enable performance collection | *NONE, *ENTRYEXIT, *FULL, **\*SAME** | Optional |
| **PRFDTA** | Profiling data | **\*SAME**, *NOCOL, *COL, *CLR, *APY | Optional |
| **MERGE** | Merge | *YES, **\*RPL** | Optional |
| **SUBTREE** | Directory subtree | **\*NONE**, *ALL | Optional |
| **LICOPT** | Licensed Internal Code options | *Character value*, *OPTIMIZE, **\*SAME** | Optional |

## Class file or JAR file (CLSF)

Specifies the class file, JAR file, or ZIP file name from which to change the Java program. The file name may be qualified by one or more directory names.

*class-file-name*

   Specify the name of the class file or a pattern for identifying the class file or files to be used. A pattern can be specified in the last part of the name. An asterisk matches any number of characters and a question mark matches a single character. If the name is qualified or contains a pattern it must be enclosed in apostrophes. An example of a qualified class file name is '/directory1/directory2/myclassname.class'. An example of a pattern is '/directory1/directory2/myclass*.class'.

*JAR-file-name*

   Specify the name of the Java archive (JAR) file or pattern for identifying the JAR or ZIP file or

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files to be used. A file is assumed to be a JAR file if the file name ends with '.jar' or '.zip'. A pattern can be specified in the last part of the name. An asterisk matches any number of characters and a question mark matches a single character. If the name is qualified or contains a pattern it must be enclosed in apostrophes. An example of a qualified JAR file name is '/directory1/directory2/myappname.jar'. An example of a pattern is '/directory1/directory2/myapp*.zip'.

## Optimization (OPTIMIZE)

Specifies the optimization level of the Java program.

As of Version 6 Release 1 Modification 0 of the operating system, the value of this parameter is ignored and OPTIMIZE(*INTERPRET) is used.

In V6R1M0 and following releases, Java programs do not contain machine instructions. Java programs contain a pre-verified internal form of one or more Java classes. At runtime, a Java program is either interpreted from the bytecodes or else run with the Just In Time compiler (JIT).

For Java programs created for a target release prior to V6R1M0, the OPTIMIZE parameter may be used to change the encapsulated optimization level of the Java program. The encapsulated value of the OPTIMIZE parameter is used during Java program retranslation on the target release of the operating system.

**\*SAME**
> The program optimization attribute does not change.

**10**     The Java program contains a compiled version of the class bytecodes but has only minimal additional compiler optimization. Variables can be displayed and modified while debugging.

**\*INTERPRET**
> The Java program created does not contain machine specific instructions. The Java program is interpreted from the bytecodes or run with the JIT compiler when it is started. Variables can be displayed and modified while debugging.

**20**     The Java program contains a compiled version of the class bytecodes and has some additional compiler optimization. Variables can be displayed but not modified while debugging.

**30**     The Java program contains a compiled version of the class bytecodes and has more compiler optimization than optimization level 20. During a debug session, user variables cannot be changed, but can be displayed. The presented values may not be the current values of the variables.

**40**     The Java program contains a compiled version of the class bytecodes and has more compiler optimization than optimization level 30. All call and instruction tracing is disabled.

## Enable performance collection (ENBPFRCOL)

Specifies whether collection of performance data is enabled.

For Java programs created for target release V6R1M0 and later, the value is ignored and ENDPFRCOL(*NONE) is used.

For Java programs created for a target release prior to V6R1M0, the following values may be specified, but values *ENTRYEXIT and *FULL will not be effective until the Java program is retranslated on the target release of the operating system.

**\*SAME**
>The performance data collection attribute does not change.

**\*NONE**
>The collection of performance data is not enabled. No performance data is to be collected.

**\*ENTRYEXIT**
>Performance data is collected for procedure entry and exit.

**\*FULL** Performance data is collected for procedure entry and exit. Performance data is also collected before and after calls to external procedures.

## Profiling data (PRFDTA)

The PRFDTA parameter is outdated. The parameter value is ignored and PRFDTA(*NOCOL) is used.

**\*SAME**
>*SAME is only provided for compatibility with previous versions of the operating system. It is ignored and *NOCOL is used.

**\*NOCOL**
>The Java program is not enabled to collect profiling data.

**\*COL** *COL is only provided for compatibility with previous versions of the operating system. It is ignored and *NOCOL is used.

**\*CLR** *CLR is only provided for compatibility with previous versions of the operating system. It is ignored and *NOCOL is used.

**\*APY** *APY is only provided for compatibility with previous versions of the operating system. It is ignored and *NOCOL is used.

## Merge (MERGE)

Specifies whether the Java programs attached to a Java archive (JAR) file are to be merged into the minimum number of Java programs possible. This parameter is ignored if processing a Java class file.

**\*RPL** Specifies that Java programs attached to the JAR file will be merged only if the Java programs need to be recreated and replaced because other attributes are being changed. If no attributes are changed, and no Java programs need to be recreated and replaced, no merging of Java programs will occur.

**\*YES** Merge all Java programs attached to a JAR file into the minimum number of Java programs possible.

## Directory subtree (SUBTREE)

Specifies whether directory subtrees are processed when looking for files that match the CLSF keyword.

**\*NONE**

Only the files that match the object name pattern will be processed. No subtrees are processed. If the directory has subdirectories, neither the subdirectories nor the objects in the subdirectories are processed.

**\*ALL** The entire subtree of the path specified in CLSF is processed to change java programs for files matching the name specified on CLSF parameter.

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## Licensed Internal Code options (LICOPT)

Specifies one or more Licensed Internal Code compile-time options. This parameter allows individual compile-time options to be selected, and is intended for the advanced programmer who understands the potential benefits and drawbacks of each selected type of compiler option.

Valid values are:

**\*SAME**

If recreation is not required, the licensed internal code options do not change. If other parameter values force the object to be recreated, the existing licensed internal code options will be used as input to the recreation. Depending on other parameter values and conditions, not all of the input LICOPT values might take effect.

**\*OPTIMIZE**

Use the set of compile-time options which are implicitly associated with the optimization level specified on the OPTIMIZE parameter. If OPTIMIZE(*INTERPRET) is specified, no compile-time optimizations will be performed.

*'Licensed-Internal-Code-options-string'*

The selected Licensed Internal Code compile-time options are used when creating the Java program object. Certain options may reduce your ability to debug the created Java program.

**Note:** Additional information about the LICOPT options can be found in the IBM Developer Kit for Java topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

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## Examples

**Example 1: Recreate a Java Program**

```
CHGJVAPGM   CLSF('/projectA/myJavaclassname.class')
            OPTIMIZE(*INTERPRET)
```

This command will recreate the Java program associated with the class file myJavaclassname so that the Java program matches the current level of the operating system.

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## Error messages

**\*ESCAPE Messages**

**JVAB524**

&1 Java programs created, &4 with errors. &2 Java programs were current. &3 Java programs not created

**JVAB532**

Unable to create Java program for ″&1″.

**JVAB535**

Unmonitored exception received.

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# Change Keyboard Map (CHGKBDMAP)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Keyboard Map (CHGKBDMAP) command allows the user to change the PA (Program Attention) and PF (Program Function) key assignment defaults. This command changes the specified F-to-PF map to the device on which the command was entered (if it is a 3270 work station device), or to the 3270 work station specified if the user has authority to that device. More information on user-assignable keyboard mapping is in Remote Work Station Support book, SC41-5402 book.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **DEV** | Device | *Name*, ***REQUESTER*** | Optional, Positional 1 |
| **PF1** | PF1 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, ***SAME*** | Optional |
| **PF2** | PF2 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, ***SAME*** | Optional |
| **PF3** | PF3 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, ***SAME*** | Optional |
| **PF4** | PF4 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, ***SAME*** | Optional |
| **PF5** | PF5 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, ***SAME*** | Optional |
| **PF6** | PF6 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, ***SAME*** | Optional |
| **PF7** | PF7 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, ***SAME*** | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| PF8 | PF8 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF9 | PF9 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF10 | PF10 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF11 | PF11 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF12 | PF12 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF13 | PF13 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF14 | PF14 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF15 | PF15 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF16 | PF16 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF17 | PF17 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF18 | PF18 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| PF19 | PF19 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **PF20** | PF20 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PF21** | PF21 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PF22** | PF22 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PF23** | PF23 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PF24** | PF24 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PA1PF1** | PA1-PF1 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PA1PF2** | PA1-PF2 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PA1PF3** | PA1-PF3 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PA1PF4** | PA1-PF4 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PA1PF5** | PA1-PF5 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PA1PF6** | PA1-PF6 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| **PA1PF7** | PA1-PF7 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **PA1PF8** | PA1-PF8 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA1PF9** | PA1-PF9 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA1PF10** | PA1-PF10 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA1PF11** | PA1-PF11 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA1PF12** | PA1-PF12 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA2PF1** | PA2-PF1 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA2PF2** | PA2-PF2 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA2PF3** | PA2-PF3 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA2PF4** | PA2-PF4 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA2PF5** | PA2-PF5 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA2PF6** | PA2-PF6 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |
| **PA2PF7** | PA2-PF7 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **\*SAME** | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| PA2PF8 | PA2-PF8 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| PA2PF9 | PA2-PF9 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| PA2PF10 | PA2-PF10 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| PA2PF11 | PA2-PF11 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |
| PA2PF12 | PA2-PF12 key value | *ATTN, *HELP, *HLP3270, *CLEAR, *PRINT, *DSPATR, *TEST, *DOWN, *UP, *NONE, *RESET, *SYSREQ, *BCKSPC, *F13, *F14, *F15, *F16, *F17, *F18, *F19, *F20, *F21, *F22, *F23, *F24, *F1, *F2, *F3, *F4, *F5, *F6, *F7, *F8, *F9, *F10, *F11, *F12, **<u>*SAME</u>** | Optional |

# Device (DEV)

Specifies a valid 3270 display station that is assigned keyboard changes by using the keyboard mapping command. The user must have allocation authority to the specified device before entering the command. In a program environment, the user should either acquire or allocate the specified device before entering this command.

The possible values are:

**<u>*REQUESTER</u>**
> These PF key changes are assigned to the device on which the command was entered.

*device-name*
> Specify the name of the device to which the new keyboard mapping is to apply. You must have allocation rights to the specified device.

# PF1 key value (PF1)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**

      3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**

      Clear Screen

**\*PRINT**

      Print Screen

**\*DSPATR**

      Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**

      Roll Down

**\*UP**    Roll Up

**\*NONE**

      No Assignment

**\*RESET**

      Error Reset

**\*SYSREQ**

      System Request

**\*BCKSPC**

      Record Backspace

**\*ATTN**

      Attention

**\*F1-\*F24**

      F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PF2 key value (PF2)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
5250 Help

**\*HLP3270**
3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
Clear Screen

**\*PRINT**
Print Screen

**\*DSPATR**
Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
Roll Down

**\*UP**  Roll Up

**\*NONE**
No Assignment

**\*RESET**
Error Reset

**\*SYSREQ**
System Request

**\*BCKSPC**
Record Backspace

**\*ATTN**
Attention

**\*F1-\*F24**
F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PF3 key value (PF3)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
5250 Help

**\*HLP3270**
3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
Clear Screen

**\*PRINT**
Print Screen

**\*DSPATR**
Display Imbedded Attributes

**\*TEST** Test Request

**\*DOWN**
Roll Down

**\*UP** Roll Up

**\*NONE**
No Assignment

**\*RESET**
Error Reset

**\*SYSREQ**
System Request

**\*BCKSPC**
Record Backspace

**\*ATTN**
Attention

**\*F1-\*F24**
F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PF4 key value (PF4)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
5250 Help

**\*HLP3270**
3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
Clear Screen

**\*PRINT**
Print Screen

**\*DSPATR**
Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
Roll Down

**\*UP**  Roll Up

**\*NONE**
No Assignment

**\*RESET**
Error Reset

**\*SYSREQ**
System Request

**\*BCKSPC**
Record Backspace

**\*ATTN**
Attention

**\*F1-\*F24**
F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

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## PF5 key value (PF5)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
    5250 Help

**\*HLP3270**
    3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
    Clear Screen

**\*PRINT**
    Print Screen

**\*DSPATR**
    Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
    Roll Down

**\*UP**    Roll Up

**\*NONE**
    No Assignment

**\*RESET**
    Error Reset

**\*SYSREQ**
    System Request

**\*BCKSPC**
    Record Backspace

**\*ATTN**

> Attention

**\*F1-\*F24**

> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

# PF6 key value (PF6)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**

> 5250 Help

**\*HLP3270**

> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**

> Clear Screen

**\*PRINT**

> Print Screen

**\*DSPATR**

> Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**

> Roll Down

**\*UP**  Roll Up

**\*NONE**

> No Assignment

**\*RESET**
>Error Reset

**\*SYSREQ**
>System Request

**\*BCKSPC**
>Record Backspace

**\*ATTN**
>Attention

**\*F1-\*F24**
>F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

# PF7 key value (PF7)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
>5250 Help

**\*HLP3270**
>3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
>Clear Screen

**\*PRINT**
>Print Screen

**\*DSPATR**
>Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**     Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PF8 key value (PF8)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**  Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

## PF9 key value (PF9)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**  Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

# PF10 key value (PF10)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
   5250 Help

**\*HLP3270**
   3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
   Clear Screen

**\*PRINT**
   Print Screen

**\*DSPATR**
   Display Imbedded Attributes

**\*TEST** Test Request

**\*DOWN**
   Roll Down

**\*UP** Roll Up

**\*NONE**
   No Assignment

**\*RESET**
   Error Reset

**\*SYSREQ**
   System Request

**\*BCKSPC**
   Record Backspace

**\*ATTN**
   Attention

**\*F1-\*F24**
   F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PF11 key value (PF11)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
5250 Help

**\*HLP3270**
3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
Clear Screen

**\*PRINT**
Print Screen

**\*DSPATR**
Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
Roll Down

**\*UP**  Roll Up

**\*NONE**
No Assignment

**\*RESET**
Error Reset

**\*SYSREQ**
System Request

**\*BCKSPC**
Record Backspace

**\*ATTN**
Attention

**\*F1-\*F24**
F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PF12 key value (PF12)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
5250 Help

**\*HLP3270**
3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
Clear Screen

**\*PRINT**
Print Screen

**\*DSPATR**
Display Imbedded Attributes

**\*TEST** Test Request

**\*DOWN**
Roll Down

**\*UP** Roll Up

**\*NONE**
No Assignment

**\*RESET**
Error Reset

**\*SYSREQ**
System Request

**\*BCKSPC**
Record Backspace

**\*ATTN**
Attention

**\*F1-\*F24**
F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

# PF13 key value (PF13)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
>5250 Help

**\*HLP3270**
>3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
>Clear Screen

**\*PRINT**
>Print Screen

**\*DSPATR**
>Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
>Roll Down

**\*UP**  Roll Up

**\*NONE**
>No Assignment

**\*RESET**
>Error Reset

**\*SYSREQ**
>System Request

**\*BCKSPC**
>Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

# PF14 key value (PF14)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**  Roll Up

**\*NONE**
> No Assignment

**\*RESET**
>    Error Reset

**\*SYSREQ**
>    System Request

**\*BCKSPC**
>    Record Backspace

**\*ATTN**
>    Attention

**\*F1-\*F24**
>    F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
*   PF1 through PF12
*   PA1/PF1 through PF12
*   PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

## PF15 key value (PF15)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
>    5250 Help

**\*HLP3270**
>    3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
>    Clear Screen

**\*PRINT**
>    Print Screen

**\*DSPATR**
>    Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**    Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

# PF16 key value (PF16)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
    Print Screen

**\*DSPATR**
    Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
    Roll Down

**\*UP**     Roll Up

**\*NONE**
    No Assignment

**\*RESET**
    Error Reset

**\*SYSREQ**
    System Request

**\*BCKSPC**
    Record Backspace

**\*ATTN**
    Attention

**\*F1-\*F24**
    F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

## PF17 key value (PF17)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**  Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PF18 key value (PF18)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
5250 Help

**\*HLP3270**
3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
Clear Screen

**\*PRINT**
Print Screen

**\*DSPATR**
Display Imbedded Attributes

**\*TEST** Test Request

**\*DOWN**
Roll Down

**\*UP** Roll Up

**\*NONE**
No Assignment

**\*RESET**
Error Reset

**\*SYSREQ**
System Request

**\*BCKSPC**
Record Backspace

**\*ATTN**
Attention

**\*F1-\*F24**
F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PF19 key value (PF19)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
5250 Help

**\*HLP3270**
3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
Clear Screen

**\*PRINT**
Print Screen

**\*DSPATR**
Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
Roll Down

**\*UP**  Roll Up

**\*NONE**
No Assignment

**\*RESET**
Error Reset

**\*SYSREQ**
System Request

**\*BCKSPC**
Record Backspace

**\*ATTN**
Attention

**\*F1-\*F24**
F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PF20 key value (PF20)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**    Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

# PF21 key value (PF21)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
    5250 Help

**\*HLP3270**
    3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
    Clear Screen

**\*PRINT**
    Print Screen

**\*DSPATR**
    Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
    Roll Down

**\*UP**    Roll Up

**\*NONE**
    No Assignment

**\*RESET**
    Error Reset

**\*SYSREQ**
    System Request

**\*BCKSPC**
    Record Backspace

**\*ATTN**
>   Attention

**\*F1-\*F24**
>   F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
*   PF1 through PF12
*   PA1/PF1 through PF12
*   PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

## PF22 key value (PF22)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
>   5250 Help

**\*HLP3270**
>   3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
>   Clear Screen

**\*PRINT**
>   Print Screen

**\*DSPATR**
>   Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
>   Roll Down

**\*UP**  Roll Up

**\*NONE**
>   No Assignment

**\*RESET**
    Error Reset

**\*SYSREQ**
    System Request

**\*BCKSPC**
    Record Backspace

**\*ATTN**
    Attention

**\*F1-\*F24**
    F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

# PF23 key value (PF23)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
    5250 Help

**\*HLP3270**
    3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
    Clear Screen

**\*PRINT**
    Print Screen

**\*DSPATR**
    Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**    Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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## PF24 key value (PF24)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
>  Print Screen

**\*DSPATR**
>  Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
>  Roll Down

**\*UP**  Roll Up

**\*NONE**
>  No Assignment

**\*RESET**
>  Error Reset

**\*SYSREQ**
>  System Request

**\*BCKSPC**
>  Record Backspace

**\*ATTN**
>  Attention

**\*F1-\*F24**
>  F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PA1-PF1 key value (PA1PF1)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
>       5250 Help

**\*HLP3270**
>       3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
>       Clear Screen

**\*PRINT**
>       Print Screen

**\*DSPATR**
>       Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
>       Roll Down

**\*UP**     Roll Up

**\*NONE**
>       No Assignment

**\*RESET**
>       Error Reset

**\*SYSREQ**
>       System Request

**\*BCKSPC**
>       Record Backspace

**\*ATTN**
>       Attention

**\*F1-\*F24**
>       F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PA1-PF2 key value (PA1PF2)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
    5250 Help

**\*HLP3270**
    3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
    Clear Screen

**\*PRINT**
    Print Screen

**\*DSPATR**
    Display Imbedded Attributes

**\*TEST** Test Request

**\*DOWN**
    Roll Down

**\*UP** Roll Up

**\*NONE**
    No Assignment

**\*RESET**
    Error Reset

**\*SYSREQ**
    System Request

**\*BCKSPC**
    Record Backspace

**\*ATTN**
    Attention

**\*F1-\*F24**
    F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PA1-PF3 key value (PA1PF3)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST** Test Request

**\*DOWN**
> Roll Down

**\*UP** Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PA1-PF4 key value (PA1PF4)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**  Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

# PA1-PF5 key value (PA1PF5)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
5250 Help

**\*HLP3270**
3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
Clear Screen

**\*PRINT**
Print Screen

**\*DSPATR**
Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
Roll Down

**\*UP**  Roll Up

**\*NONE**
No Assignment

**\*RESET**
Error Reset

**\*SYSREQ**
System Request

**\*BCKSPC**
Record Backspace

**\*ATTN**
    Attention

**\*F1-\*F24**
    F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
*   PF1 through PF12
*   PA1/PF1 through PF12
*   PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PA1-PF6 key value (PA1PF6)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
    5250 Help

**\*HLP3270**
    3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
    Clear Screen

**\*PRINT**
    Print Screen

**\*DSPATR**
    Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
    Roll Down

**\*UP**  Roll Up

**\*NONE**
    No Assignment

**\*RESET**

> Error Reset

**\*SYSREQ**

> System Request

**\*BCKSPC**

> Record Backspace

**\*ATTN**

> Attention

**\*F1-\*F24**

> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

## PA1-PF7 key value (PA1PF7)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**

> 5250 Help

**\*HLP3270**

> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**

> Clear Screen

**\*PRINT**

> Print Screen

**\*DSPATR**

> Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**

    Roll Down

**\*UP**    Roll Up

**\*NONE**

    No Assignment

**\*RESET**

    Error Reset

**\*SYSREQ**

    System Request

**\*BCKSPC**

    Record Backspace

**\*ATTN**

    Attention

**\*F1-\*F24**

    F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PA1-PF8 key value (PA1PF8)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**

    5250 Help

**\*HLP3270**

    3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**

    Clear Screen

**\*PRINT**

Print Screen

**\*DSPATR**

Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**

Roll Down

**\*UP**    Roll Up

**\*NONE**

No Assignment

**\*RESET**

Error Reset

**\*SYSREQ**

System Request

**\*BCKSPC**

Record Backspace

**\*ATTN**

Attention

**\*F1-\*F24**

F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

## PA1-PF9 key value (PA1PF9)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**  Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PA1-PF10 key value (PA1PF10)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
> Roll Down

**\*UP**  Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PA1-PF11 key value (PA1PF11)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
     5250 Help

**\*HLP3270**
     3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
     Clear Screen

**\*PRINT**
     Print Screen

**\*DSPATR**
     Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
     Roll Down

**\*UP**   Roll Up

**\*NONE**
     No Assignment

**\*RESET**
     Error Reset

**\*SYSREQ**
     System Request

**\*BCKSPC**
     Record Backspace

**\*ATTN**
     Attention

**\*F1-\*F24**
     F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PA1-PF12 key value (PA1PF12)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
  5250 Help

**\*HLP3270**
  3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
  Clear Screen

**\*PRINT**
  Print Screen

**\*DSPATR**
  Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
  Roll Down

**\*UP**  Roll Up

**\*NONE**
  No Assignment

**\*RESET**
  Error Reset

**\*SYSREQ**
  System Request

**\*BCKSPC**
  Record Backspace

**\*ATTN**
  Attention

**\*F1-\*F24**
  F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PA2-PF1 key value (PA2PF1)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
    5250 Help

**\*HLP3270**
    3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
    Clear Screen

**\*PRINT**
    Print Screen

**\*DSPATR**
    Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
    Roll Down

**\*UP**  Roll Up

**\*NONE**
    No Assignment

**\*RESET**
    Error Reset

**\*SYSREQ**
    System Request

**\*BCKSPC**
    Record Backspace

**\*ATTN**
>   Attention

**\*F1-\*F24**
>   F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PA2-PF2 key value (PA2PF2)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
>   5250 Help

**\*HLP3270**
>   3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
>   Clear Screen

**\*PRINT**
>   Print Screen

**\*DSPATR**
>   Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
>   Roll Down

**\*UP**  Roll Up

**\*NONE**
>   No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PA2-PF3 key value (PA2PF3)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST** Test Request

**\*DOWN**
>  Roll Down

**\*UP**    Roll Up

**\*NONE**
>  No Assignment

**\*RESET**
>  Error Reset

**\*SYSREQ**
>  System Request

**\*BCKSPC**
>  Record Backspace

**\*ATTN**
>  Attention

**\*F1-\*F24**
>  F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
*   PF1 through PF12
*   PA1/PF1 through PF12
*   PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PA2-PF4 key value (PA2PF4)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
>  5250 Help

**\*HLP3270**
>  3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
>  Clear Screen

**\*PRINT**
>  Print Screen

**\*DSPATR**
>  Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
>  Roll Down

**\*UP**  Roll Up

**\*NONE**
>  No Assignment

**\*RESET**
>  Error Reset

**\*SYSREQ**
>  System Request

**\*BCKSPC**
>  Record Backspace

**\*ATTN**
>  Attention

**\*F1-\*F24**
>  F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
*  PF1 through PF12
*  PA1/PF1 through PF12
*  PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PA2-PF5 key value (PA2PF5)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
>        5250 Help

**\*HLP3270**
>        3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
>        Clear Screen

**\*PRINT**
>        Print Screen

**\*DSPATR**
>        Display Imbedded Attributes

**\*TEST**   Test Request

**\*DOWN**
>        Roll Down

**\*UP**     Roll Up

**\*NONE**
>        No Assignment

**\*RESET**
>        Error Reset

**\*SYSREQ**
>        System Request

**\*BCKSPC**
>        Record Backspace

**\*ATTN**
>        Attention

**\*F1-\*F24**
>        F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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# PA2-PF6 key value (PA2PF6)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
> 5250 Help

**\*HLP3270**
> 3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
> Clear Screen

**\*PRINT**
> Print Screen

**\*DSPATR**
> Display Imbedded Attributes

**\*TEST** Test Request

**\*DOWN**
> Roll Down

**\*UP** Roll Up

**\*NONE**
> No Assignment

**\*RESET**
> Error Reset

**\*SYSREQ**
> System Request

**\*BCKSPC**
> Record Backspace

**\*ATTN**
> Attention

**\*F1-\*F24**
> F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PA2-PF7 key value (PA2PF7)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
5250 Help

**\*HLP3270**
3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
Clear Screen

**\*PRINT**
Print Screen

**\*DSPATR**
Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
Roll Down

**\*UP**    Roll Up

**\*NONE**
No Assignment

**\*RESET**
Error Reset

**\*SYSREQ**
System Request

**\*BCKSPC**
Record Backspace

**\*ATTN**
Attention

**\*F1-\*F24**
F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PA2-PF8 key value (PA2PF8)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
5250 Help

**\*HLP3270**
3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
Clear Screen

**\*PRINT**
Print Screen

**\*DSPATR**
Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
Roll Down

**\*UP**  Roll Up

**\*NONE**
No Assignment

**\*RESET**
Error Reset

**\*SYSREQ**
System Request

**\*BCKSPC**
Record Backspace

**\*ATTN**
Attention

**\*F1-\*F24**
F1 through F24 Function Keys

**Restrictions:**

*HELP, *HLP3270, and *RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The *HELP, *HLP3270, and *RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, *HELP, *HLP3270, or *RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that *F1 and *SYSREQ both also be assigned to one of the three sets.

The value *ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value *ATTN is taken, the value *NONE is substituted. However, if the value *ATTN is explicitly chosen, a diagnostic message is sent.

## PA2-PF9 key value (PA2PF9)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
　　　5250 Help

**\*HLP3270**
　　　3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
　　　Clear Screen

**\*PRINT**
　　　Print Screen

**\*DSPATR**
　　　Display Imbedded Attributes

**\*TEST**　Test Request

**\*DOWN**
　　　Roll Down

**\*UP**　　Roll Up

**\*NONE**
　　　No Assignment

**\*RESET**
　　　Error Reset

**\*SYSREQ**
　　　System Request

**\*BCKSPC**
　　　Record Backspace

**\*ATTN**

      Attention

**\*F1-\*F24**

      F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:

- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

# PA2-PF10 key value (PA2PF10)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**

      5250 Help

**\*HLP3270**

      3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**

      Clear Screen

**\*PRINT**

      Print Screen

**\*DSPATR**

      Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**

      Roll Down

**\*UP**    Roll Up

**\*NONE**

      No Assignment

**\*RESET**
    Error Reset

**\*SYSREQ**
    System Request

**\*BCKSPC**
    Record Backspace

**\*ATTN**
    Attention

**\*F1-\*F24**
    F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

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## PA2-PF11 key value (PA2PF11)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
    5250 Help

**\*HLP3270**
    3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
    Clear Screen

**\*PRINT**
    Print Screen

**\*DSPATR**
    Display Imbedded Attributes

**\*TEST**  Test Request

**\*DOWN**
>   Roll Down

**\*UP**   Roll Up

**\*NONE**
>   No Assignment

**\*RESET**
>   Error Reset

**\*SYSREQ**
>   System Request

**\*BCKSPC**
>   Record Backspace

**\*ATTN**
>   Attention

**\*F1-\*F24**
>   F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
*   PF1 through PF12
*   PA1/PF1 through PF12
*   PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

## PA2-PF12 key value (PA2PF12)

Each valid key or key sequence is a separate parameter which, except for restrictions as noted, can be assigned any function. If you do not specify a function for a particular key or key sequence, the function currently assigned to that key or key sequence remains the same.

The possible functions that can be assigned are:

**\*HELP**
>   5250 Help

**\*HLP3270**
>   3270 Help Text (Display Active Keyboard Map)

**\*CLEAR**
>   Clear Screen

**\*PRINT**
　　　　Print Screen

**\*DSPATR**
　　　　Display Imbedded Attributes

**\*TEST**　Test Request

**\*DOWN**
　　　　Roll Down

**\*UP**　　Roll Up

**\*NONE**
　　　　No Assignment

**\*RESET**
　　　　Error Reset

**\*SYSREQ**
　　　　System Request

**\*BCKSPC**
　　　　Record Backspace

**\*ATTN**
　　　　Attention

**\*F1-\*F24**
　　　　F1 through F24 Function Keys

**Restrictions:**

\*HELP, \*HLP3270, and \*RESET must be assigned to one of the following 12-key sets of function keys:
- PF1 through PF12
- PA1/PF1 through PF12
- PA2/PF1 through PF12

The \*HELP, \*HLP3270, and \*RESET functions are required for 3270 display station device support to function properly. Since not all 3270 keyboards have 24 PF keys, \*HELP, \*HLP3270, or \*RESET may not be assigned to keys PF13 through PF24, unless these functions are **also** assigned to one of the three sets listed above.

It is recommended that \*F1 and \*SYSREQ both also be assigned to one of the three sets.

The value \*ATTN cannot be explicitly assigned to a 3270 remote attach display station. If the default value \*ATTN is taken, the value \*NONE is substituted. However, if the value \*ATTN is explicitly chosen, a diagnostic message is sent.

## Examples

```
CHGKBDMAP   PF1(*F1)  PA1PF1(*HELP)
```

This command would be entered if the user is generally satisfied with the keyboard mapping (either the default mapping or a user-defined mapping) except for one or two PF key assignments. No other PF key

sequences are affected by this command. The above command could also be started in the program that started the application (thus tailoring the work station to whatever application is run).

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# Error messages

**\*ESCAPE Messages**

**CPF8701**

Specified device &1 not a 3270 device type.

**CPF8702**

&1 function key not correctly defined.

**CPF8703**

Device &1 not ready.

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# Change Kerberos Password (CHGKRBPWD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change Kerberos Password (CHGKRBPWD) command changes the password for the specified Kerberos principal.

**Restrictions:**

- If the principal is governed by a policy that specifies rules, like length or number of characters required in the new password, the new password must conform to the policy.
- You may not change the password for a ticket-granting service principal using the CHGKRBPWD command.

  The Network Authentication Service Commands and APIs support job environments for most EBCDIC CCSIDs. CCSID 290 and 5026 are not supported because of the variance of lower-case letters a to z.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **PRINCIPAL** | Principal | *Element list* | Required, Positional 1 |
| | Element 1: Name | *Character value* | |
| | Element 2: Realm | *Character value*, **\*DFT** | |
| **CURPWD** | Current password | *Character value* | Required, Positional 2 |
| **NEWPWD** | New password | *Character value* | Required, Positional 3 |
| **VFYPWD** | Verify password | *Character value* | Required, Positional 4 |
| **ADRLST** | Contains address list | **\*YES**, *NO | Optional |

## Principal (PRINCIPAL)

Specifies the principal name of a user or service principal on a host name in a Kerberos network. The principal and key pairs in the keytab file allow services running on the host to be authenticated by a Key Distribution Center (KDC). All the principals are added to the Kerberos server which maintains a database of all users and services within a Kerberos realm.

This is a required parameter.

**Element 1: Name**

Specifies the principal name or service principal on a specified host name.

*character-value*
> Specify the user name of the Kerberos principal.

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The Kerberos principal has a minimum length of 1 character and a maximum length of 256 characters. Valid characters are case sensitive and include all alpha-numeric characters (a-z, A-Z, 0-9) and any printable ASCII character. The principal name format is taken from the Kerberos 5 GSS-API mechanism (RFC 1964).

Special characters allowed:

`/ - delimit name components.`

**Element 2: Realm**

Specifies the realm in which the Kerberos user is registered and in which initial authentication took place.

**\*DFT**   The default realm for the local system will be used. Typically, the default realm and the KDC for that realm are indicated in the Kerberos krb5.conf configuration file. If the default realm has not been set, it is obtained from the default_realm entry in the [libdefaults] section of the Kerberos configuration file.

*character-value*
    Specify the name of the Kerberos realm where the user specified for the first element of this parameter is registered.

    The name has a minimum length of 1 character and a maximum length of 256 characters. Valid characters are case sensitive and include all alpha-numeric characters (a-z, A-Z, 0-9) and any printable ASCII character. The principal name format is taken from the Kerberos 5 GSS-API mechanism (RFC 1964).

    Special characters allowed:

`@ - start realm.`

# Current password (CURPWD)

Specifies the current password for the specified principal.

This is a required parameter.

*character-value*
    Specify the password value.

# New password (NEWPWD)

Specifies the new password for the specified principal.

This is a required parameter.

*character-value*
    Specify the new password value.

# Verify password (VFYPWD)

Specifies the new password again.

If the value specified for this parameter is different from the value specified for the **New password (NEWPWD)** parameter, the command fails and the password is not changed.

This is a required parameter.

*character-value*
> Specify the new password value again.

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## Contains address list (ADRLST)

Specifies whether the initial ticket used by this command will contain or a list of client addresses a local host address. When an initial ticket contains an address list, it can be used only from one of the addresses in the address list.

***YES**   Ticket contains an address list.

***NO**    Ticket contains just local host address.

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## Examples

**Example 1: Changing Password for a Kerberos Principal**
```
CHGKRBPWD   PRINCIPAL('jday' myco.com)  CURPWD('myoldpwd')
            NEWPWD('mynewpwd')  VFYPWD('mynewpwd')
```

This command will change the password for the Kerberos principal with user name jday in realm myco.com from 'myoldpwd' to 'mynewpwd'.

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## Error messages

**<u>*ESCAPE Messages</u>**

**CPFC60B**
> The initial credentials can not be obtained.

**CPFC60E**
> Password is not correct for principal.

**CPFC610**
> No default credentials cache found.

**CPFC615**
> The password can not be read.

**CPFC616**
> Principal &1 not valid.

**CPFC617**
> The password change request was canceled.

**CPFC618**
> Password change request failed.

# Change LAN Adapter Information (CHGLANADPI)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Local Area Network Adapter Information (CHGLANADPI) command changes an adapter name entry in the adapter file.

If a default name is associated with an address that changes, the default name will also change to reflect the new address. The default name consists of the last nine digits of the adapter address, prefixed by the character D.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **ADPTNAME** | Adapter | *Name* | Required, Positional 1 |
| **ADPTADR** | Adapter address | 000000000001-7FFFFFFFFFFF, **\*SAME** | Optional |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

## Adapter (ADPTNAME)

Specifies the name of the adapter being changed in the adapter file.

This is a required parameter.

## Adapter address (ADPTADR)

Specifies the 12-character hexadecimal adapter address.

The possible values are:

**\*SAME**
The value does not change.

*adapter-address*
Specify the adapter address being changed.

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
> The text (if any) does not change.

**\*BLANK**
> No text is specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

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## Examples

```
CHGLANADPI   ADPTNAME(ACCOUNTING)   ADPTADR(00000000110F)
```

This command changes the address of adapter ACCOUNTING to 0000000110F.

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## Error messages

**\*ESCAPE Messages**

**CPF8B68**
> Line description &23 not found.

**CPF8B71**
> Change failed. Adapter &29 already exists in network adapter file.

**CPF8B72**
> Change failed. Adapter &29 not found in network adapter file.

**CPF8B74**
> Request to display active adapters failed.

**CPF8B75**
> No adapter entries in network adapter file.

**CPF8B76**
> No functional addresses for adapter.

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# Change Logical File (CHGLF)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Logical File (CHGLF) command changes the attributes of a logical file and its members. The changed attributes are used for all members subsequently added to the file unless other values are specified or default for the add operation. To change the attributes of a specific member, use the Change Logical File Member (CHGLFM) command.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| FILE | Logical file | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Logical file | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| SYSTEM | System | **\*LCL**, *RMT, *FILETYPE | Optional, Key |
| FRCRBDAP | Force rebuild of access path | **\*NO**, *YES | Optional |
| MAXMBRS | Maximum members | *Integer*, **\*SAME**, *NOMAX | Optional |
| ACCPTHSIZ | Access path size | **\*SAME**, *MAX4GB, *MAX1TB | Optional |
| MAINT | Access path maintenance | **\*SAME**, *IMMED, *REBLD, *DLY | Optional |
| RECOVER | Access path recovery | **\*SAME**, *NO, *AFTIPL, *IPL | Optional |
| FRCACCPTH | Force keyed access path | **\*SAME**, *NO, *YES | Optional |
| UNIT | Preferred storage unit | 1-255, **\*SAME**, *ANY | Optional |
| FMTSLR | Rcd format selector program | Single values: **\*SAME**, *NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Rcd format selector program | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| FRCRATIO | Records to force a write | *Integer*, **\*SAME**, *NONE | Optional |
| WAITFILE | Maximum file wait time | *Integer*, **\*SAME**, *IMMED, *CLS | Optional |
| WAITRCD | Maximum record wait time | *Integer*, **\*SAME**, *IMMED, *NOMAX | Optional |
| SHARE | Share open data path | **\*SAME**, *NO, *YES | Optional |
| LVLCHK | Record format level check | **\*SAME**, *YES, *NO | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

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## Logical file (FILE)

Specifies the logical file to be changed.

This is a required parameter.

**Note:** If a Distributed Data Management (DDM) file is specified, the logical file and the remote system are contained in the DDM file. For more information, see the **System (SYSTEM)** parameter description.

**Qualifier 1: Logical file**

*name*   Specify the name of the logical file.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the job is used to locate the file. If no library is specified as the current library, QGPL is used.

*name*   Specify the name of the library to be searched.

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## System (SYSTEM)

Specifies whether the logical file is changed on the local system or on a remote system.

**\*LCL**   The logical file is changed on the local system.

**\*RMT**   The logical file is changed on a remote system using distributed data management (DDM). The logical file name specified for the **Logical file (FILE)** parameter must be the name of the DDM file (created using the CRTDDMF command). The DDM file contains the name of the logical file to be changed and the name of the remote system on which the file is to be changed.

**\*FILETYPE**
> If the name specified on the FILE parameter is a DDM file, the logical file is changed on the remote system specified by the **Remote location (RMTLOCNAME)** parameter of the CRTDDMF command for the DDM file. If the name specified on the FILE parameter is not a DDM file, the logical file on the local system is changed.

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## Force rebuild of access path (FRCRBDAP)

Specifies whether to force the rebuild of access paths that are associated with join logical files or with files that have keyed sequence access paths.

**Note:** For a join logical file, this parameter applies to all join secondary access paths even if the join logical file is not a keyed file.

**\*NO**   The access paths will not explicitly be marked as having to be rebuilt.

**\*YES**   The access paths will be marked invalid and will be rebuilt asynchronously by the database server job.

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## Maximum members (MAXMBRS)

Specifies the maximum number of members that the logical file can have at any time. The maximum number of members specified must be greater than or equal to the current number of members in the file.

**\*SAME**

> The maximum number of members does not change.

**\*NOMAX**

> No maximum is specified for the number of members; the system maximum of 32767 members per file is used.

*integer*

> Specify the value for the maximum number of members that the logical file can have. Valid values range from 1 through 32767.

# Access path size (ACCPTHSIZ)

Specifies the maximum size of auxiliary storage that can be occupied by the following kinds of access paths:

- The access paths that are associated with a database file that has a keyed sequence access path.
- The access paths that are created for referential or unique constraints, and that can be added to this file with the Add Physical File Constraint (ADDPFCST) command.

Changing the value for this file causes the access paths that are owned by the file to be rebuilt.

**Note:** This parameter does not apply to access paths that are created for queries that refer to the data in the file.

**Performance Tip**

For optimum performance, consider whether there is high contention for keys within the access path when selecting the value on this parameter:

- When there is little or no contention for keys, specifying the \*MAX4GB value generally provides better performance.
- When there is high contention for keys, specifying the \*MAX1TB value generally provides better performance.

**\*SAME**

> The value does not change.

**\*MAX4GB**

> The access paths associated with this file can occupy a maximum of four gigabytes (4,294,966,272 bytes) of auxiliary storage. This value provides compatibility with releases of the operating system earlier than Version 3 Release 6 Modification 0.

**\*MAX1TB**

> The access paths associated with this file can occupy a maximum of one terabyte (1,099,511,627,776 bytes) of auxiliary storage.

# Access path maintenance (MAINT)

Specifies the type of access path maintenance used for all members of the logical file. This parameter is valid only for keyed files or join files.

**Note:** For a join logical file, this parameter applies to all join secondary access paths, even if the join file is not a keyed file.

**\*SAME**

    The files access path maintenance does not change.

**\*IMMED**

    The access path is continuously (immediately) maintained for each logical file member. The access path is changed each time a record is changed, added to, or deleted from the member. The records are changed through a logical file that uses the physical file member containing the data regardless of whether the logical file is opened or closed. \*IMMED is specified for all files requiring unique keys to ensure uniqueness in all inserts and update operations.

**\*REBLD**

    The access path is rebuilt when a file member is opened. The access path is continuously maintained until the member is closed; then access path maintenance is ended. \*REBLD is not valid for access paths that contain unique key values.

**\*DLY**    The maintenance of the access path is delayed until the member is opened for use. Then the access path is changed only for records that are added, deleted, or changed since the file was last closed. \*DLY is not valid for access paths that require unique key values.

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# Access path recovery (RECOVER)

Specifies, for files having immediate or delayed maintenance on their access paths, when recovery processing of the file is done if a system failure occurs while the access path is being changed. This parameter is valid only if a keyed access path is used.

**\*SAME**

    The recovery attribute of the file does not change.

**\*NO**    The access path of the file is not rebuilt. The file's access path, if not valid, is rebuilt when the file is opened.

**\*AFTIPL**

    The file has its access path rebuilt after the IPL operation is completed. This option allows other jobs not using this file to begin processing immediately after the IPL is completed.

**\*IPL**    The file has its access path rebuilt during the IPL operation. This ensures that the file's access path is rebuilt before the first user program tries to use it; however, no jobs are started until after all files that specify \*IPL have their access paths rebuilt.

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# Force keyed access path (FRCACCPTH)

Specifies, for files with keyed access paths only, whether access path changes are forced to auxiliary storage along with the associated records in the file. Specifying \*YES minimizes (but does not remove) the chance that an abnormal end will cause damage to the access path, which then requires it to be rebuilt.

**\*SAME**

    The force access path attribute of the file does not change.

**\*NO**    The changed access path and changed records are not forced to auxiliary storage whenever the access path is changed.

**\*YES**    The changed access path and changed records are forced to auxiliary storage whenever the access path is changed. If this value is specified, \*REBLD must not be specified for the **Access path maintenance (MAINT)** parameter.

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# Preferred storage unit (UNIT)

This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 3 Release 6 Modification 0 of OS/400. For information on using auxiliary storage pools (ASPs), refer to the Recovering your system book, SC41-5304.

# Rcd format selector program (FMTSLR)

Specifies the record format selector program that is called when the logical file member contains more than one logical record format. The user-written selector program is called when a record is inserted into the database file and a record format name is not included in the high-level-language program. This parameter is not valid if the logical file has only one record format.

**Single values**

**\*SAME**
> The selector program called does not change.

**\*NONE**
> There is no selector program for this logical file. The file cannot have more than one logical record format, or the high-level-language program itself must specify the record format name.

**Qualifier 1: Rcd format selector program**

*name*   Specify the name of the format selector program called when a record is inserted into a member having more than one format.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the job is used to locate the program. If no library is specified as the current library for the job, QGPL is used.

*name*   Specify the name of the library to be searched.

# Records to force a write (FRCRATIO)

Specifies the number of inserted, changed, or deleted records that are processed before they are forced to auxiliary (permanent) storage. The force write ratio specified for a logical file is less than or equal to the smallest force write ratio of its physical files. If a larger force write ratio is specified, it is ignored and a message is sent informing you of the action. If a physical file associated with this logical file is being recorded in the journal, it is recommended that a larger force write ratio, or \*NONE, be specified.

**\*SAME**
> The files force write ratio does not change.

**\*NONE**
> There is no force write ratio; the system determines when the records are written to auxiliary storage.

*integer*
> Specify the number of new or changed records that are processed before those records are forced into auxiliary storage.

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## Maximum file wait time (WAITFILE)

Specifies the number of seconds that the program waits for the file resources and session resources to be allocated when the file is opened, or for the device or session resources to be allocated when an acquire operation is performed to the file. If the file resources are not allocated in the specified wait time, an error message is sent to the program.

**Note:** An immediate allocation of the device by the device resource is required when an acquire operation is performed to the file.

**\*SAME**
> The wait attribute of the file does not change.

**\*IMMED**
> The program does not wait. Immediate allocation of file resources is required.

**\*CLS**  The default wait time specified in the class description is used as the wait time for the file resources that are allocated.

*1-32767*
> Specify the number of seconds that the program waits for the file resources to be allocated.

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## Maximum record wait time (WAITRCD)

Specifies the number of seconds that the program waits for a record that is changed or deleted. If the record is not allocated in the specified wait time, an error message is sent to the program.

**\*SAME**
> The record wait attribute of the file does not change.

**\*IMMED**
> The program does not wait; when a record is locked, an immediate allocation of the record is required.

**\*NOMAX**
> The wait time is the maximum allowed by the system (32,767 seconds).

*1-32767*
> Specify the number of seconds that the program waits for the file resources to be allocated.

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## Share open data path (SHARE)

Specifies whether the open data path (ODP) is shared with other programs in the same routing step. When an ODP is shared, the programs accessing the file share facilities such as the file status and the buffer.

**\*SAME**
> The ODP sharing value of the member does not change.

**\*NO**    The ODP is not shared with other programs in the routing step. A new ODP for the file is created and used every time a program opens the file.

**\*YES**    The same ODP is shared with each program in the job that also specifies \*YES when it opens the file.

## Record format level check (LVLCHK)

Specifies whether the record format level identifiers in the program are checked against those in the logical file when the file is opened. If so, the record format identifiers in the program must match those in the logical file. This value can be overridden by the Override with Database File (OVRDBF) command at run time.

**\*SAME**
    The level check value of the member does not change.

**\*YES**    The level identifiers of the record formats are checked when the file is opened. If the level identifiers do not match, an error message is sent to the program requesting the open operation, and the file is not opened.

**\*NO**    The level identifiers are not checked when the file is opened.

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
    The text that describes the file does not change.

**\*BLANK**
    No text is specified.

*character-value*
    Specify no more than 50 characters of text, enclosed in apostrophes.

## Examples

**Example 1: Changing the Format Selector Program**

```
CHGLF   FILE(QGPL/INV)  FMTSLR(INVFMTS)
```

This command changes the logical file INV that is stored in the QGPL library, resulting in the new format selector program, INVFMTS, which is being used with the logical file. \*LIBL is used to find the format selector program.

**Example 2: Changing a File Located on the Remote System**

```
CHGLF   FILE(QGPL/DDMF)  FMTSLR(INVFMTS)  SYSTEM(*RMT)
```

This command changes the format selector program for file INV located in the QGPL library on the remote system. Prior to specifying this command, this user had created a DDMF file by specifying the command CRTDDMF FILE(QGPL/DDMF) RMTFILE(QGPL/INV) RMTLOCNAME(AS400).

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## Error messages

**\*ESCAPE Messages**

**CPF326A**
> Operation not successful for file &1 in library &2.

**CPF327F**
> Operation not successful for file &1 in library &2.

**CPF7304**
> File &1 in &2 not changed.

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# Change Logical File Member (CHGLFM)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Logical File Member (CHGLFM) command changes the attributes of a logical file member.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| FILE | Logical file | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Logical file | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| MBR | Logical file member | *Name*, *FIRST | Required, Key, Positional 2 |
| SHARE | Share open data path | **\*SAME**, *YES, *NO | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

## Logical file (FILE)

Specifies the logical file that contains the member to be changed.

This is a required parameter.

**Qualifier 1: Logical file**

*name*    Specify the name of the logical file.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
    The current library for the job is used to locate the file. If no library is specified as the current library, QGPL is used.

*name*    Specify the name of the library to be searched.

## Logical file member (MBR)

Specifies the name of the member to be changed.

**\*FIRST**
    The first member of the specified file is used.

*name*    Specify the name of the logical file member to be changed.

## Share open data path (SHARE)

Specifies whether the open data path (ODP) is shared with other programs in the same routing step. When an ODP is shared, the programs accessing the file share facilities such as the file status and the buffer.

**\*SAME**
The member's ODP sharing value does not change.

**\*NO** The ODP is not shared with other programs in the routing step. A new ODP for the file is created and used every time a program opens the file.

**\*YES** The same ODP is shared with each program in the job that also specifies \*YES when it opens the file.

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
The text that describes the member does not change.

**\*BLANK**
No text is specified.

*character-value*
Specify no more than 50 characters of text, enclosed in apostrophes.

## Examples

```
CHGLFM   FILE(*CURLIB/INV)  MBR(FEB)
         TEXT('Logical file member for FEB')
```

The command changes the text for the member named FEB in the logical file INV that is found in the specified current library.

## Error messages

**\*ESCAPE Messages**

**CPF3288**
Member &3 file &1 in &2 not changed.

# Change Library (CHGLIB)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change Library (CHGLIB) command can change the type attribute, the text description, the default create authority value, or the default object auditing value of a library.

If the library being changed is currently journaled, entries are written to the journal recording the change.

Use the Display Library Description (DSPLIBD) command to display journal information for the library. Refer to the Start Journal Library (STRJRNLIB) command for more information about journaling a library.

**Note:** For additional information regarding journaling, see the Journal management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Restrictions:**
1. To specify a value other than *SAME for the **Create object auditing (CRTOBJAUD)** parameter you must have audit (*AUDIT) special authority.
2. To specify only the CRTOBJAUD parameter to be changed, only *AUDIT special authority is required. To specify any other parameter to be changed, you must have object management (*OBJMGT) authority for the library to be changed.

**Note:** If you do not specify at least one of the **Library type (TYPE)**, **Text 'description' (TEXT)**, **Create authority (CRTAUT)**, or **Create object auditing (CRTOBJAUD)** parameters, completion message CPC2105 is sent to indicate that the library was not changed.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **LIB** | Library | *Name*, *CURLIB | Required, Key, Positional 1 |
| **TYPE** | Library type | **\*SAME**, *PROD, *TEST | Optional, Positional 2 |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |
| **CRTAUT** | Create authority | *Name*, **\*SAME**, *SYSVAL, *CHANGE, *ALL, *USE, *EXCLUDE | Optional |
| **CRTOBJAUD** | Create object auditing | **\*SAME**, *SYSVAL, *NONE, *USRPRF, *CHANGE, *ALL | Optional |

## Library (LIB)

Specifies the library to be changed.

This is a required parameter.

**\*CURLIB**
> The current library for the thread is the library to be changed. If no current library exists in the library list for the current thread, the QGPL library is changed.

*name*    Specify the name of the library to be changed.

## Library type (TYPE)

Specifies the new library type.

**\*SAME**
> The TYPE attribute of the library remains the same.

**\*PROD**
> This is a production library. Database files in production libraries are not opened for updating if a user is in debug mode and requested that production libraries be protected. A user can protect all database files in production libraries from updates by specifying \*NO for the **Update production files (UPDPROD)** parameter on the Start Debug (STRDBG) command to begin testing. However, this protection does not prevent the program from deleting database files or from changing other objects (such as data areas) in the library.

**\*TEST**    This is a test library. All objects in a test library are updated during testing, even if special protection is requested for production libraries.

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
> The text, if any, remains unchanged.

**\*BLANK**
> The text is set to blanks.

*'description'*
> Specify no more than 50 characters of text, enclosed in apostrophes.

## Create authority (CRTAUT)

Specifies the default public authority for an object created into this library. This is the authority given to a user who does not have specific authority for the object, who is not on an authorization list specified for the object, and whose user groups have no specific authority for the object.

When the user creates an object into this library, the **Authority (AUT)** parameter on the create command for the object determines the public authority for the object. If the AUT value on the create command for the object is \*LIBCRTAUT, the public authority for the object is set to the CRTAUT value for the library.

**\*SAME**
> The default public authority value does not change.

**\*SYSVAL**
> The default public authority will be determined by the value of the QCRTAUT system value when an object is created into this library.

**\*CHANGE**
The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL**  The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE**  The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**
The user cannot access the object.

*authorization-list-name*
Specify the name of the authorization list whose authority is used for the object.

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## Create object auditing (CRTOBJAUD)

Specifies the auditing value for objects created in this library.

**\*SAME**
The value does not change.

**\*SYSVAL**
The auditing value will be determined by the value of the QCRTOBJAUD system value when an object is created into this library.

**\*NONE**
Using or changing this object will not cause an audit entry to be sent to the security journal.

**\*USRPRF**
The user profile of the user accessing this object is used to determine if an audit record will be sent to the security journal for the access. The **Object auditing value (OBJAUD)** parameter on the Change User Auditing (CHGUSRAUD) command is used to turn on auditing for a specific user.

**\*CHANGE**
All change access to this object by all users will cause an audit entry to be sent to the security journal.

**\*ALL**  All change or read access to this object by all users will cause an audit entry to be sent to the security journal.

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## Examples

```
CHGLIB  LIB(LIB1)  TYPE(*TEST)  TEXT('NEW TEXT FOR LIB1')
```

This command changes the TYPE attribute of the library named LIB1 to *TEST and changes the text description to the value specified by the TEXT parameter.

## Error messages

**\*ESCAPE Messages**

**CPF21A0**
> *AUDIT required to create or change libraries.

**CPF210C**
> Library &1 not changed.

**CPF2150**
> Object information function failed.

**CPF2151**
> Operation failed for &2 in &1 type *&3.

**CPF2283**
> Authorization list &1 does not exist.

**CPF7003**
> Entry not journaled to journal &1. Reason code &3.

**CPF9810**
> Library &1 not found.

**CPF9820**
> Not authorized to use library &1.

**CPF9830**
> Cannot assign library &1.

# Change Library List (CHGLIBL)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change Library List (CHGLIBL) command changes the user portion of the library list for the current thread with the list of libraries specified by the user. This command does not affect the system portion of the library list, nor does it affect library list for any other thread.

**Restrictions:** You must have use (*USE) authority for all the specified libraries before the library list is changed. If you are not authorized to one or more of the libraries, the library list is not changed.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| LIBL | Libraries for current thread | Single values: **\*SAME**, *NONE<br>Other values (up to 250 repetitions): *Name* | Optional,<br>Positional 1 |
| CURLIB | Current library | *Name*, **\*SAME**, *CRTDFT | Optional,<br>Positional 2 |

## Libraries for current thread (LIBL)

Specifies the libraries that are placed in the user portion of the library list for the current thread. This parameter can be specified as a single value or as a list of one or more names.

**Single values**

**\*SAME**
      The libraries that are in the user portion of the library list for the current thread are not changed.

**\*NONE**
      No libraries are in the user portion of the library list for the current thread.

**Other values**

*name*    Specify the names of the libraries to be added to the user portion of the library list for the current thread in the order in which they are to be searched. Up to 250 names can be specified.

## Current library (CURLIB)

Specifies the library to replace the current library in the library list for the current thread.

**\*SAME**
      The current library in the library list for the current thread is not changed.

**\*CRTDFT**

No library should be in the current entry in the library list for the current thread. If objects are created into the current library, the QGPL library is used as the default current library.

*name*    Specify the name of the library that replaces the current library entry in the library list for the current thread.

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## Examples

```
CHGLIBL   LIBL(ULIB10 ULIB15 QGPL)
```

This command changes the user portion of the library list for the current thread. The new library list contains libraries ULIB10, ULIB15, and QGPL. They are searched in that order.

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## Error messages

**\*ESCAPE Messages**

**CPF2106**

Library list not available.

**CPF2110**

Library &1 not found.

**CPF2113**

Cannot allocate library &1.

**CPF2176**

Library &1 damaged.

**CPF2182**

Not authorized to library &1.

**CPF2184**

Library list not replaced.

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# Change License Information (CHGLICINF)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change License Information (CHGLICINF) command allows a user to change the following license information for a product or feature:

- The usage limit for products that do not have keyed compliance (keyed compliance requires that you have a software license key from the software provider in order to change the usage limit of the license information)
- The threshold
- The users to notify when the threshold is exceeded, when an attempt to exceed the usage limit is made, or when the usage limit is changed
- The logging of usage requests.

**Restriction:** This command is shipped with public *EXCLUDE authority.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| PRDID | Product identifier | *Character value* | Required, Key, Positional 1 |
| LICTRM | License term | *Character value*, **\*ONLY** | Optional, Key, Positional 2 |
| FEATURE | Feature | *Character value*, **5001** | Optional, Key, Positional 3 |
| USGLMT | Usage limit | 0-999999, **\*SAME**, *NOMAX, *ALTUSGLMT | Optional |
| ALTUSGLMT | Alternate usage limit | *Element list* | Optional |
| | Element 1: Identified usage | 0-999999, **\*SAME** | |
| | Element 2: Unidentified usage | 0-999999, **\*SAME** | |
| THRESHOLD | Threshold | 0-999999, **\*SAME**, *CALC, *USGLMT | Optional |
| MSGQ | Message queue | Single values: **\*SAME**, *NONE, *OPSYS<br>Other values (up to 5 repetitions): *Qualified object name* | Optional |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| LOG | Log | **\*SAME**, *NO, *YES | Optional |

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## Product identifier (PRDID)

Specifies the seven-character identifier (ID) of the product for which license information is to be changed.

This is a required parameter.

## License term (LICTRM)

Specifies the license term for which license information is to be changed.

**\*ONLY**
> Only one license term of the product is on the system and that license term identifies the product to be changed.

*license-term*
> Specify the license term in Vx, VxRy, or VxRyMz format, where x and y can be a number from 0 through 9 and z can be a number from 0 through 9 or a letter from A through Z. Use the Work with License Information (WRKLICINF) command to determine the license term.

## Feature (FEATURE)

Specifies the feature of the product specified on the **Product identifier (PRDID)** parameter for which license information is to be changed. You can use the Work with License Information (WRKLICINF) command to identify the feature number of the product.

**5001**  The license information for the feature 5001 is to be changed.

*feature*
> Specify the feature for which license information is to be changed. Valid values range from 5001 through 9999.

## Usage limit (USGLMT)

Specifies the maximum number of users (usage limit) for this product or feature. The software provider authorizes the usage limit. For a concurrent usage limit, this is the maximum number of jobs allowed to access the product or feature at any given time. For a registered usage limit, this is the maximum number of license users that can be registered to use this product or feature.

**Note:** To change the usage limit for products using keyed compliance, you must use the Add License Key Information (ADDLICKEY) command.

**\*SAME**
> The value does not change.

**\*NOMAX**
> The number of users is not limited.

**\*ALTUSGLMT**
> The usage limit is the sum of the identified usage and the unidentified usage specified on the **Alternate usage limit (ALTUSGLMT)** parameter.

*usage-limit*
> Specify the maximum number of users for this product or feature. Valid values range from 0 through 999999.

# Alternate usage limit (ALTUSGLMT)

The alternate usage limit specifies the identified usage and the unidentified usage for this product or feature. The usage limit becomes the sum of the identified and unidentified usage.

The possible identified usage values are:

**\*SAME**
   The value does not change.

*identified-usage*
   Specify the maximum number of users that can be counted by this product or feature. Valid values range from 0 through 999999.

The possible unidentified usage values are:

**\*SAME**
   The value does not change.

*unidentified-usage*
   Specify the maximum number of users that cannot be counted by this product or feature. Valid values range from 0 through 999999.

   **Note:** The number of users specified for unidentified usage will always exist as part of the current usage for this product or feature.

# Threshold (THRESHOLD)

Specifies the threshold for this product or feature. When the number of users for this product exceeds the threshold, a message is sent to the system operator's message queue (QSYS/QSYSOPR) and to the message queues specified on the **Message queue (MSGQ)** parameter.

**Note:** If you specify a value equal to the usage limit, no threshold messages are sent. Messages are sent only when an attempt to exceed the usage limit is made, or when the usage limit is changed.

**\*SAME**
   The value does not change.

**\*CALC**
   The system calculates the threshold for this product or feature. The calculated threshold is equal to 90 percent of the usage limit (maximum number of users specified on the **Usage limit (USGLMT)** parameter). If the usage limit is 1 or \*NOMAX, the threshold is equal to the usage limit.

**\*USGLMT**
   The threshold for this product or feature is equal to its usage limit.

*threshold*
   Specify the threshold for this product or feature. Valid values range from 0 through 999999.

# Message queue (MSGQ)

Specifies the qualified names of a maximum of five message queues to which messages are sent if (1) the threshold is exceeded, (2) an attempt to exceed the usage limit is made, or (3) the usage limit is changed. These messages are also sent to the system operator's message queue (QSYS/QSYSOPR).

**\*SAME**
> The value does not change.

**\*NONE**
> Messages are sent only to the system operator's message queue (QSYS/QSYSOPR).

**\*OPSYS**
> Messages are sent to the message queues defined in the license information for the operating system.

The name of the message queue can be qualified by one of the following library values:

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*library-name*
> Specify the name of the library to be searched.

*message-queue-name*
> Specify the name of the message queue to which messages are sent.

## Log (LOG)

Specifies whether to record requests to use the product or feature when the usage count is equal to the usage limit. If requests are recorded, they are recorded in the QLZALOG journal in QUSRSYS.

**\*SAME**
> The value does not change.

**\*NO**   The requests made when the usage count is equal to the usage limit are not recorded.

**\*YES**   The requests made when the usage count is equal to the usage limit are recorded. When a license request is made and the usage count is equal to the usage limit, the user requesting a license and all current license users are recorded in the QLZALOG journal in QUSRSYS.

## Examples

**Example 1: Changing the Usage Limit for a Product with One License Term on the System**

```
CHGLICINF    PRDID(1MYPROD)  LICTRM(*ONLY)
             USGLMT(35)  THRESHOLD(30)
             MSGQ(MYLIB/MYMSGQ) LOG(*NO)
```

This command allows you to change the usage limit for the product with product identifier 1MYPROD which has only one license term installed on this system. After this command is run, 35 users will be authorized to use this product. When the usage count reaches 31, messages will be sent to the system operator's message queue and the message queue MYMSGQ in the library MYLIB stating that the threshold has been exceeded. Requests for a license when the usage count is equal to the usage limit will not be recorded. However, changes to the usage limit will be recorded in the QLZALOG journal in QUSRSYS.

**Example 2: Changing the Usage Limit for a Product with More Than One License Term on the System**

```
CHGLICINF   PRDID(2MYPROD)  LICTRM(V2)
            USGLMT(50)  THRESHOLD(*USGLMT)
            MSGQ(*NONE) LOG(*YES)
```

This command allows you to change the usage limit for the product with product identifier 2MYPROD and license term Version 2. After this command is run, 50 users will be authorized to use this product. No threshold messages will be sent. (However, messages will be sent to the system operator whenever the usage limit is changed or the usage count reaches or exceeds the usage limit.) A request for a license when the usage count is equal to the usage limit will be recorded in the QLZALOG journal in QUSRSYS.

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## Error messages

**\*ESCAPE Messages**

**CPF9E2C**
> LICTRM(*ONLY) cannot be specified.

**CPF9E2D**
> Usage limit cannot be less than current usage.

**CPF9E27**
> Usage limit cannot be changed for *KEYED compliance product.

**CPF9E28**
> Message queue *OPSYS not allowed for operating system.

**CPF9E30**
> License information not changed.

**CPF9E88**
> Alternate usage limit cannot be less than current usage.

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# Change Line Desc (Async) (CHGLINASC)

The Change Line Description (Async) (CHGLINASC) command changes a line description for an asynchronous line.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource name | *Name*, **\*SAME** | Optional |
| ONLINE | Online at IPL | **\*SAME**, *YES, *NO | Optional |
| ACTSNBU | Activate swt network backup | **\*SAME**, *YES, *NO | Optional |
| VRYWAIT | Vary on wait | 15-180, **\*SAME**, *NOWAIT | Optional |
| SWTCTLLST | Switched controller list | Single values: **\*SAME**<br>Other values (up to 64 repetitions): *Name* | Optional |
| BITSCHAR | Data bits per character | **\*SAME**, 7, 8 | Optional |
| PARITY | Type of parity | **\*SAME**, *NONE, *ODD, *EVEN | Optional |
| STOPBITS | Stop bits | **\*SAME**, 1, 2 | Optional |
| DUPLEX | Duplex | **\*SAME**, *FULL, *HALF | Optional |
| ECHO | Echo support | **\*SAME**, *NONE, *ALL, *CNTL | Optional |
| LINESPEED | Line speed | **\*SAME**, 50, 75, 110, 150, 300, 600, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 28800, 38400, 57600, 76800, 115200 | Optional |
| MODEM | Modem type supported | **\*SAME**, *NORMAL, *V54, *IBMWRAP | Optional |
| MODEMRATE | Modem data rate select | **\*SAME**, *FULL, *HALF | Optional |
| SWTCNN | Switched connection type | **\*SAME**, *BOTH, *ANS, *DIAL | Optional |
| AUTOANS | Autoanswer | **\*SAME**, *YES, *NO | Optional |
| AUTODIAL | Autodial | **\*SAME**, *YES, *NO | Optional |
| DIALCMD | Dial command type | **\*SAME**, *NONE, *V25BIS, *OTHER | Optional |
| SETMDMASC | Set modem to ASYNC command | *Character value*, **\*SAME**, END, *NONE | Optional |
| MDMINZCMD | Modem init command string | *Character value*, **\*SAME**, *NONE | Optional |
| ACRSRCNAME | Autocall resource name | *Name*, **\*SAME** | Optional |
| CALLNBR | Calling number | *Character value*, **\*SAME**, *NONE | Optional |
| INACTTMR | Inactivity timer | 150-4200, **\*SAME**, *NOMAX | Optional |
| MAXBUFFER | Maximum buffer size | 128-4096, **\*SAME** | Optional |
| THRESHOLD | Error threshold level | **\*SAME**, *OFF, *MIN, *MED, *MAX | Optional |
| FLOWCNTL | Flow control | **\*SAME**, *YES, *NO, *HARDWARE | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **XONCHAR** | XON character | 01-FF, **\*SAME** | Optional |
| **XOFFCHAR** | XOFF character | 01-FF, **\*SAME** | Optional |
| **EORTBL** | End-of-Record table | Single values: **\*SAME**<br>Other values (up to 8 repetitions): *Element list* | Optional |
| | Element 1: End-of-Record character | **00**, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B, 0C, 0D, 0E, 0F, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 1A, 1B, 1C, 1D, 1E, 1F, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 2A, 2B, 2C, 2D, 2E, 2F, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 3A, 3B, 3C, 3D, 3E, 3F, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 4A, 4B, 4C, 4D, 4E, 4F, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 5A, 5B, 5C, 5D, 5E, 5F, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 6A, 6B, 6C, 6D, 6E, 6F, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 7A, 7B, 7C, 7D, 7E, 7F, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 8A, 8B, 8C, 8D, 8E, 8F, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 9A, 9B, 9C, 9D, 9E, 9F, A0, A1, A2, A3, A4, A5, A6, A7, A8, A9, AA, AB, AC, AD, AE, AF, B0, B1, B2, B3, B4, B5, B6, B7, B8, B9, BA, BB, BC, BD, BE, BF, C0, C1, C2, C3, C4, C5, C6, C7, C8, C9, CA, CB, CC, CD, CE, CF, D0, D1, D2, D3, D4, D5, D6, D7, D8, D9, DA, DB, DC, DD, DE, DF, E0, E1, E2, E3, E4, E5, E6, E7, E8, E9, EA, EB, EC, ED, EE, EF, F0, F1, F2, F3, F4, F5, F6, F7, F8, F9, FA, FB, FC, FD, FE, FF | |
| | Element 2: Trailing characters | 0-4, **0** | |
| **IDLTMR** | Idle timer | 0-254, **\*SAME** | Optional |
| **DSRDRPTMR** | Data Set Ready drop timer | 3-60, **\*SAME** | Optional |
| **AUTOANSTYP** | Autoanswer type | **\*SAME**, \*DTR, \*CDSTL | Optional |
| **CTSTMR** | Clear To Send timer | 10-120, **\*SAME**, \*NOMAX | Optional |
| **RMTANSTMR** | Remote answer timer | **\*SAME**, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120 | Optional |
| **CMNRCYLMT** | Recovery limits | Single values: **\*SAME**, \*SYSVAL<br>Other values: *Element list* | Optional |
| | Element 1: Count limit | 0-99 | |
| | Element 2: Time interval | 0-120 | |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, \*BLANK | Optional |

# Line description (LIND)

Specifies the name of the line description

This is a required parameter.

# Resource names (RSRCNAME)

Specifies the resource name that identifies the hardware this description represents. Use the WRKHDWRSC command to determine the resource name.

This is a required parameter.

You can enter multiple values for this parameter.

**\*SAME**
> The value does not change.

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
> The value does not change.

**\*YES**   The line is automatically varied on at initial program load (IPL).

**\*NO**    This line is not automatically varied on at IPL.

## Activate swt network backup (ACTSNBU)

Specifies, for modems that support the switched network backup (SNBU) feature and that are not IBM 386x, 586x, or 786x models, whether the SNBU feature is activated or deactivated. The local modem and remote modem must both support the SNBU to activate it. IBM 386x, 586x, and 786x models are activated with a hardware switch only. This feature lets you bypass a broken nonswitched connection (nonswitched line) by establishing a switched connection.

**\*SAME**
> This value does not change from the value previously specified either on this parameter or on the SNBU parameter of the command creating the line description.

**\*NO**    The SNBU feature is not used.

**\*YES**   The SNBU feature is activated. You must also specify a value of *YES for the **Activate swt network backup (ACTSNBU)** parameter for the controller.

## Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**
> The value does not change.

**\*NOWAIT**
> The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*
> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:

- Put tasks in place to manage the line
- Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code
- Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

## Switched controller list (SWTCTLLST)

Specifies the names of up to 64 switched controllers that can establish a connection with this switched line. The controller descriptions must already exist. This parameter is valid only if the line is switched or the nonswitched line has the switched network backup (SNBU) feature.

**\*SAME**
> The value does not change.

*switched-controller-list*
> Specify the switched controller names. Up to 64 switched controllers can be specified.

## Data bits per character (BITSCHAR)

Specifies the number of data bits per character (excluding the parity bit if any).

**\*SAME**
> The value does not change.

**8**   8 data bits per character are used.

> **Note:** 8 bits with parity cannot be used with some Input/Output processors.

**7**   7 data bits per character are used.

## Type of parity (PARITY)

Specifies the type of parity used for error checking (a parity bit is a binary digit inserted in each byte of data to make the arithmetic sum of all the digits, including the parity bit, always odd or always even).

**Note:** The remote system must use the same parity.

**\*SAME**
> The value does not change.

**\*NONE**
> No parity bit is inserted in the data byte.

**\*ODD**   The arithmetic sum of all the digits, including the parity bit, is odd.

**\*EVEN**
> The arithmetic sum of all the digits, including the parity bit, is even.

# Stop bits (STOPBITS)

Specifies the number of bits added to the end of each character. These bits are used to keep the local and remote ends of the line synchronized.

**Note:** The remote system must use the same number of stop bits as the local system.

**\*SAME**
> The value does not change.

**1**     1 stop bit is added to each character.

**2**     2 stop bits are added to each character.

> **Note:** At line speeds of 300 bps or lower, 2 stop bits are recommended.

# Duplex (DUPLEX)

Specifies whether request-to-send (RTS) is permanently turned on (for duplex modems) or turned on only when transmission is required (for half duplex modems).

**\*SAME**
> The value does not change.

**\*HALF**
> Request-to-send (RTS) is turned on only when transmission is required (for half duplex modems). You can choose to run half duplex even if the modem can support duplex communication.

**\*FULL**  Request-to-send (RTS) is permanently set on (for duplex modems).

# Echo support (ECHO)

Specifies whether the system sends back (echo) all characters it receives to the remote system, send back all characters except end-of-record characters, or if echo is inhibited.

**Note:** Specify \*ALL or \*CNTL if this line supports communication with a remote system that requires echo. If you specify \*ALL or \*CNTL, you must also specify \*FULL for the **Duplex (DUPLEX)** parameter.

**\*SAME**
> The value does not change.

**\*NONE**
> No characters received are echoed to the remote system.

**\*ALL**   All characters received are echoed to the remote system.

**\*CNTL**
> All characters received prior to end-of-record characters are echoed to the remote system.

# Line speed (LINESPEED)

Specifies the line speed in bits per second (bps).

**\*SAME**

> The value does not change.

**1200**  1200 bps is used.

*line-speed*

> Specify the line speeds. Valid lines speeds are: 50, 75, 110, 150, 300 600, 1200, 2400 4800, 7200, 9600, 14400, 19200, 28800, 38400, 57600, 76800, or 115200 bits per second.

## Modem type supported (MODEM)

Specifies the type of modem supported on the communications line. Refer to the modem manual to determine the appropriate value to select.

**\*SAME**

> The value does not change.

**\*NORMAL**

> No attempt is made to run a diagnostic test to your modem.

**\*V54**  A certain type of diagnostic test (as defined by the CCITT recommendations) is run to your modem. This system supports CCITT V.54 loop 3, local loop back, and loop 2, which is a remote loop back.

**\*IBMWRAP**

> An IBM modem with wrap test capabilities is used on the communications line.

## Modem data rate select (MODEMRATE)

Specifies the speed at which the line operates if the modem has the data rate select feature.

**\*SAME**

> The value does not change.

**\*FULL**  The line operates at the full rate of the modem.

**\*HALF**

> The line operates at half the full rate of the modem.

## Switched connection type (SWTCNN)

Specifies whether the switched (Async, BSC, SDLC, or IDLC) line or switched network backup (Async, BSC, or SDLC) line is used for incoming calls, outgoing calls, or both.

**\*SAME**

> The value does not change.

**\*BOTH**

> The line is used for both incoming and outgoing calls.

**\*ANS**  The line is used for incoming calls only.

**\*DIAL**

> The line is used for outgoing calls only.

## Autoanswer (AUTOANS)

Specifies, for switched or switched network backup lines (Async, BSC, SDLC, or X.25 line), whether the system automatically answers a call from a remote system to establish the connection, or whether the system operator manually answers the call and places the modem in data mode.

**Note:** *YES is a valid option only if the modem has the automatic answer feature.

**\*SAME**
> The value does not change.

**\*YES**  The incoming call is automatically answered by the automatic answer feature.

**\*NO**  The incoming call must be manually answered.

## Autodial (AUTODIAL)

Specifies, for switched lines, whether the system automatically calls a remote system to establish a connection or if the system operator must manually place the call.

**\*SAME**
> The value does not change.

**\*NO**  The line connection is made by manually dialing the X.25 network.

**\*YES**  The line connection is made by the system automatically dialing the X.25 network.

## Dial command type (DIALCMD)

Specifies the type of dial command used to establish a switched connection with a remote system.

**\*SAME**
> The value does not change.

**\*NONE**
> No dial command is used. (An automatic call unit is used to establish the connection.)

**\*V25BIS**
> V.25 bis is a recommendation which allows the use of one physical interface for call establishment and data transmission. It is referred to as a serial automatic call interface because the digits are presented serially on the link from the system to the modem.

**\*OTHER**
> The IBM command set is one example of another command type that is used by asynchronous protocols. The dial digits and all other call-related data must be placed directly into the data stream by the application program.

## Set modem to ASYNC command (SETMDMASC)

Specifies the V25BIS command string to send to the modem to set the modem to ASYNC mode.

**\*SAME**
> The value does not change.

**\*NONE**
> No V25BIS command string is sent to the modem.

**END**    The END command string is generally used as the command to set most modems to ASYNC mode. For cases that do not use the END command string, you should enter the command string appropriate for that modem to set it to ASYNC mode.

*command-string*
> Specify up to 40 characters that represent the command issued. Valid characters are upper case characters A through Z, lower case characters a through z, numbers 0 through 9, and the following special characters:

.    Period

<    Less than sign

(    Left parenthesis

+    Plus sign

&    Ampersand

*    Asterisk

)    Right parenthesis

;    Semicolon

-    Minus sign

/    Slash

,    Comma

_    Underline

>    Greater than sign

?    Question mark

:    Colon

=    Equal sign

## Modem init command string (MDMINZCMD)

Specifies the modem initialization command string sent to set the modem.

**Note:** Valid only when INTERFACE(*INTMODEM) or INFTRFTYPE(*SYNCMODEM) is specified.

**\*SAME**
> The value does not change.

**\*NONE**
> No command string is sent to the modem.

*command-string*
> Specifies up to 60 characters that represent the command string sent to the modem. Valid characters are upper case A thru Z, lower case a thru z, numbers 0 thru 9, and special characters:

```
Period
Less than sign
Left parenthesis
```

```
         Plus sign
         Ampersand
         Asterisk
         Right parenthesis
         Semicolon
         Minus sign
         Slash
         Comma
         Underline
         Greater than sign
         Question mark
         Colon
         Equal sign
         Spaces
         Number sign
         Double quote
         Exclamation point
         At sign
         Hat symbol
         Percent
         Left square bracket
         Right square bracket
         Back slash
```

**Note:** The modem initialization string must begin with the two characters 'AT'.

## Autocall resource name (ACRSRCNAME)

Specifies the automatic call resource name that describes the automatic call unit port that is used to establish a connection with a remote system. Use the Work with Hardware Resources (WRKHDWRSC) command to determine the resource name.

**\*SAME**
> The value does not change.

## Calling number (CALLNBR)

Specifies the local telephone number of the line that is used for the V.25 bis Call Request with Identification (CRI) dial command. When V.25 bis CRI dialing is used, the system takes the called (connection) number (CNNNBR parameter ), adds a separator character (;), and puts the calling number at the end. The default, \*NONE, indicates that Call Request Normal (CRN) is used.

Specify the calling number only when the modem and network support the CRI dial command.

**\*SAME**
> The value does not change.

**\*NONE**
> Call Request Normal (CRN) is used. CRN dialing sends only the connection number to the V.25 bis modem.

*calling-number*
> Specify the local telephone number if V.25 bis CRI dialing is required. The number can be up to 32 characters in length. See your modem documentation to determine the values allowed by the modem.

**Note:** Specify the calling number only if both the modem and network support the V.25 bis CRI dial command.

## Inactivity timer (INACTTMR)

Specifies the time (in tenths of a second) the system waits for activity on a switched line before disconnecting the line.

**\*SAME**
> The value does not change.

**\*NOMAX**
> The system waits indefinitely for activity.

*inactivity-timer*
> Specify a value from 150 to 4200 units. Each unit represents 0.1 second, which provides a time range of 0.3 to 9.9 seconds.

## Maximum buffer size (MAXBUFFER)

Specifies the maximum size of inbound and outbound data buffers.

**\*SAME**
> The value does not change.

## Error threshold level (THRESHOLD)

Specifies the temporary error threshold level being monitored by the system. A permanent error is reported only if the errors occurred consecutively and exceeded the retry limit.

**Note:** Specifying the THRESHOLD parameter affects all threshold errors. They cannot be specified individually.

**\*SAME**
> The value does not change.

**\*OFF**  No threshold errors are reported.

**\*MIN**  The threshold for errors is set to a minimum monitoring level.

**\*MED**  The threshold for errors is set to a medium monitoring level.

**\*MAX**  The threshold for errors is set to a maximum monitoring level.

## Flow control (FLOWCNTL)

Specifies whether the hardware controls the data flow.

**\*SAME**
> The value does not change.

**\*NO**     Prevents the hardware from generating or recognizing flow control characters, and prevents the use of Request to Send (RTS) and Clear to Send (CTS) flow control signals.

**\*YES**    The system uses the flow control capabilities of the asynchronous protocol. If \*YES is specified, the hardware recognizes flow control characters. This means that upon receipt of an XOFF character, the hardware stops transmission until an XON character is received. It also means that the hardware sends an XOFF character to the remote location when it is incapable of receiving characters. When the hardware is again able to receive characters, it sends an XON character to the remote system.

**\*HARDWARE**
            If this option is specified, the hardware signals the modem to stop sending data by dropping RTS signals when it is not capabl of receiving characters. When the hardware is able to receive characters again, it raises the RTS signal to the modem. Also, the hardware monitor the CTS and RTS signal from the modem and stops sending data when it is turned off.

**NOTES:**

1. If \*YES or \*HARDWARE is specified, DUPLEX(\*FULL) must be specified.
2. Hardware flow control is performed using the Request To Send (RTS) and Clear To Send (CTS) flow control signals.

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## XON character (XONCHAR)

Specifies the hexadecimal value of the flow control character XON. If the system received an XOFF character while sending data, it automatically stops sending, and it starts sending data again only after receiving an XON character.

**\*SAME**
            The value does not change.

*XON-character*
            The XON-character can be any value from hexadecimal 01 through FF; however, you must specify a different character than the XOFF character and one that does not appear in your normal data stream, such as hexadecimal 20 (ASCII blank).

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## XOFF character (XOFFCHAR)

Specifies the hexadecimal value of the flow control character XOFF. If the system receives an XOFF character while sending data, it automatically stops sending, and starts sending data again only after receiving an XON character.

**\*SAME**
            The value does not change.

*XOFF-character*
            Specify the hexadecimal XOFF character. The XOFF-character can be any value between hexadecimal 01 and FF; however, you must specify a different character than the XON character and one that does not appear in your normal data stream, such as hexadecimal 20 (ASCII blank).

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# End-of-Record table (EORTBL)

Specifies the table which allows the hardware to recognize logical records when receiving data. You can define a line feed (LF) as an end-of-record (EOR) character in the data stream, and have the hardware return the data when the LF character is detected in the data stream.

The EOR table is specified as a set of paired elements, in which the first element of a pair is the EOR character and the second element specifies the number of characters that follow the EOR character. Up to 8 entries can be specified. A value of 00 indicates that no end-of-record character is defined.

**\*SAME**
> The value does not change.

*EOR-character*
> Specify the end-of-record character(s). Valid end-of-record characters are in the range hexadecimal 01 through 7F (if 7 bits-per-character) or 01 through FF (if 8 bits-per-character). End-of-record characters are specified as they appear on the line after any translation by the Asynchronous communications support.

*trailing-characters*
> Specify the number of additional characters received after the end-of-record character is detected. The number of trailing characters is 0 through 4.

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# Idle timer (IDLTMR)

Specifies the time (in 0.5 second intervals) that the system waits between characters before the adapter forwards the receive buffer to the system.

**\*SAME**
> The value does not change.

*idle-timer*
> Specify a value from 1 to 254 in 0.5 second intervals, or specify 0 which represents no timer.
>
> **Note:** Idle timer is also referred to as inter-character timer.

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# Data Set Ready drop timer (DSRDRPTMR)

Specifies the amount of time that the system waits for the modem to exit the Data Set Ready (DSR) state before signaling an error.

**\*SAME**
> The value does not change.

*drop-timer*
> Specify a value ranging from 3 through 60 seconds.

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# Autoanswer type (AUTOANSTYP)

Specifies the method that the system uses to answer incoming calls.

**\*SAME**
> The value does not change.

**\*DTR** The system enters the Data Terminal Ready state, signals the modem to answer calls, and waits for the modem to enter the Data Set Ready (DSR) state.

**\*CDSTL**

The system enters the Connect Data Set to Line (CDSTL) state after monitoring the Ring Indicator to signal the modem to answer the call.

# Clear To Send timer (CTSTMR)

Specifies the amount of time the system waits for the modem to enter or exit the Clear to Send (CTS) state before signaling an error.

**\*SAME**

The value does not change.

**\*NOMAX**

The system waits indefinitely.

*cts-timer*

Specify a value ranging from 10 through 120 seconds.

# Remote answer timer (RMTANSTMR)

Specifies the amount of time that system waits for the modem to enter the Data Set Ready (DSR) state after dialing before signaling an error.

**\*SAME**

The value does not change.

*answer-timer*

Specify a value ranging from 30 through 120 seconds in 5-second intervals.

# Recovery limits (CMNRCYLMT)

Specifies the second-level communications recovery limits to be used for this line description.

The possible **count-limit** values are:

**\*SAME**

The value does not change.

**\*SYSVAL**

The value in the QCMNRCYLMT system value is used.

*count-limit*

Specify the number of recovery attempts to be performed by the system. Valid values range from 0 through 99.

The possible **time-interval** values are:

**\*SAME**

The value does not change.

*time-interval*
> Specify the number of minutes within which recovery attempts are made. Valid values range from 0 through 120 in 1-minute intervals.

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---

## Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

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---

## Examples

```
CHGLINASC   LIND(CHICAGO)  LINESPEED(4800)
```

This command changes the line speed for line description CHICAGO to 4800 bits per second.

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## Error messages

**\*ESCAPE Messages**

**CPF261E**
> Line description &1 not changed.

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# Change Line Desc (BSC) (CHGLINBSC)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (BSC) (CHGLINBSC) command changes a line description for a BSC line.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **LIND** | Line description | *Name* | Required, Key, Positional 1 |
| **RSRCNAME** | Resource name | *Name*, **\*SAME** | Optional |
| **ONLINE** | Online at IPL | **\*SAME**, *YES, *NO | Optional |
| **ACTSNBU** | Activate swt network backup | **\*SAME**, *YES, *NO | Optional |
| **VRYWAIT** | Vary on wait | 15-180, **\*SAME**, *NOWAIT | Optional |
| **SWTCTLLST** | Switched controller list | Single values: **\*SAME** <br> Other values (up to 64 repetitions): *Name* | Optional |
| **STNADR** | Station address | 04-FE, **\*SAME** | Optional |
| **DUPLEX** | Duplex | **\*SAME**, *HALF, *FULL | Optional |
| **LINESPEED** | Line speed | **\*SAME**, 600, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 57600 | Optional |
| **MODEM** | Modem type supported | **\*SAME**, *NORMAL, *V54, *IBMWRAP | Optional |
| **MODEMRATE** | Modem data rate select | **\*SAME**, *FULL, *HALF | Optional |
| **SWTCNN** | Switched connection type | **\*SAME**, *BOTH, *ANS, *DIAL | Optional |
| **AUTOANS** | Autoanswer | **\*SAME**, *YES, *NO | Optional |
| **AUTODIAL** | Autodial | **\*SAME**, *YES, *NO | Optional |
| **DIALCMD** | Dial command type | **\*SAME**, *NONE, *V25BIS | Optional |
| **ACRSRCNAME** | Autocall resource name | *Name*, **\*SAME** | Optional |
| **CALLNBR** | Calling number | *Character value*, **\*SAME**, *NONE | Optional |
| **INACTTMR** | Inactivity timer | 150-4200, **\*SAME**, *NOMAX | Optional |
| **MAXBUFFER** | Maximum buffer size | 8-8192, **\*SAME** | Optional |
| **CODE** | Character code | **\*SAME**, *EBCDIC, *ASCII | Optional |
| **SYNCCHARS** | SYN characters | **\*SAME**, 2, 4 | Optional |
| **THRESHOLD** | Error threshold level | **\*SAME**, *OFF, *MIN, *MED, *MAX | Optional |
| **STXLRC** | Include STX character in LRC | **\*SAME**, *YES, *NO | Optional |
| **RCVTMR** | Receive timer | 30-254, **\*SAME** | Optional |
| **CONTTMR** | Continue timer | 16-24, **\*SAME** | Optional |
| **CTNRTY** | Contention state retry | 0-21, **\*SAME** | Optional |
| **DTASTTRTY** | Data state retry | 0-255, **\*SAME** | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| TMTRTY | Transmit TTD or WACK retry | 0-65534, *SAME*, *NOMAX | Optional |
| RCVRTY | Receive TTD or WACK retry | 0-65534, *SAME*, *NOMAX | Optional |
| DSRDRPTMR | Data Set Ready drop timer | 3-60, *SAME* | Optional |
| AUTOANSTYP | Autoanswer type | *SAME*, *DTR, *CDSTL | Optional |
| CTSTMR | Clear To Send timer | 10-60, *SAME* | Optional |
| RMTANSTMR | Remote answer timer | *SAME*, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120 | Optional |
| CMNRCYLMT | Recovery limits | Single values: *SAME*, *SYSVAL<br>Other values: *Element list* | Optional |
|  | Element 1: Count limit | 0-99 |  |
|  | Element 2: Time interval | 0-120 |  |
| TEXT | Text 'description' | *Character value*, *SAME*, *BLANK | Optional |

## Line description (LIND)

Specifies the name of the line description

This is a required parameter.

## Resource name (RSRCNAME)

Specifies the resource name that describes the automatic call unit port.

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified for the TYPE parameter to help determine the resource name. The resource name is on the port. For example, the resource name may be CMN01 on an Ethernet port.

**\*SAME**
    The value does not change.

*name*    Specify the resource name of the communications port.

This is a required parameter.

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
    The value does not change.

**\*YES**    The line is automatically varied on at initial program load (IPL).

**\*NO**    This line is not automatically varied on at IPL.

## Activate swt network backup (ACTSNBU)

Specifies, for modems that support the switched network backup (SNBU) feature and that are not IBM 386x, 586x, or 786x models, whether the SNBU feature is activated or deactivated. The local modem and remote modem must both support the SNBU to activate it. IBM 386x, 586x, and 786x models are activated with a hardware switch only. This feature lets you bypass a broken nonswitched connection (nonswitched line) by establishing a switched connection.

**\*SAME**
> This value does not change from the value previously specified either on this parameter or on the SNBU parameter of the command creating the line description.

**\*NO**     The SNBU feature is not used.

**\*YES**     The SNBU feature is activated. You must also specify a value of \*YES for the **Activate swt network backup (ACTSNBU)** parameter for the controller.

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## Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**
> The value does not change.

**\*NOWAIT**
> The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*
> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(\*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:

   - Put tasks in place to manage the line
   - Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code
   - Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

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## Switched controller list (SWTCTLLST)

Specifies the names of up to 64 switched controllers that can establish a connection with this switched line. The controller descriptions must already exist. This parameter is valid only if the line is switched or the nonswitched line has the switched network backup (SNBU) feature.

The value does not change.

*switched-controller-list*
>Specify the switched controller names. Up to 64 switched controllers can be specified.

## Station address (STNADR)

Specifies, for multipoint tributary lines, the hexadecimal address by which the local system is known to the remote system. The hexadecimal address is the polling address assigned to this system.

**\*SAME**
>The value does not change.

If a character code of \*ASCII is specified, any address with the 6-bit set on cannot be used. If a character code of \*EBCDIC is specified, any address with the 2-bit set on cannot be used.

*station-address*
>Specify a hexadecimal value from 04 to FE. BSC control characters can not be specified.

## Duplex (DUPLEX)

Specifies whether request-to-send (RTS) is permanently turned on (for duplex modems) or turned on only when transmission is required (for half duplex modems).

**\*SAME**
>The value does not change.

**\*HALF**
>Request-to-send (RTS) is turned on only when transmission is required (for half duplex modems). You can choose to run half duplex even if the modem can support duplex communication.

**\*FULL** Request-to-send (RTS) is permanently set on (for duplex modems).

## Line speed (LINESPEED)

Specifies the line speed in bits per second (bps).

**\*SAME**
>The value does not change.

**1200** 1200 bps is used.

*line-speed*
>Specify the line speeds. Valid lines speeds are: 50, 75, 110, 150, 300 600, 1200, 2400 4800, 7200, 9600, 14400, 19200, 28800, 38400, 57600, 76800, or 115200 bits per second.

## Modem type supported (MODEM)

Specifies the type of modem supported on the communications line. Refer to the modem manual to determine the appropriate value to select.

**\*SAME**
      The value does not change.

**\*NORMAL**
      No attempt is made to run a diagnostic test to your modem.

**\*V54**    A certain type of diagnostic test (as defined by the CCITT recommendations) is run to your modem. This system supports CCITT V.54 loop 3, local loop back, and loop 2, which is a remote loop back.

**\*IBMWRAP**
      An IBM modem with wrap test capabilities is used on the communications line.

## Modem data rate select (MODEMRATE)

Specifies the speed at which the line operates if the modem has the data rate select feature.

**\*SAME**
      The value does not change.

**\*FULL**  The line operates at the full rate of the modem.

**\*HALF**
      The line operates at half the full rate of the modem.

## Switched connection type (SWTCNN)

Specifies whether the switched (Async, BSC, SDLC, or IDLC) line or switched network backup (Async, BSC, or SDLC) line is used for incoming calls, outgoing calls, or both.

**\*SAME**
      The value does not change.

**\*BOTH**
      The line is used for both incoming and outgoing calls.

**\*ANS**   The line is used for incoming calls only.

**\*DIAL**
      The line is used for outgoing calls only.

## Autoanswer (AUTOANS)

Specifies, for switched or switched network backup lines (Async, BSC, SDLC, or X.25 line), whether the system automatically answers a call from a remote system to establish the connection, or whether the system operator manually answers the call and places the modem in data mode.

**Note:** *YES is a valid option only if the modem has the automatic answer feature.

**\*SAME**

> The value does not change.

**\*YES** The incoming call is automatically answered by the automatic answer feature.

**\*NO** The incoming call must be manually answered.

# Autodial (AUTODIAL)

Specifies, for switched lines, whether the system automatically calls a remote system to establish a connection or if the system operator must manually place the call.

**\*SAME**

> The value does not change.

**\*NO** The line connection is made by manually dialing the X.25 network.

**\*YES** The line connection is made by the system automatically dialing the X.25 network.

# Dial command type (DIALCMD)

Specifies the type of dial command used to establish a switched connection with a remote system.

**\*SAME**

> The value does not change.

**\*NONE**

> No dial command is used. (An automatic call unit is used to establish the connection.)

**\*V25BIS**

> V.25 bis is a recommendation which allows the use of one physical interface for call establishment and data transmission. It is referred to as a serial automatic call interface because the digits are presented serially on the link from the system to the modem.

# Autocall resource name (ACRSRCNAME)

Specifies the automatic call resource name that describes the automatic call unit port that is used to establish a connection with a remote system. Use the Work with Hardware Resources (WRKHDWRSC) command to determine the resource name.

**\*SAME**

> The value does not change.

# Calling number (CALLNBR)

Specifies the local telephone number of the line that is used for the V.25 bis Call Request with Identification (CRI) dial command. When V.25 bis CRI dialing is used, the system takes the called (connection) number (CNNNBR parameter ), adds a separator character (;), and puts the calling number at the end. The default, *NONE, indicates that Call Request Normal (CRN) is used.

Specify the calling number only when the modem and network support the CRI dial command.

**\*SAME**
> The value does not change.

**\*NONE**
> Call Request Normal (CRN) is used. CRN dialing sends only the connection number to the V.25 bis modem.

*calling-number*
> Specify the local telephone number if V.25 bis CRI dialing is required. The number can be up to 32 characters in length. See your modem documentation to determine the values allowed by the modem.

**Note:** Specify the calling number only if both the modem and network support the V.25 bis CRI dial command.

## Inactivity timer (INACTTMR)

Specifies the time (in tenths of a second) the system waits for activity on a switched line before disconnecting the line.

**\*SAME**
> The value does not change.

**\*NOMAX**
> The system waits indefinitely for activity.

*inactivity-timer*
> Specify a value from 150 to 4200 units. Each unit represents 0.1 second, which provides a time range of 0.3 to 9.9 seconds.

## Maximum buffer size (MAXBUFFER)

Specifies the maximum size of inbound and outbound data buffers.

**\*SAME**
> The value does not change.

## Character code (CODE)

Specifies whether the extended binary-coded decimal interchange code (\*EBCDIC) or the American National Standard Code for Information Interchange (\*ASCII) character code is used on the line.

**\*SAME**
> The value does not change.

**\*EBCDIC**
> The EBCDIC character set code is used.

**\*ASCII**
> The ASCII character code is used.

## SYN characters (SYNCCHARS)

Specifies the number of BSC SYN (synchronous) control characters to send when transmitting. The SYN control character is used to establish and maintain synchronization and as a time fill in the absence of any data or other control character.

**\*SAME**
> The value does not change.

**2**     The synchronization pattern consists of two consecutive SYN characters.

**4**     The synchronization pattern consists of four consecutive SYN characters.

## Error threshold level (THRESHOLD)

Specifies the temporary error threshold level being monitored by the system. A permanent error is reported only if the errors occurred consecutively and exceeded the retry limit.

**Note:** Specifying the THRESHOLD parameter affects all threshold errors. They cannot be specified individually.

**\*SAME**
> The value does not change.

**\*OFF**   No threshold errors are reported.

**\*MIN**   The threshold for errors is set to a minimum monitoring level.

**\*MED**   The threshold for errors is set to a medium monitoring level.

**\*MAX**   The threshold for errors is set to a maximum monitoring level.

## Include STX character in LRC (STXLRC)

Specifies whether the start of text (STX) control character is included in the longitudinal redundancy check (LRC) calculation. This applies only to lines using the ASCII character code.

**\*SAME**
> The value does not change.

**\*NO**    The STX control character is not included in the LRC calculation.

**\*YES**   The STX control character is included in the LRC calculation.

## Receive timer (RCVTMR)

Specifies the duration of time the system waits for data from the remote system before a receive timeout occurs.

**\*SAME**
> The value does not change.

*receive-timer*
> Specify a value from 30 to 254 in 0.1-second intervals.

## Continue timer (CONTTMR)

Specifies, when the system is not ready to transmit or receive data, the duration of time the system waits before sending a control character which prevents the line from becoming inoperative. This parameter is not valid for an application type of RJE.

**\*SAME**
> The value does not change.

*continue-timer*
> Specify a value from 16 to 24 in 0.1-second intervals.

## Contention state retry (CTNRTY)

Specifies the number of contention state retries to attempt before indicating the error and making the line inoperative.

For BSC, contention is the state that exists after the end of transmission (EOT) character is received or sent and before a starting sequence (ENQ) has been positively acknowledged (ACK0).

In data communications, a type of half-duplex line or link control in which either user may transmit any time the line/link is available. In the event that both users attempt to transmit a request simultaneously, the protocols or the hardware determines who wins the contention.

**\*SAME**
> The value does not change.

*contention-state-retry*
> Specify a value from 0 to 21 for the number of contention state retries.

## Data state retry (DTASTTRTY)

Specifies the number of data state retries to attempt before indicating the error and ending the session.

For BSC, a data state is a time during which BSC is sending or receiving characters on the communications line.

**\*SAME**
> The value does not change.

*data-state-retry*
> Specify a value from 0 to 255 for the number of data state retries.

# Transmit TTD or WACK retry (TMTRTY)

Specifies the number of retries for transmitting temporary text delay (TTD) or wait before transmitting (WACK) before indicating a session failure. This parameter is not valid for an application type of RJE.

**\*SAME**
> The value does not change.

**\*NOMAX**
> Retries are attempted indefinitely.

*transmit-TTD-or-WACK-retry*
> Specify a value from 0 to 65534 for the number of retries.

# Receive TTD or WACK retry (RCVRTY)

Specifies the number of retries for receiving temporary text delay (TTD) or wait before transmitting (WACK) before indicating a session failure. This parameter can only be specified if the application type is program-to-program.

**\*SAME**
> The value does not change.

**\*NOMAX**
> Retries are attempted indefinitely.

*receive-TTD-or-WACK-retry*
> Specify a value from 0 to 65534 for the number of retries.

# Data Set Ready drop timer (DSRDRPTMR)

Specifies the amount of time that the system waits for the modem to exit the Data Set Ready (DSR) state before signaling an error.

**\*SAME**
> The value does not change.

*drop-timer*
> Specify a value ranging from 3 through 60 seconds.

# Autoanswer type (AUTOANSTYP)

Specifies the method that the system uses to answer incoming calls.

**\*SAME**
> The value does not change.

**\*DTR**  The system enters the Data Terminal Ready state, signals the modem to answer calls, and waits for the modem to enter the Data Set Ready (DSR) state.

**\*CDSTL**
> The system enters the Connect Data Set to Line (CDSTL) state after monitoring the Ring Indicator to signal the modem to answer the call.

## Clear To Send timer (CTSTMR)

Specifies the amount of time the system waits for the modem to enter or exit the Clear to Send (CTS) state before signaling an error.

**\*SAME**
> The value does not change.

*cts-timer*
> Specify a value ranging from 10 through 60 seconds.

## Remote answer timer (RMTANSTMR)

Specifies the amount of time that system waits for the modem to enter the Data Set Ready (DSR) state after dialing before signaling an error.

**\*SAME**
> The value does not change.

*answer-timer*
> Specify a value ranging from 30 through 120 seconds in 5-second intervals.

## Recovery limits (CMNRCYLMT)

Specifies the second-level communications recovery limits to be used for this line description.

The possible **count-limit** values are:

**\*SAME**
> The value does not change.

**\*SYSVAL**
> The value in the QCMNRCYLMT system value is used.

*count-limit*
> Specify the number of recovery attempts to be performed by the system. Valid values range from 0 through 99.

The possible **time-interval** values are:

**\*SAME**
> The value does not change.

*time-interval*
> Specify the number of minutes within which recovery attempts are made. Valid values range from 0 through 120 in 1-minute intervals.

## Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
>  The value does not change.

**\*BLANK**
>  Text is not specified.

*character-value*
>  Specify no more than 50 characters of text, enclosed in apostrophes.

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## Examples

```
CHGLINBSC   LIND(BSCLIN1)  INACTTMR(300)
```

This command changes the inactivity timer for line description BSCLIN1 to 300 (30.0 seconds).

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## Error messages

**\*ESCAPE Messages**

**CPF261E**
>  Line description &1 not changed.

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# Change Line Desc (DDI) (CHGLINDDI)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (Distributed Data Interface) (CHGLINDDI) command changes a line description for a distributed data interface line such as an FDDI (Fiber Distributed Data Interface).

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource name | *Name*, **\*SAME**, \*NWID | Optional |
| ONLINE | Online at IPL | **\*SAME**, \*YES, \*NO | Optional |
| VRYWAIT | Vary on wait | 15-180, **\*SAME**, \*NOWAIT | Optional |
| MAXCTL | Maximum controllers | 1-256, **\*SAME**, 40 | Optional |
| MAXFRAME | Maximum frame size | 265-4444, **\*SAME**, 4105 | Optional |
| LOGLVL | Logging level | **\*SAME**, \*OFF, \*ERRORS, \*ALL | Optional |
| LCLMGRMODE | Local manager mode | **\*SAME**, \*OBSERVING, \*NONE | Optional |
| ADPTADR | Local adapter address | 400000000000-7FFFFFFFFFFF, **\*SAME**, \*ADPT | Optional |
| EXCHID | Exchange identifier | 05600000-056FFFFF, \*SYSGEN, **\*SAME** | Optional |
| SSAP | SSAP list | Single values: **\*SAME**, \*SYSGEN<br>Other values (up to 24 repetitions): *Element list* | Optional |
| | Element 1: Source service access point | 02-FE | |
| | Element 2: SSAP maximum frame | 265-4444, **\*MAXFRAME** | |
| | Element 3: SSAP type | **\*CALC**, \*NONSNA, \*SNA | |
| GRPADR | Group address | Single values: **\*SAME**, \*NONE<br>Other values (up to 12 repetitions): 800000000000-FFFFFFFFFFFE | Optional |
| TKNRTTTIME | Token rotation time | 4-167, **\*SAME**, \*CALC | Optional |
| COSTCNN | Cost/connect time | 0-255, **\*SAME**, 0 | Optional |
| COSTBYTE | Cost/byte | 0-255, **\*SAME**, 0 | Optional |
| SECURITY | Security for line | **\*SAME**, \*NONSECURE, \*PKTSWTNET, \*UNDGRDCBL, \*SECURECND, \*GUARDCND, \*ENCRYPTED, \*MAX | Optional |
| PRPDLY | Propagation delay | **\*SAME**, \*PKTSWTNET, \*LAN, \*MIN, \*TELEPHONE, \*SATELLITE, \*MAX | Optional |
| USRDFN1 | User-defined 1 | 0-255, **\*SAME**, 128 | Optional |
| USRDFN2 | User-defined 2 | 0-255, **\*SAME**, 128 | Optional |
| USRDFN3 | User-defined 3 | 0-255, **\*SAME**, 128 | Optional |
| AUTOCRTCTL | Autocreate controller | **\*SAME**, \*NO, \*YES | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| AUTODLTCTL | Autodelete controller | 1-10000, **\*SAME**, 1440, *NONE | Optional |
| CMNRCYLMT | Recovery limits | Single values: **\*SAME**, *SYSVAL<br>Other values: *Element list* | Optional |
| | Element 1: Count limit | 0-99, **2** | |
| | Element 2: Time interval | 0-120, **5** | |
| MSGQ | Message queue | Single values: **\*SAME**, *SYSVAL, *SYSOPR<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name* | |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |
| LINKSPEED | Link speed | **\*SAME**, *MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX | Optional |

# Line description (LIND)

Specifies the name of the line description

This is a required parameter.

# Resource name (RSRCNAME)

Specifies the resource name that identifies the hardware that the description represents.

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified for the TYPE parameter to help determine the resource name. The resource name is on the port. For example, the resource name may be CMN01 on an Ethernet port.

**Note:** The value specified on the RSRCNAME parameter cannot be changed from *NWID to another value or from another value to *NWID.

This is a required parameter.

**\*SAME**
> The value does not change.

**\*NWID**
> The resource name specified on the attached frame relay network interface description is used.

*name*    Specify a resource name.

# Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**

> The value does not change.

**\*YES**   The line is automatically varied on at initial program load (IPL).

**\*NO**   This line is not automatically varied on at IPL.

## Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**

> The value does not change.

**\*NOWAIT**

> The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*

> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(\*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:
   - Put tasks in place to manage the line
   - Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code
   - Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

## Maximum controllers (MAXCTL)

Specifies the maximum number of controllers that the line supports.

**\*SAME**

> The value does not change.

**40**   The line supports 40 controllers.

*maximum-controllers*

> Specify a number large enough to account for all controllers currently active to this network, and the controllers that will be attached in the near future. Valid values range from 1 through 256.

# Maximum frame size (MAXFRAME)

Specifies the maximum frame (path information unit (PIU)) size that the controller can send or receive. This value is used to calculate request unit (RU) sizes. Since the maximum PIU size that the controller can send or receive is negotiated when system identifiers are exchanged, the maximum PIU size used at run time may be different. This value matches the corresponding value on the host system.

**Note:** The MAXFRAME value is provided by your telephone carrier from which you should subtract 44 bytes for the size of the header.

**\*SAME**
> The value does not change.

**4105**   The maximum frame size is 4105 bytes.

> **Note:** This value changes to 1556 when RSRCNAME(\*NWID) is specified.

*maximum-frame-size*
> Specify the maximum frame size. Valid values range from 265 through 4444 bytes.

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# Logging level (LOGLVL)

Specifies the error logging level used by the DDI local area network (LAN) manager. This parameter is used to determine whether unsolicited LAN errors are logged. These messages are logged in either the QHST message queue or the QSYSOPR message queue.

**Note:** The LOGLVL parameter is not used when RSRCNAME(\*NWID) is specified.

**\*SAME**
> The value does not change.

**\*OFF**   Errors are not monitored.

**\*ERRORS**
> Logs LAN manager error messages only.

**\*ALL**   Logs LAN manager error messages and informational messages.

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# Local manager mode (LCLMGRMODE)

Specifies whether this station is an observing network manager. An observing network manager logs network error messages and informational messages for this and other stations on the ring. These messages are logged in either the QHST message queue or the QSYSOPR message queue.

Examples of information available in observing mode only include errors on remote stations that do not affect general ring operation, or information about stations that are joining or leaving the ring.

**Note:** The LCLMGRMODE parameter is not used when RSRCNAME(\*NWID) or LOGLVL(\*OFF) is specified.

**\*SAME**
> The value does not change.

**\*OBSERVING**
> The LAN manager function of this station retrieves information generated by all adapters.

**\*NONE**

> The LAN manager function of this station only retrieves information generated by the local adapter.

> **Note:** A local area network manager logs only those messages that pertain to this station and its ability to access the ring when \*NONE is specified.

## Local adapter address (ADPTADR)

Specifies the 12-character hexadecimal adapter address.

**Note:** ADPTADR(\*ADPT) cannot be specified when RSRCNAME(\*NWID) is specified.

**\*SAME**

> The value does not change.

**\*ADPT**

> This value gives the user the preset DDI default address for this DDI adapter card. The user may display this by doing a DSPLIND on this line description after it has successfully varied on.

*local-adapter-address*

> Specify an address for this system in the DDI network. Valid values range from hexadecimal 400000000000 through 7FFFFFFFFFFF.

## Exchange identifier (EXCHID)

Specifies the hexadecimal exchange identifier that is used to identify the local system to the remote system. The 8-digit hexadecimal exchange identifier contains three digits for the block number and five digits for the identifier of this system.

**\*SAME**

> The value does not change.

**\*SYSGEN**

> The operating system generates the exchange identifier.

*exchange-identifier*

> Specify an exchange identifier composed of eight hexadecimal digits starting with 056.

## SSAP list (SSAP)

Specifies source service access points (SSAPs). This is the hexadecimal logical address used to route incoming data from the bus to the proper user. A maximum frame size can be specified for each SSAP. Valid SSAP values are AA (for TCP/IP), and 04 through 9C divisible by 4 (for SNA).

The destination service access point (DSAP), specified by the remote controller, must match one of the SSAPs specified in order for communication to occur. All SSAP values must be unique.

**\*SAME**

> The value does not change.

**\*SYSGEN**

> The system automatically creates three SSAPs, hex 04 for SNA, and hex 06 for TCP/IP applications.

The possible **SSAP** values are:

*source-service-access-point*
> Specify a maximum of 24 SSAPs using valid SSAP values.

You can enter multiple values for this parameter.

The possible **Frame Size for SSAP** values are:

**\*MAXFRAME**
> The frame size specified on the MAXFRAME parameter is used.

*SSAP-maximum-frame*
> Specify the maximum SSAP frame size (the maximum size of the data field that may be transmitted or received). Valid values for this parameter range from 265 through 4444 bytes, but must not exceed the value of the MAXFRAME parameter.

The possible **SSAP Type** values are:

**\*CALC**
> The system determines the SSAP type based on the following values:
> - 04 through 9C, divisible by 4 (for SNA)
> - 02 through FE, divisible by 2 (for non-SNA)

**\*SNA**  The SSAP is used for SNA communications. Valid values range from 04 through 9C and must be divisible by 4.

**\*NONSNA**
> The SSAP is used for non-SNA communications. Valid values range from 02 through FE and must be divisible by 2.

# Group address (GRPADR)

Specifies the distributed data interface group addresses used. Group addresses must each be specified as a 12-digit hexadecimal number. Valid values range from 800000000000 through FFFFFFFFFFFE.

You can enter multiple values for this parameter.

**\*SAME**
> The value does not change.

**\*NONE**
> No group addresses are specified.

*group-address*
> Specify the group addresses to be used.

## Token rotation time (TKNRTTTIME)

Specifies the token rotation time requested. This value is used when th station bids on the network. The lowest value of all attached stations on a ring determines the value the ring uses.

**Note:** TKNRTTTIME(*CALC) must be specified when RSRCNAME(*NWID) is specified.

**\*SAME**
        The value does not change.

**\*CALC**
        The system calculates the value based on the type of line that is linked to the controller.

*token-rotation-time*
        Specify a value ranging from 4 through 167 milliseconds.

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## Cost/connect time (COSTCNN)

Specifies the relative cost of being connected on the line. This parameter is required only if APPN is used on the system.

**\*SAME**
        The value does not change.

*cost-per-connect-time*
        Specify a value ranging from 0 through 255.

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## Cost/byte (COSTBYTE)

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN is used on the system.

**\*SAME**
        The value does not change.

*cost-per-byte*
        Specify a value ranging from 0 through 255.

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## Security for line (SECURITY)

Specifies the security level of the physical line.

**\*SAME**
        The value does not change.

**\*NONSECURE**
        Normal priority is used.

**\*PKTSWTNET**
        A packet switched network is used. Data does not always follow the same path through the network.

**\*UNDGRDCBL**
        An underground cable is used.

**\*SECURECND**
> A secure, unguarded conduit (for example, a pressurized pipe) is used.

**\*GUARDCND**
> A guarded conduit, which is protected against physical tapping, is used.

**\*ENCRYPTED**
> Data flowing on the line is encrypted.

**\*MAX**  A guarded conduit, protected against physical and radiation tapping, is used.

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## Propagation delay (PRPDLY)

Specifies the level of propagation delay on the line. This parameter is valid only if APPN is used on the system. The order of the values from shortest to longest delay is *MIN, *LAN, *TELEPHONE, *PKTSWTNET, and *SATELLITE.

**\*SAME**
> The value does not change.

**\*LAN**  The local area network propagation delay is used.

**\*PKTSWTNET**
> The packet switched network propagation delay is used.

**\*MIN**  The minimum propagation delay is used.

**\*TELEPHONE**
> The telephone propagation delay is used.

**\*SATELLITE**
> The satellite propagation delay is used.

**\*MAX**  The maximum propagation delay is used.

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## User-defined 1 (USRDFN1)

Specifies the first of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-1*
> Specify a value ranging from 0 through 255.

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## User-defined 2 (USRDFN2)

Specifies the second of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-2*
> Specify a value ranging from 0 through 255.

## User-defined 3 (USRDFN3)

Specifies the third of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-3*
> Specify a value ranging from 0 through 255.

## Autocreate controller (AUTOCRTCTL)

Specifies whether the system automatically creates controller descriptions when calls are received from adjacent systems on the local area network (LAN).

**\*SAME**
> The value does not change.

**\*NO**  The system does not automatically create a controller description when incoming calls are received.

**\*YES**  The system automatically creates a controller description when incoming calls are received.

## Autodelete controller (AUTODLTCTL)

Specifies the number of minutes an automatically created controller can remain in an idle state (switched from varied on to varied on pending) before the controller description and attached device descriptions are varied off and deleted.

**\*SAME**
> The value does not change.

**1440**  The controller description can be idle for 1440 minutes (24 hours).

**\*NONE**
> The system does not automatically delete or vary off the automatically configured, idle controller descriptions.

*wait-time*
> Specify the number of minutes to wait before deleting the automatically configured, idle controller descriptions for this line. Valid values range from 1 to 10,000 minutes.

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# Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

The possible **Maximum Recovery Limit** values are:

**\*SAME**
> The value does not change.

**2**    Two recovery attempts are made within the interval specified.

*count-limit*
> Specify the number of recovery attempts to be made. Valid values range from 0 through 99.

The possible **Recovery Time Interval** values are:

**5**    A 15-second timeout period is used.

*time-interval*
> Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

**\*SYSVAL**
> The recovery limits specified in the QCMNRCYLMT system value are used.

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# Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

**\*SAME**
> The value does not change.

**\*SYSVAL**
> Messages are sent to the message queue defined in the QCFGMSGQ system value.

**\*SYSOPR**
> Messages are sent to the system operator message queue (QSYS/QSYSOPR).

**Qualifier 1: Message queue**

*name*    Specify the name of the message queue to which operational messages are sent.

**Qualifier 2: Library**

*name*    Specify the name of the library where the message queue is located.

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# Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

# Link speed (LINKSPEED)

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN is used on the system.

**\*SAME**
> The value does not change.

**\*MIN** A link speed of less than 1200 bps is used.

**\*MAX** A link speed greater than 16M bps is used.

*link-speed*
> Specify the link speed. Valid values are: 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, and 16M.

# Examples

```
CHGLINDDI   LIND(DDI1)  AUTODLTCTL(600)  TEXT('NEW TEXT HERE')
```

This command changes DDI line DDI1 to automatically delete controllers after 600 seconds (10 minutes) and changes the text to 'NEW TEXT HERE'.

# Error messages

**\*ESCAPE Messages**

**CPF261E**
> Line description &1 not changed.

# Change Line Desc (Ethernet) (CHGLINETH)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (Ethernet) (CHGLINETH) command changes a line description for an Ethernet line. More information about using this command is in the Communications Configuration book, SC41-5401.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource name | *Name*, **\*SAME**, *NWID, *NWSD | Optional |
| ONLINE | Online at IPL | **\*SAME**, *YES, *NO | Optional |
| VRYWAIT | Vary on wait | 15-180, *NOWAIT, **\*SAME** | Optional |
| ASSOCPORT | Associated port resource name | *Name*, **\*SAME**, *NONE | Optional |
| ADPTADR | Local adapter address | *Character value*, **\*SAME**, *ADPT | Optional |
| GRPADR | Group address | Single values: **\*SAME**, *NONE<br>Other values (up to 12 repetitions): 010000000000-FDFFFFFFFFFF | Optional |
| MAXCTL | Maximum controllers | 1-256, **\*SAME** | Optional |
| SSAP | SSAP list | Single values: **\*SAME**, *SYSGEN<br>Other values (up to 24 repetitions): *Element list* | Optional |
| | Element 1: Source service access point | 02-FE | |
| | Element 2: SSAP maximum frame | 265-8996, **\*MAXFRAME**, 265, 521, 1033, 1466, 1493, 1496, 8996 | |
| | Element 3: SSAP type | **\*CALC**, *NONSNA, *SNA, *HPR | |
| THRESHOLD | Error threshold level | **\*SAME**, *OFF, *MIN, *MED, *MAX | Optional |
| GENTSTFRM | Generate test frame | **\*SAME**, *YES, *NO | Optional |
| PVCID | PVC identifiers | Single values: **\*SAME**<br>Other values: *Element list* | Optional |
| | Element 1: Virtual path identifier | 0-7 | |
| | Element 2: Virtual circuit identifier | 32-4095 | |
| USELECSADR | Use LECS address | **\*SAME**, *YES, *NO | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| LESATMADR | LES ATM address | Single values: **\*SAME**, \*NONE<br>Other values: *Element list* | Optional |
| | Element 1: Network prefix | *Hexadecimal value* | |
| | Element 2: End system identifier | *Hexadecimal value* | |
| | Element 3: Selector byte | *Hexadecimal value* | |
| EMLLANNAME | Emulated LAN name | *Character value*, **\*SAME**, \*NONE | Optional |
| LECDSCTIMO | LEC disconnect time out | 1-30, **\*SAME**, \*NOMAX | Optional |
| LINKSPEED | Link speed | 1200-603979776000, \*MIN, **\*SAME**, 4M, 10M, 16M, 100M, \*MAX | Optional |
| LINESPEED | Line speed | **\*SAME**, 10M, 100M, 1G, 10G, \*AUTO | Optional |
| DUPLEX | Duplex | *Character value*, **\*SAME**, \*HALF, \*FULL, \*AUTO | Optional |
| SRVOPT | Serviceability options | *Character value*, **\*SAME**, \*NONE | Optional |
| MAXFRAME | Maximum frame size | 1496-8996, **\*SAME**, 1496, 8996 | Optional |
| COSTCNN | Cost/connect time | 0-255, **\*SAME** | Optional |
| COSTBYTE | Cost/byte | 0-255, **\*SAME** | Optional |
| SECURITY | Security for line | **\*SAME**, \*NONSECURE, \*PKTSWTNET, \*UNDGRDCBL, \*SECURECND, \*GUARDCND, \*ENCRYPTED, \*MAX | Optional |
| PRPDLY | Propagation delay | **\*SAME**, \*LAN, \*MIN, \*TELEPHONE, \*PKTSWTNET, \*SATELLITE, \*MAX | Optional |
| USRDFN1 | User-defined 1 | 0-255, **\*SAME** | Optional |
| USRDFN2 | User-defined 2 | 0-255, **\*SAME** | Optional |
| USRDFN3 | User-defined 3 | 0-255, **\*SAME** | Optional |
| AUTOCRTCTL | Autocreate controller | \*YES, \*NO, **\*SAME** | Optional |
| AUTODLTCTL | Autodelete controller | 1-10000, \*NONE, **\*SAME** | Optional |
| CMNRCYLMT | Recovery limits | Single values: **\*SAME**, \*SYSVAL<br>Other values: *Element list* | Optional |
| | Element 1: Count limit | 0-99, **2** | |
| | Element 2: Time interval | 0-120, **5** | |
| MSGQ | Message queue | Single values: **\*SAME**, \*SYSVAL, \*SYSOPR<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name* | |
| TEXT | Text 'description' | *Character value*, **\*SAME**, \*BLANK | Optional |

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# Line description (LIND)

Specifies the name of the line description

This is a required parameter.

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# Resource name (RSRCNAME)

Specifies the resource name that identifies the communications port.

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified for the TYPE parameter to help determine the resource name. The resource name is on the port. For example, the resource name may be CMN01 on an Ethernet port.

**Note:** The value specified on the RSRCNAME parameter cannot be changed from *NWSD to another value or from another value to *NWSD.

**\*SAME**
> The value does not change.

**\*NWID**
> The resource name specified on the attached frame relay network interface description is used.

**\*NWSD**
> The resource name is determined by the network server used.

*name*  Specify the resource name of the communications port.

This is a required parameter.

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
> The value does not change.

**\*YES**  The line is automatically varied on at initial program load (IPL).

**\*NO**  This line is not automatically varied on at IPL.

## Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**
> The value does not change.

**\*NOWAIT**
> The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*
> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:
   - Put tasks in place to manage the line
   - Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code

* Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

## Associated port resource name (ASSOCPORT)

Specifies the resource name that describes the port that is used to establish a connection between a Windows network server and the network.

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified for the TYPE parameter to help determine the resource name. The resource name is on the port. For example, the resource name may be CMN01 on an Ethernet port.

**Note:** ASSOCPORT parameter is only valid when RSRCNAME(*NWSD) is specified.

**\*SAME**
> The value does not change.

**\*NONE**
> An associated port resource name is not associated with the line.

*name*    Specify the resource name.

## Local adapter address (ADPTADR)

Specifies the 12-character hexadecimal adapter address.

**\*SAME**
> The value does not change.

**\*ADPT**
> The preset default address for this Ethernet adapter card is used.
>
> **Note:** This value is not valid when RSRCNAME(*NWID) and NWITYPE(*FR) is specified.
>
> **Note:** *ADPT must be specified when the NWS parameter specifies a virtual ethernet port number, *VRTETHPTP or *VRTETHn where n is 0-9.

*local-adapter-address*
> Specify an adapter address of your choice to describe this system in the Ethernet network. The value specified must be an individual address that is locally administered. Valid values are *ADPT or hexadecimal 020000000000 through FEFFFFFFFFFF. The second digit must be 2, 6, A, or E.

## Group address (GRPADR)

A group address is an address to which a subset of nodes on the Ethernet line will respond in addition to their local adapter addresses.

**\*SAME**
> The value does not change.

**\*NONE**

No group addresses are defined.

*group-address*

Specify a group address of your choice to describe this system in the Ethernet network. Valid values are hexadecimal 010000000000 through FDFFFFFFFFFF. The second digit of the value specified must be 1, 3, 5, 7, 9, B, D, or F. Up to 12 addresses may be specified.

# Maximum controllers (MAXCTL)

Specifies the maximum number of controllers that the line supports.

**\*SAME**

The value does not change.

**40**     The number of controllers is 40.

*maximum-controllers*

Specify value ranging from 1 to 256. The number must be large enough to account for all of the SNA controllers that are currently active to this line, and for those controllers you know will be attached in the near future.

# SSAP list (SSAP)

Specifies the source service access point (SSAP) information, including an SSAP value, a maximum frame size, and an SSAP type.

You can enter multiple values for this parameter.

The possible **source service access point** values are:

**\*SAME**

The value does not change.

**\*SYSGEN**

The system determines the source service access points.

- If ETHSTD(\*ALL) or ETHSTD(\*IEEE8023) is specified, the system generates the SSAPs 04, 12, AA, and C8.
- If ETHSTD(\*ETHV2) is specified, the system generates the SSAPs 04 and 08

*source-service-access-point*

Specify a service access point for receiving and transmitting data. The SSAP must be hexadecimal 06 or AA for TCP/IP applications if ETHSTD is \*ALL or \*IEEE8023 (06 and AA are not allowed when ETHSTD is \*ETHV2; however, TCP/IP can still be run). For SNA applications, specify a value ranging from 04 through 9C in multiples of four. For example, 7C is a valid choice. For non-SNA applications, specify a value ranging from 02 through FE in multiples of 2.

The possible SSAPs value is:

*source-service-access-point*

Specify a source service access point for receiving and transmitting data. A maximum of 24 SSAP values can be specified.

- For Transmission Control Protocol/Internet Protocol (TCP/IP) applications, the SSAP must be AA.

**Note:** If ETHSTD(*ETHV2) is specified, AA cannot be specified. However, TCP/IP can be run.

For Systems Network Architecture (SNA) applications, the SSAP must be a hex value ranging from 04 through 9C in multiples of four (04, 08, 0C, and so on).

- For high-performance routing (HPR) applications, the SSAP must be hex C8.
- For non-SNA applications, the SSAP must be a hex value ranging from 02 through FE in multiples of two (02, 04, 06, and so on).
- For LAN printing applications, specify a SSAP value of 12 with SSAP type of *NONSNA.

The possible **SSAP maximum frame size** values are:

**\*MAXFRAME**
> The system determines the maximum frame size (data field size) that can be transmitted or received. If ETHSTD(*ALL or *IEEE8023) was specified, *CALC produces a frame size of 1496 for TCP/IP and SNA SSAPs. If ETHSTD(*ETHV2) was specified, *CALC produces a frame size of 1493 for SNA SSAPs.

*SSAP-maximum-frame*
> Specify a maximum frame size for this SSAP. Valid values range from 265 through 8996 (265 through 1493 for SNA SSAPs when *ETHV2 is specified on the **Ethernet standard (ETHSTD)** parameter).

> **Note:** When *NWID is specified on the **Resource name (RSRCNAME)** parameter and *ETHV2 is specified on the ETHSTD parameter, the valid values for this parameter range from 265 through 1486 bytes. When *NWID is specified on the RSRCNAME parameter, and *ALL or *IEEE8023 is specified on the ETHSTD parameter, the valid values for this parameter range from 265 through 1489 bytes. Maximum frame size larger than 1486 or 1489 is valid only when AA SSAP for TCP/IP is specified.

The possible **SSAP type** values are:

**\*CALC**
> The system determines the SSAP type based on the SSAP value specified.

**\*SNA** The system uses IBM's Systems Network Architecture for communication. Only SSAP values of 04 through 9C in multiples of 4 are supported.

**\*NONSNA**
> The system does not use SNA communications. Only SSAP values of 02 through FE in multiples of 2 are supported.

**\*HPR** The SSAP is used for HPR communications. It also can be used for SNA applications. The valid value is hex C8.

# Error threshold level (THRESHOLD)

This parameter, and its values *SAME, *OFF, *MIN, *MED, and *MAX, can be specified but it is not used by the system starting in release V2R3M0. The parameter may be removed in a later release.

**\*SAME**
> The value does not change.

# Generate test frame (GENTSTFRM)

Specifies whether the system will automatically generate test frames to determine network availability.

**\*SAME**
> The value does not change.

**\*YES**   The system will generate test frames.

**\*NO**   The system will not generate test frames.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## PVC identifiers (PVCID)

Specifies the virtual path identifier and virtual circuit identifier pairs associated with this permanent virtual circuit.

**\*SAME**
> The value does not change.

The possible **Virtual Path Identifier** value is:

*virtual-path-id*
> Specify a number that represents the virtual path identifier. This number must be in the range of 0 to 7.

The possible **Virtual Circuit Identifier** value is:

*virtual-circuit-id*
> Specify a number that represents the virtual circuit identifier. This number must be in the range of 32 to 4095.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Use LECS address (USELECSADR)

Specifies whether the LAN emulation configuration server (LECS) should be connected to request the remote LAN emulation server (LES) address.

**\*SAME**
> The value does not change.

**\*YES**   The LECS address is used.

**\*NO**   The LECS address is not used.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

# LES ATM address (LESATMADR)

Specifies the ATM network address of the remote LAN emulation server.

**Note:** This parameter cannot be *NONE if USELECSADR(*NO) is specified.

**\*SAME**
> The value does not change.

The possible **Single Value** is:

**\*NONE**
> The ATM network address is not used.

The possible **Network prefix** value is:

*network-prefix*
> Specify the network prefix of the ATM address of the remote server. This is a 26 digit hexadecimal value.

The possible **End system identifier** value is:

*end-system-identifier*
> Specify the end system identifier of the remote server. This is a 12 digit hexadecimal value.

The possible **Selector byte** value is:

*selector byte*
> Specify the selector byte of the remote server. This is a two digit hexadecimal value.

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**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

# Emulated LAN name (EMLLANNAME)

Specifies the emulated LAN name.

**\*SAME**
> The value does not change.

**\*NONE**
> The emulated LAN name not used.

*emulated-LAN-name*
> Specify the emulated LAN name. A maximum of 32 characters can be specified.

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**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

# LEC disconnect time out (LECDSCTIMO)

Specifies the amount of time in minutes a LAN emulation (LE) client waits before disconnecting an idle virtual circuit connection to another client.

**\*SAME**
>   The value does not change.

**\*NOMAX**
>   The LE client waits indefinitely.

*LEC-disconnect-timeout*
>   Specify the number of minutes the LE client waits before disconnecting an idle virtual circuit connection to another client. The value must be in the range of 1 to 30 minutes.

## Link speed (LINKSPEED)

Specifies the link speed in bits per second (bps). This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

**\*SAME**
>   The value does not change.

**10M**    The link speed is 10 million bits per second.

**4M**    The link speed is 4 million bits per second.

**16M**    The link speed is 16 million bits per second.

**100M**    The link speed is 100 million bits per second.

**\*MIN**    A link speed of less than 1200 bps is used.

**\*MAX**    A link speed greater than 100M bps is used.

*link-speed*
>   Specify the link speed. Valid values range from 1200 to 603979776000 bps.

## Line speed (LINESPEED)

Specifies the line speed in bits per second (bps).

**\*SAME**
>   The value does not change.

**\*AUTO**
>   The line speed value will be determined by the hardware using auto-negotiation.

*10M*    The line speed is 10 million bits per second.

*100M*    The line speed is 100 million bits per second.

*1G*    The line speed is 1 gigabit per second(1000 million bits per second).

*10G*    The line speed is 10 gigabits per second(10000 million bits per second).

>   **Note:** The values 1G and 10G specify gigabit Ethernet. Gigabit Ethernet is only available when running strictly TCP/IP protocol. 1G or 10G must be specified when the NWS parameter specifies a virtual Ethernet port number, \*VRTETHPTP or \*VRTETHn where n is 0-9.

## Duplex (DUPLEX)

Specifies whether the hardware can send and receive data simultaneously. In half duplex mode, the hardware must alternate between sending data and receiving data. In full duplex mode, data can be sent and received simultaneously.

**Note:** For optimum performance, this setting should match the setting on the switch or hub this line is connected to. Refer to i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/ for more information.

**\*SAME**
> The value does not change.

**\*AUTO**
> The duplex value will be determined by the hardware using auto-negotiation.

**\*HALF**
> The line communicates using half duplex mode.

**\*FULL**  The line communicates using full duplex mode.

> **Note:** \*FULL must be specified when the NWS parameter specifies a virtual ethernet port number, \*VRTETHPTP or \*VRTETHn where n is 0-9.

## Serviceability options (SRVOPT)

Specifies serviceability options. This parameter allows serviceability options to be provided and is intended to be used under the direction of a service provider.

**\*SAME**
> The value does not change.

**\*NONE**
> No serviceability options provided.

*character-value*
> Specify a value as directed by your service provider.

## Maximum frame size (MAXFRAME)

Specifies the maximum frame size that can be transmitted and received on this line description.

**\*SAME**
> The value does not change.

**1496**  The maximum frame size is 1496 bytes.

*maximum-frame-size*
> Specify the maximum frame size value to be used. The valid frame sizes (in bytes) range from 1496 through 8996.

**Note:** When RSRCNAME(\*NWID) specified, the only valid value for this parameter is 1496 bytes. If the maximum frame size is greater than 1496 bytes, LINESPEED(1G) or LINSPEED(\*AUTO) and DUPLEX(\*FULL) or DUPLEX(\*AUTO) must be specified. 8996 is recommended when the NWS parameter specifies a virtual ethernet port number, \*VRTETHPTP or \*VRTETHn where n is 0-9.

## Cost/connect time (COSTCNN)

Specifies the relative cost of being connected on the line. This parameter is required only if APPN is used on the system.

**\*SAME**
> The value does not change.

*cost-per-connect-time*
> Specify a value ranging from 0 through 255.

## Cost/byte (COSTBYTE)

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN is used on the system.

**\*SAME**
> The value does not change.

*cost-per-byte*
> Specify a value ranging from 0 through 255.

## Security for line (SECURITY)

Specifies the security level of the physical line. This parameter is valid only if APPN is used on the system.

**\*SAME**
> The value does not change.

**\*NONSECURE**
> There is no security on the line.

**\*PKTSWTNET**
> A packet switched network is used. Data does not always follow the same path through the network.

**\*UNDRGRDCBL**
> An underground cable is used.

**\*SECURECND**
> A secure, but unguarded, conduit is used.

**\*GUARDCND**
> A guarded conduit, protected against physical tapping, is used.

**\*ENCRYPTED**
> Data flowing on the line is encrypted.

**\*MAX**  A guarded conduit, protected against physical and radiation tapping is used.

# Propagation delay (PRPDLY)

Specifies the level of propagation delay on the line. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system. The order of the values from shortest to longest delay is *MIN, *LAN, *TELEPHONE, *PKTSWTNET, and *SATELLITE.

**\*SAME**
    The value does not change.

**\*LAN**    Propagation delay using a local area network.

**\*MIN**    The minimum propagation delay is used.

**\*TELEPHONE**
    Propagation delay using telephone lines.

**\*PKTSWTNET**
    Propagation delay using a packet switched network.

**\*SATELLITE**
    Propagation delay using satellite communications.

**\*MAX**    The maximum propagation delay is used.

# User-defined 1 (USRDFN1)

Specifies the first of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**\*SAME**
    The value does not change.

*user-defined-1*
    Specify a value ranging from 0 through 255.

# User-defined 2 (USRDFN2)

Specifies the second of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**\*SAME**
    The value does not change.

*user-defined-2*
    Specify a value ranging from 0 through 255.

## User-defined 3 (USRDFN3)

Specifies the third of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-3*
> Specify a value ranging from 0 through 255.

## Autocreate controller (AUTOCRTCTL)

Specifies whether the system automatically creates an advanced program-to-program communications (APPC) controller description when an incoming advanced peer-to-peer networking (advanced peer-to-peer networking (APPN)) call is received from an adjacent system on the Local Area Network (LAN).

**\*SAME**
> The value does not change.

**\*NO**  A controller description is not automatically created for this line.

**\*YES**  A controller description is automatically created for this line.

## Autodelete controller (AUTODLTCTL)

Specifies how many minutes the system waits before automatically varying off and deleting automatically created advanced program-to-program communications (APPC) controller descriptions (associated with this line) which have gone to an idle state.

**\*SAME**
> The value does not change.

**\*NONE**
> The controller descriptions for this line are not automatically deleted.

*auto-delete-controller*
> Specify a value ranging from 1 through 10000 minutes. The value 1440 is 24 hours.

## Recovery limits (CMNRCYLMT)

Specifies the second-level communications recovery limits to be used for this line description.

The possible **count-limit** values are:

**\*SAME**
> The value does not change.

**\*SYSVAL**
> The value in the QCMNRCYLMT system value is used.

*count-limit*
> Specify the number of recovery attempts to be performed by the system. Valid values range from 0 through 99.

The possible **time-interval** values are:

**\*SAME**
> The value does not change.

*time-interval*
> Specify the number of minutes within which recovery attempts are made. Valid values range from 0 through 120 in 1-minute intervals.

## Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

**\*SAME**
> The value does not change.

**\*SYSVAL**
> Messages are sent to the message queue defined in the QCFGMSGQ system value.

**\*SYSOPR**
> Messages are sent to the system operator message queue (QSYS/QSYSOPR).

**Qualifier 1: Message queue**

*name*   Specify the name of the message queue to which operational messages are sent.

**Qualifier 2: Library**

*name*   Specify the name of the library where the message queue is located.

## Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

# Examples

**Example 1: Changing an Ethernet Line Description**

```
CHGLINETH   LIND(BOSTON)  RSRCNAME(LIN041)
```

This command changes the resource name of an Ethernet line description named BOSTON to LIN041.

**Example 2: Changing an Ethernet Line Description**

```
CHGLINETH   LIND(LINETH)  MAXFRAME(1496)
```

This command changes the maximum frame size of the Ethernet line description to 1496 bytes.

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# Error messages

**\*ESCAPE Messages**

**CPF261E**
>      Line description &1 not changed.

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# Change Line Desc (Fax) (CHGLINFAX)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (Fax) (CHGLINFAX) command changes a line description for a facsimile (fax) line.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource names | Single values: **\*SAME**<br>Other values (up to 2 repetitions): *Name* | Optional |
| ONLINE | Online at IPL | **\*SAME**, *YES, *NO | Optional |
| VRYWAIT | Vary on wait | 15-180, **\*SAME**, *NOWAIT | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

## Line description (LIND)

Specifies the name of the line description

This is a required parameter.

## Resource names (RSRCNAME)

Specifies the resource names that describe the fax ports.

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified for the TYPE parameter to help determine the resource name.

The resource name consists of the input/output adapter (IOA) resource name and the port number on the IOA. For example, if the resource name of the IOA is LIN01, the resource names for ports 1 and 2 are LIN011 and LIN012.

The resource name for both ports of the fax IOA must be specified. All lines specified must be attached to the same input/output processor.

**\*SAME**
> The value does not change.

*rsrcname-1*
> Specify the first resource name to be used to describe the fax ports.

*rsrcname-2*
> Specify the second resource name to be used to describe the fax ports.

# Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
> The value does not change.

**\*YES**  The line is automatically varied on at initial program load (IPL).

**\*NO**  This line is not automatically varied on at IPL.

# Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**
> The value does not change.

**\*NOWAIT**
> The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*
> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(\*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:
   - Put tasks in place to manage the line
   - Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code
   - Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

# Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

# Examples

```
CHGLINFAX   LIND(FAXLINE)  RSRCNAME(LIN031 LIN032)
```

This command changes the resource names for fax line description FAXLINE to LIN041 and LIN042.

# Error messages

**\*ESCAPE Messages**

**CPF261E**
> Line description &1 not changed.

# Change Line Desc (Frame Relay) (CHGLINFR)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (Frame-Relay Network) (CHGLINFR) command changes a line description for a frame-relay network (FR) line. More information about using this command is in the Communications Configuration book, SC41-5401.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

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## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| ONLINE | Online at IPL | **_*SAME_**, *YES, *NO | Optional |
| VRYWAIT | Vary on wait | 15-180, **_*SAME_**, *NOWAIT | Optional |
| MAXCTL | Maximum controllers | 1-256, **_*SAME_**, 40 | Optional |
| MAXFRAME | Maximum frame size | 265-8182, **_*SAME_**, 1590 | Optional |
| LINKSPEED | Link speed | **_*SAME_**, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000 | Optional |
| EXCHID | Exchange identifier | 05600000-056FFFFF, **_*SAME_**, *SYSGEN | Optional |
| SSAP | SSAP list | Single values: **_*SAME_**, *SYSGEN<br>Other values (up to 24 repetitions): *Element list* | Optional |
| | Element 1: Source service access point | 02-FE | |
| | Element 2: SSAP maximum frame | 265-8182, **_*MAXFRAME_**, 265, 502, 1014, 2038, 4086, 8182 | |
| | Element 3: SSAP type | **_*CALC_**, *NONSNA, *SNA, *HPR | |
| COSTCNN | Cost/connect time | 0-255, **_*SAME_**, 0 | Optional |
| COSTBYTE | Cost/byte | 0-255, **_*SAME_**, 0 | Optional |
| SECURITY | Security for line | **_*SAME_**, *PKTSWTNET, *NONSECURE, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX | Optional |
| PRPDLY | Propagation delay | **_*SAME_**, *PKTSWTNET, *MIN, *LAN, *TELEPHONE, *SATELLITE, *MAX | Optional |
| USRDFN1 | User-defined 1 | 0-255, **_*SAME_**, 128 | Optional |
| USRDFN2 | User-defined 2 | 0-255, **_*SAME_**, 128 | Optional |
| USRDFN3 | User-defined 3 | 0-255, **_*SAME_**, 128 | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| CMNRCYLMT | Recovery limits | Single values: **\*SAME**, \*SYSVAL<br>Other values: *Element list* | Optional |
| | Element 1: Count limit | 0-99, **2** | |
| | Element 2: Time interval | 0-120, **5** | |
| MSGQ | Message queue | Single values: **\*SAME**, \*SYSVAL, \*SYSOPR<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name* | |
| TEXT | Text 'description' | *Character value*, **\*SAME**, \*BLANK | Optional |

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## Line description (LIND)

Specifies the name of the line description

This is a required parameter.

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
>    The value does not change.

**\*YES**    The line is automatically varied on at initial program load (IPL).

**\*NO**    This line is not automatically varied on at IPL.

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## Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**
>    The value does not change.

**\*NOWAIT**
>    The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*
>    Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(\*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:

- Put tasks in place to manage the line
- Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code
- Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

## Maximum controllers (MAXCTL)

Specifies the maximum number of controllers supported by a line.

**\*SAME**
> The value does not change.

**40** The line supports 40 controllers.

*maximum-controllers*
> Specify a number large enough to account for all controllers currently active to this network, and the controllers that will be attached in the near future. Valid values range from 1 through 256.

## Maximum frame size (MAXFRAME)

Specifies the maximum frame (path information unit (PIU)) size that the controller can send or receive. This value is used to calculate request unit (RU) sizes. Since the maximum PIU size that the controller can send or receive is negotiated at exchange identifier time, the maximum PIU size used at run time may be different. This value matches the corresponding value on the host system. The recommended MAXFRAME values are: 502, 1014, 1590, 2038, 4086, and 8182 bytes.

**\*SAME**
> The value does not change.

**1590** The maximum frame size is 1590 bytes.

*maximum-frame-size*
> Specify the maximum frame size value to be used. Valid values range from 265 through 8182.

## Link speed (LINKSPEED)

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN is used on the system.

**\*SAME**
> The value does not change.

*link-speed*
> Specify the link speed. Valid values are: 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000.

# Exchange identifier (EXCHID)

Specifies the hexadecimal exchange identifier that is used to identify the local system to the remote system. The 8-digit hexadecimal exchange identifier contains three digits for the block number and five digits for the identifier of this system.

**\*SAME**
> The value does not change.

**\*SYSGEN**
> The operating system generates the exchange identifier.

*exchange-identifier*
> Specify (if the \*SYSGEN value is not specified) an exchange identifier composed of eight hexadecimal digits starting with 056.

# SSAP list (SSAP)

Specifies the source service access point (SSAP). The most commonly used SNA SSAP is hex 04. All SSAP values must be unique.

**\*SAME**
> The value does not change.

**\*SYSGEN**
> The system automatically creates three SSAPs: hex 04 for Systems Network Architecture (SNA) applications, hex C8 for high-performance routing (HPR) applications, and hex AA for Transmission Control Protocol/Internet Protocol (TCP/IP) applications.

The possible SSAPs value is:

*source-service-access-point*
> Specify a source service access point for receiving and transmitting data. A maximum of 24 SSAP values can be specified.
> - For TCP/IP applications, the SSAP must be AA.
> - For SNA applications, the SSAP must be a hex value ranging from 04 through 9C in multiples of four (04, 08, 0C, and so on).
> - For HPR applications, the SSAP must be hex C8.
> - For non-SNA applications, the SSAP must be a hex value ranging from 02 through FE in multiples of two (02, 04, 06, and so on).

The possible Frame Size for SSAPs values are:

**\*MAXFRAME**
> The frame size specified on the MAXFRAME parameter is used.

*SSAP-maximum-frame*
> Specify the maximum SSAP frame size (the maximum size of the data field that can be transmitted or received). Valid values for this parameter range from 265 through 8182 bytes.
>
> **Note:** This value cannot be larger than the value specified on the MAXFRAME parameter.

The possible SSAP Type values are:

**\*CALC**
> The system determines the SSAP type based on the following hex values:

- 04 through 9C, divisible by 4 (for SNA)
- C8 (for HPR)
- 02 through FE, divisible by 2 (for non-SNA)

**\*SNA**  The SSAP is used for SNA communications. Valid values range from hex 04 through hex 9C in multiples of four (04, 08, 0C, and so on).

**\*NONSNA**
> The SSAP is used for non-SNA communications. Valid values range from hex 02 through hex FE in multiples of two (02, 04, 06, and so on).

**\*HPR**  The SSAP is used for HPR communications. It also can be used for SNA applications. The valid value is hex C8.

## Cost/connect time (COSTCNN)

Specifies the relative cost of being connected on the line. This parameter is required only if APPN is used on the system.

**\*SAME**
> The value does not change.

**0**      The cost per connect time is 0.

*cost-per-connect-time*
> Specify a value ranging from 0 through 255.

## Cost/byte (COSTBYTE)

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN is used on the system.

**\*SAME**
> The value does not change.

**0**      The cost per byte is 0.

*cost-per-byte*
> Specify a value ranging from 0 through 255.

## Security for line (SECURITY)

Specifies the security level of the physical line. This parameter is valid only if APPN is used on the system.

**\*SAME**
> The value does not change.

**\*PKTSWTNET**
> A packet switched network is used. Data does not always follow the same path through the network.

**\*NONSECURE**
> Normal priority is used.

**\*UNDGRDCBL**
>An underground cable is used.

**\*SECURECND**
>A secure, unguarded conduit (for example, a pressurized pipe) is used.

**\*GUARDCND**
>A guarded conduit, which is protected against physical tapping, is used.

**\*ENCRYPTED**
>Data flowing on the line is encrypted.

**\*MAX**  A guarded conduit, protected against physical and radiation tapping, is used.

## Propagation delay (PRPDLY)

Specifies the level of propagation delay on the line. This parameter is valid only if APPN is used on the system. The order of the values from shortest to longest delay is \*MIN, \*LAN, \*TELEPHONE, \*PKTSWTNET, and \*SATELLITE.

**\*SAME**
>The value does not change.

**\*PKTSWTNET**
>The packet switched network propagation delay is used.

**\*LAN**  The local area network propagation delay is used.

**\*MIN**  The minimum propagation delay is used.

**\*TELEPHONE**
>The telephone propagation delay is used.

**\*SATELLITE**
>The satellite propagation delay is used.

**\*MAX**  The maximum propagation delay is used.

## User-defined 1 (USRDFN1)

Specifies the first of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**\*SAME**
>The value does not change.

**128**  A value 128 is used.

*user-defined-1*
>Specify a value ranging from 0 through 255.

## User-defined 2 (USRDFN2)

Specifies the second of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**\*SAME**
>
> The value does not change.

**128** A value 128 is used.

*user-defined-2*
>
> Specify a value ranging from 0 through 255.

## User-defined 3 (USRDFN3)

Specifies the third of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**\*SAME**
>
> The value does not change.

**128** A value 128 is used.

*user-defined-3*
>
> Specify a value ranging from 0 through 255.

## Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

**\*SAME**
>
> The value does not change.

**2** Two recovery attempts are made within the interval specified.

*count-limit*
>
> Specify the number of recovery attempts to be made. Valid values range from 0 through 99.

**5** A 15-second time-out period is used.

*time-interval*
>
> Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

**\*SYSVAL**
>
> The recovery limits specified in the QCMNRCYLMT system value are used.

## Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

**\*SAME**
>
> The value does not change.

**\*SYSVAL**
>
> Messages are sent to the message queue defined in the QCFGMSGQ system value.

**\*SYSOPR**
> Messages are sent to the system operator message queue (QSYS/QSYSOPR).

**Qualifier 1: Message queue**

*name*   Specify the name of the message queue to which operational messages are sent.

**Qualifier 2: Library**

*name*   Specify the name of the library where the message queue is located.

# Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

# Examples

```
CHGLINFR   LIND(FR2)   ONLINE(*NO)   MAXFRAME(4444)
           LINKSPEED(1536000)
```

This command changes frame relay line FR2 so it does not vary on automatically at initial program load (IPL). The maximum frame size is set to 4444 bytes and the link speed is set to 1536000 bits per second (bps).

# Error messages

**\*ESCAPE Messages**

**CPF261E**
> Line description &1 not changed.

# Change Line Desc (PPP) (CHGLINPPP)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (Point-to-Point Protocol (PPP)) (CHGLINPPP) command changes a line description for a PPP line.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource name | *Name*, **\*SAME** | Optional |
| CNN | Connection type | **\*SAME**, *SWTPP, *NONSWTPP, *NONSWTCAL, *NONSWTANS | Optional |
| FRAMING | Framing type | **\*SAME**, *ASYNC, *SYNC | Optional |
| INTERFACE | Physical interface | *Character value*, **\*SAME**, *RS232V24, *RS449V36, *V35, *X21, *INTMODEM | Optional |
| SWTNWILST | Switched NWI list | Single values: **\*SAME**, *NONE<br>Other values (up to 64 repetitions): *Element list* | Optional |
| | Element 1: NWI description | *Name* | |
| | Element 2: NWI channel type | **\*B** | |
| | Element 3: NWI channel number | **\*CALC**, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 | |
| ONLINE | Online at IPL | **\*SAME**, *YES, *NO | Optional |
| VRYWAIT | Vary on wait | 15-180, **\*SAME**, *NOWAIT | Optional |
| LINESPEED | Line speed | *Character value*, **\*SAME** | Optional |
| INFTRFTYPE | Information transfer type | *Character value*, **\*SAME**, *UNRESTRICTED, *V110, *DOV, *ASYNCMODEM, *SYNCMODEM | Optional |
| MDMINZCMD | Modem init command string | *Character value*, **\*SAME**, *NONE | Optional |
| MAXFRAME | Maximum frame size | *Character value*, **\*SAME** | Optional |
| SWTCNN | Switched connection type | **\*SAME**, *BOTH, *ANS, *DIAL | Optional |
| SWTNWISLCT | Switched NWI selection | *Character value*, **\*SAME**, *FIRST, *CALC | Optional |
| CNNLSTOUT | Outgoing connection list | *Name*, **\*SAME** | Optional |
| CNNLSTOUTE | Connection list entry | *Name*, **\*SAME** | Optional |
| CNNLSTIN | Incoming connection list | *Name*, **\*SAME**, *NETATR | Optional |
| CLOCK | Clocking | **\*SAME**, *MODEM, *LOOP, *INVERT | Optional |
| DIALCMD | Dial command type | *Character value*, **\*SAME**, *ATCMD, *V25BIS | Optional |
| SETMDMASC | Set modem to ASYNC command | *Character value*, **\*SAME**, END | Optional |
| CALLNBR | Calling number | *Character value*, **\*SAME** | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| FLOWCNTL | Flow control | **\*SAME**, \*NO, \*HARDWARE | Optional |
| CTSTMR | Clear To Send timer | 10-60, **\*SAME** | Optional |
| INACTTMR | Inactivity timer | *Character value*, **\*SAME**, \*NOMAX | Optional |
| RMTANSTMR | Remote answer timer | *Character value*, **\*SAME** | Optional |
| NRZI | NRZI data encoding | **\*SAME**, \*YES, \*NO | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, \*BLANK | Optional |
| ACCM | Async control character map | 0000000000-00FFFFFFFF, **\*SAME** | Optional |
| LCPAUT | LCP authentication values | *Element list* | Optional |
| | Element 1: Remote peer challenge timer | *Integer*, \*NONE, **\*SAME** | |
| | Element 2: Max authentication attempts | 1-255, **\*SAME** | |
| LCPCFG | LCP configuration values | *Element list* | Optional |
| | Element 1: Configuration retry timer | 0.1-60.0, **\*SAME** | |
| | Element 2: Max configuration failures | 1-255, **\*SAME** | |
| | Element 3: Max configuration requests | 1-255, **\*SAME** | |
| | Element 4: Max terminatation requests | 1-255, **\*SAME** | |
| COMPRESS | Compression | *Character value*, **\*SAME**, \*STACLZS, \*NONE | Optional |
| CMNRCYLMT | Recovery limits | Single values: **\*SAME**, \*SYSVAL<br>Other values: *Element list* | Optional |
| | Element 1: Count limit | 0-99 | |
| | Element 2: Time interval | 0-120 | |
| MSGQ | Message queue | Single values: **\*SAME**, \*SYSVAL, \*SYSOPR<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name* | |

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## Line description (LIND)

Specifies the name of the line description

This is a required parameter.

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## Resource name (RSRCNAME)

Specifies the resource name that identifies the hardware that the description represents.

**Note:** Use the Work With Hardware Resources (WRKHDWRSC) command with \*CMN specified for the TYPE parameter to help determine the resource name.

**\*SAME**
      The value does not change.

System i: Programming i5/OS commands Starting with CHGDNSA (Change Domain Name System Server Attributes)

*name*   Specify the resource name of the communications port.

This is a required parameter.

## Connection type (CNN)

Specifies the type of line connection used.

**Note:** *NONSWTCAL and *NONSWTANS valid only when INTERFACE(*INTMODEM), or INFTRFTYPE *ASYNCMODEM or *SYNCMODEM.

**\*SAME**
        The value does not change.

**\*SWTPP**
        A switched point-to-point line is used.

**\*NONSWTPP**
        A nonswitched point-to-point line is used.

**\*NONSWTCAL**
        A nonswitched point-to-point line is used for call mode.

**\*NONSWTANS**
        A nonswitched point-to-point line is used for answer mode.

## Framing type (FRAMING)

Specifies whether the line uses asynchronous or synchronous framing.

**\*SAME**
        The value does not change.

**\*ASYNC**
        Asynchronous frames are used.

**\*SYNC**
        Synchronous frames are used.

## Physical interface (INTERFACE)

Specifies the type of physical interface on the input/output adapter (IOA) port.

**Note:** Not valid when RSRCNAME(*NWID).

**\*SAME**
        The value does not change.

**\*RS232V24**
        The RS232/V.24 interface is used.

**\*RS449V36**
        The RS449/V.36 interface is used.

**\*X35**    The X.35 interface is used.

**\*X21**    The X.21 interface is used.

**\*INTMODEM**
>    The integrated modem interface is used.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Switched NWI list (SWTNWILST)

Specifies, for ISDN/T1 switched connections, a list of network interface descriptions to which this line can be attached. A network interface description is chosen from the list based on the value specified by the switched NWI selection parameter (SWTNWISLCT) at the time an incoming or outgoing call is processed.

**Note:** Valid only when RSRCNAME(\*NWID) and CNN(\*SWTPP).

The possible **Network Interface Description Name** values are:

**\*SAME**
>    The value does not change.

**\*NONE**
>    No network interface description is specified.

*name*    Specify, for switched connections, the name of the network interface description to which this line attaches.

The possible **Network Interface Channel Type** values are:

**\*B**    The B channel is used.

The possible **Network Interface Channel-Number** values are:

**\*CALC**
>    The system selects one of the 30 channel numbers (based on availability) defined for the network interface description when an incoming or outgoing call is processed.

*NWI-channel-number*
>    Specify a channel number (1 to 30) to which the line description is restricted.

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
>    The value does not change.

**\*YES**    The line is automatically varied on at initial program load (IPL).

**\*NO**    This line is not automatically varied on at IPL.

# Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**
> The value does not change.

**\*NOWAIT**
> The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*
> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(\*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:

   - Put tasks in place to manage the line
   - Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code
   - Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

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# Line speed (LINESPEED)

Specifies the line speed in bits per second (bps).

**\*SAME**
> The value does not change.

*line-speed*
> Specify the line speed (bps). Valid lines speeds range from 9600 to 2048000 bits per second for FRAMING(\*SYNC). For FRAMING(\*ASYNC), the valid values are 9600, 19200, 38400, 57600, and 115200. For FRAMING(\*ASYNC) and an interface of \*V35 or \*RS449V36, line speeds of 157600 and 230400 may be specified.

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**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

# Information transfer type (INFTRFTYPE)

Specifies the information transfer type. The information transfer type determines the layer 1 protocol.

**Note:** Valid only when RSRCNAME(\*NWID) and CNN not \*SWTPP.

**\*SAME**
> The value does not change.

**\*UNRESTRICTED**
> The data-channel traffic appears as digital information; no physical transformation is required and each B-channel operates at capacity (64k bps).

**\*V110** The transfer type is V-series Recommendation 110. Each B-channel operates at 56k bps.

**\*DOV** Allows Data Over Voice (DOV) digital data to be transferred over an ISDN voice call. Also, this is referred to as Data Over Voice Bearer Service (DOVBS), Data Over Speech Bearer Service (DOSBS), TollSaver, or TollMizer. This option should only be used if an ISDN voice call is less expensive than an ISDN data call or if a bearer service for data is not available. The remote location must also support this feature. Data is transferred at 56Kbps in each direction.

**\*ASYNCMODEM**
> Allows data from the integrated asynchronous modem to be transferred over an ISDN voice call. This option should be used to connect to a remote location that is using an asynchronous modem on an analog telephone line. Data is transferred at modem speeds up to 33.6Kbps from the remote analog device to this digital connection and up to 56Kbps from this digital connection to the remote analog device.

**\*SYNCMODEM**
> Allows data from the integrated synchronous modem to be transferred over an ISDN voice call. This option should be used to connect to a remote location that is using a synchronous modem on an analog telephone line. Data is transferred at modem speeds up to 33.6Kbps from the remote analog device to this digital connection and up to 56Kbps from this digital connection to the remote analog device.

## Modem init command string (MDMINZCMD)

Specifies the modem initialization command string sent to set the modem

**Note:** Valid only when INTERFACE(*INTMODEM) or INFTRFTYPE(*ASYNCMODEM) or INFTRFTYPE(*SYNCMODEM) is specified.

**\*SAME**
> The value does not change.

**\*NONE**
> No command string is sent to the modem.

*command-string*
> Specifies up to 60 characters that represent the command string sent to the modem. Valid characters are upper case A thru Z, lower case a thru z, numbers 0 thru 9, and special characters:

```
Period
Less than sign
Left parenthesis
Plus sign
Ampersand
Asterisk
Right parenthesis
Semicolon
Minus sign
Slash
Comma
Underline
Greater than sign
Question mark
Colon
Equal sign
Spaces
Number sign
```

```
Double quote
Exclamation point
At sign
Hat symbol
Percent
Left square bracket
Right square bracket
Back slash
```

**Note:** The modem initialization string must begin with the two characters 'AT'.

# Maximum frame size (MAXFRAME)

Specifies the maximum length for the information field in a PPP frame, including padding, but not including the protocol field. It is also known as the Maximum Receive Unit (MRU). By negotiation, consenting PPP implementations may use other values for the MRU.

**\*SAME**
> The value does not change.

*maximum-frame-size*
> Specify the maximum frame size (in bytes). Valid maximum frame sizes range from 1500 to 4096 bytes.

# Switched connection type (SWTCNN)

Specifies, for the switched line, whether the line is used for incoming calls, outgoing calls, or both incoming and outgoing calls.

**\*SAME**
> The value does not change.

**\*BOTH**
> The line is used for both incoming and outgoing calls.

**\*ANS**  The line is used for incoming calls only.

**\*DIAL**
> The line is used for outgoing calls only.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

# Switched NWI selection (SWTNWISLCT)

Specifies the method used to select network interfaces from the switched network interface list.

**Note:** Valid only when RSRCNAME(\*NWID) and CNN(\*SWTPP).

**\*SAME**
> The value does not change.

**\*FIRST**
> Selection begins with the first network interface specified in the switched network interface list.

**\*CALC**
> The system calculates which network interface is selected.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Outgoing connection list (CNNLSTOUT)

Specifies, for ISDN/T1 switched connections, the name of a connection list object that contains the ISDN/T1 assigned numbers for a dial-out operation to the ISDN/T1.

**Note:** Valid only when RSRCNAME(\*NWID) and CNN(\*SWTPP).

**\*SAME**
> The value does not change.

*name*  Specify the name of the connection list for dial out operations.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Connection list entry (CNNLSTOUTE)

Specifies, for ISDN/T1 switched connections, the entry name from the connection list used to make a call to the ISDN/T1. The connection list must be specified on the CNNLSTOUT parameter.

**Note:** Valid only when RSRCNAME(\*NWID) and CNN(\*SWTPP).

**\*SAME**
> The value does not change.

*name*  Specify the entry name from the connection list.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Incoming connection list (CNNLSTIN)

Specifies for ISDN/T1 switched connections the name of the connection list that is used to retrieve call information (or connection) for identifying authorized incoming calls.

**Note:** Valid only when RSRCNAME(\*NWID) and CNN(\*SWTPP).

**\*SAME**
> The value does not change.

**\*NETATR**
> The connection list used by this line description is taken from the list of system default network

attributes that were identified at IPL (Initial Program Load). The Display Network Attributes (DSPNETA) command can be used to see the name of the connection list.

*name*   Specify the name of the connection list used for this line description.

# Clocking (CLOCK)

Specifies how the clocking function for the line is provided.

**Note:** Not valid when RSRCNAME(*NWID).

**\*SAME**
>The value does not change.

**\*MODEM**
>The modem supplies the clocking function.

**\*LOOP**
>The receiving clock provided by the modem data circuit-terminating equipment (DCE) is looped back to the (DTE) transmitting clock. This option can be used to improve high speed data transmission when the modem (DCE) supports such an option. The valid interfaces for *LOOP are *V35, *X21BISV35, and *RS449V36.

**\*INVERT**
>The transmit clock provided by the modem data circuit-terminating equipment (DCE) is inverted before use. This option can be used when having problems with high speed data transmission and the modem (DCE) does not support looped clocking. The valid interfaces for *INVERT are *V35, *X21, *X21BISV35, and *RS449V36.

# Dial command type (DIALCMD)

Specifies the type of dial command used to establish a switched connection with a remote system.

**Note:** Not valid when RSRCNAME(*NWID).

**\*SAME**
>The value does not change.

**\*ATCMD**
>The Attention (AT) command set (sometimes referred to as the Hayes command set) is a group of modem commands that allow an application program to control the modem while it is operating asynchronously. The application program must place all AT commands directly into the data stream. The AT commands supported are dependent on the specific modem being used.

**\*V25BIS**
>Uses the International Telecommunication Union - Telecommunication (ITU-T) (formerly known as CCITT) V.25 bis standard for serial automatic calling

# Set modem to ASYNC command (SETMDMASC)

Specifies the ASCII V.25 bis command string to send to the modem to set the modem to ASYNC mode.

**Note:** Not valid when RSRCNAME(*NWID).

**\*SAME**
    The value does not change.

**\*NONE**
    No V.25 bis command string is sent to the modem.

**\*END**  The END command string is generally used as the command to set most modems to ASYNC mode. For cases that do not use the END command string, you should enter the command string appropriate for that modem to set it to ASYNC mode.

*command-string*
    Specifies up to 40 characters that represent the command string sent to the modem. Valid characters are upper case A thru Z, lower case a thru z, numbers 0 thru 9, and special characters:

.    Period

<    Less than sign

(    Left parenthesis

+    Plus sign

&    Ampersand

*    Asterisk

)    Right parenthesis

;    Semicolon

-    Minus sign

/    Slash

,    Comma

_    Underline

>    Greater than sign

?    Question mark

:    Colon

=    Equal sign

# Calling number (CALLNBR)

Specifies the local telephone number of the line used for the V.25 bis call request with identification (CRI) dial command. This parameter is used when the CRI function is needed for V.25 bis. When V.25 bis CRI dialing is used, the system takes the called (connection) number from the CNNNBR parameter of the controller description, adds a separator character (;), and concatenates the calling number at the end. Specify the calling number only if the modem and the network both support the CRI dial command.

**Note:** Not valid when RSRCNAME(*NWID).

**\*SAME**
    The value does not change.

**\*NONE**
> The Call Request Normal (CRN) dial command is used by the V.25 bis line.

*calling-number*
> Specify up to 32 characters that represent the local telephone number for V.25 bis CRI auto-dialing.

## Flow control (FLOWCNTL)

Specifies whether the system controls the data flow.

**Note:** Not valid when RSRCNAME(\*NWID).

**\*SAME**
> The value does not change.

**\*NO**  Prevents the hardware from generating or recognizing flow control characters, and prevents the use of Request To Send (RTS) and Clear To Send (CTS) flow control signals.

**\*HARDWARE**
> Hardware flow control is performed using the Request to Send (RTS) and Clear To Send (CTS) flow control signals.

## Clear To Send timer (CTSTMR)

Specifies the amount of time the system waits for the modem to enter or exit the Clear to Send (CTS) state before signaling an error.

**\*SAME**
> The value does not change.

*cts-timer*
> Specify a value ranging from 10 through 60 seconds.

## Inactivity timer (INACTTMR)

Specifies the time (in seconds) that the system waits for activity on a switched line before disconnecting.

**\*SAME**
> The value does not change.

**\*NOMAX**
> The inactivity timer is disabled.

*timer-value*
> Specify a value ranging from 15 through 65535 seconds.

## Remote answer timer (RMTANSTMR)

Specifies the amount of time that system waits for the modem to enter the Data Set Ready (DSR) state after dialing before signaling an error.

**\*SAME**
> The value does not change.

*answer-timer*
> Specify a value ranging from 30 through 120 seconds in 5-second intervals.

## NRZI data encoding (NRZI)

Specifies whether non-return-to-zero-inverted (NRZI) data encoding is used for modems that are sensitive to certain bit patterns in the data stream. This ensures that the signal does not remain the same for an extended period of time. For digital phone lines, \*NO is suggested.

**NOTES:**

1. All data communications equipment on the line must use the same data transmission coding method.
2. Framing (FRAMING parameter) must be \*SYNC to use NRZI data encoding.

**\*SAME**
> The value does not change.

**\*YES**   NRZI data encoding is used.

**\*NO**   NRZI data encoding is not used.

## Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

## Async control character map (ACCM)

Specifies a mapping for control characters in the transmitted data that may be either removed or introduced by data communications equipment on the line.

**Note:** ACCM(00000000) must be specified unless FRAMING(\*ASYNC) is specified.

Host system sends all characters specified by this map to the remote peer as a 2-byte escape sequence. Additionally, all characters specified by this map must be sent by the remote peer to host system as a 2-byte escape sequence. Any characters specified in this map that are not escaped are discarded by host system.

**Attention**

The default value for this parameter does not normally need to be changed. Do not specify a different value for this parameter unless you are fully aware of the effect of the change.

**\*SAME**
        The value does not change.

*control-character-map*
        Specifies a 32-bit value as a 8-digit hexadecimal number. Each bit in this 32-bit value indicates whether a character is escaped or not. If the bit value is set to 1, the corresponding character is escaped. If the bit is set to 0, the control character is not escaped.

        The ordinal number of a bit in the 32-bit value determines the character affected. The leftmost bit (number 0) corresponds to the character '00'X. The rightmost bit (number 31) corresponds to the character '1F'X. For example,

        - Specifying ACCM(80000000) requires character '00'X be sent and received as the 2-byte escape sequence '7D20'X. Characters '01'X to '1F'X are not mapped.
        - Specifying ACCM(00000001) requires character '1F'X be sent and received as the 2-byte escape sequence '7D3F'X. Characters '00'X to '1E'X are not mapped.
        - Specifying ACCM(0000A000) requires characters '11'X and '13'X be sent and received as the 2-byte escape sequence '7D31'X and '7D33'X, respectively.

# LCP authentication values (LCPAUT)

Specifies values controlling how the Link Control Protocol layer of host PPP authenticates a remote peer.

The **Remote peer challenge timer** value specifies the interval, in minutes, to periodically issue an authentication challenge to the remote peer.

**\*SAME**
        The value does not change.

*challenge-interval*
        Specify the interval, in minutes, to re-validate the remote peer's authentication.

The **Maximum authentication attempts** value specifies the maximum number of unacknowledged authentication challenges sent to a remote peer before assuming that the peer is unable to respond.

**NOTES:**

1. A challenge is considered unacknowledged when host system does not receive a response within the interval specified by the configuration retry timer (element 1 of parameter LCPCFG).
2. This value does not affect how host system responds when a peer fails authentication. Host system always terminates communication without any retry if a response from the remote peer fails authentication.

**\*SAME**
        The value does not change.

*maximum-number-of-attempts*
        Specifies the maximum number of unacknowledged challenges sent to a remote peer before communication is terminated.

# LCP configuration values (LCPCFG)

Specifies values controlling how the Link Control Protocol layer of host PPP negotiates mutually acceptable link configuration values with a remote peer.

**Attention:**

The default values for this parameter do not normally need to be changed Do not specify different values for this parameter unless you are fully aware of the effect of the change.

The **Configuration retry timer** value specifies the interval, in seconds, that host system waits before resending an unacknowledged configuration, termination, or authentication challenge request to a remote peer.

**\*SAME**
> The value does not change.

*retry-interval*
> Specify the time interval after which unacknowledged requests are resent.

The **Maximum configuration failures** value specifies the maximum number of attempts that are made to negotiate a mutually acceptable configuration with a remote peer before assuming that configuration is not converging.

**\*SAME**
> The value does not change.

*maximum-number-of-attempts*
> Specifies the maximum number of attempts made to negotiate a mutually acceptable configuration.

The **Maximum configuration requests** value specifies the maximum number of unacknowledged configuration requests sent to a remote peer before assuming that the peer is unable to respond.

**\*SAME**
> The value does not change.

*maximum-number-of-attempts*
> Specifies the maximum number configuration attempts made before host system terminates communication.

The **Maximum termination requests** value specifies the maximum number of unacknowledged termination request packets sent to a remote peer before assuming that the peer is unable to respond.

**\*SAME**
> The value does not change.

*maximum-number-of-attempts*
> Specifies the maximum number of attempts made to notify the remote peer that communication will be terminated.

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# Compression (COMPRESS)

Specifies the compression function is provided.

**Note:** This parameter allows you to enable a compression protocol, but does not guarantee that compression will be used. Data compression will not be activated unless both the local system and the remote peer system connects to agree to use the specified compression protocol.

**\*SAME**
> The value does not change.

**\*STACLZS**
> Host system is allowed to negotiate the use of STAC LZS data compression.

**\*NONE**
> Host system is not allowed to negotiate or use any Point-to-Point Compression protocol.

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# Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

**\*SAME**
> The value does not change.

**\*SYSVAL**
> The DBCS-coded font specified in the system value QIGCCDEFNT is used.

The possible **Maximum Recovery Limit** values are:

*count-limit*
> Specify the number of recovery attempts to be made. Valid values range from 0 through 99.

The possible **Recovery Time Interval** values are:

*time-interval*
> Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, then the value 0 specifies infinite recovery.

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# Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

**\*SAME**
> The value does not change.

**\*SYSVAL**
> Messages are sent to the message queue defined in the QCFGMSGQ system value.

**\*SYSOPR**
> Messages are sent to the system operator message queue (QSYS/QSYSOPR).

**Qualifier 1: Message queue**

*name*  Specify the name of the message queue to which operational messages are sent.

**Qualifier 2: Library**

*name*  Specify the name of the library where the message queue is located.

## Examples

```
CHGLINPPP   LIND(CHICAGO)  LINESPEED(115200)
```

This command changes the line speed for line description CHICAGO to 115200 bits per second.

## Error messages

**\*ESCAPE Messages**

**CPF261E**
> Line description &1 not changed.

# Change Line Desc (SDLC) (CHGLINSDLC)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (SDLC) (CHGLINSDLC) command changes a line description for an SDLC line.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource names | Single values: **\*SAME**<br>Other values (up to 6 repetitions): *Name* | Optional |
| ONLINE | Online at IPL | **\*SAME**, *YES, *NO | Optional |
| ACTSNBU | Activate swt network backup | **\*SAME**, *YES, *NO | Optional |
| VRYWAIT | Vary on wait | 15-180, **\*SAME**, *NOWAIT | Optional |
| NRZI | NRZI data encoding | **\*SAME**, *YES, *NO | Optional |
| MAXCTL | Maximum controllers | 1-254, **\*SAME** | Optional |
| CLOCK | Clocking | **\*SAME**, *MODEM, *LOOP, *INVERT | Optional |
| LINESPEED | Line speed | **\*SAME**, 600, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 57600, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 392000, 448000, 504000, 512000, 560000, 576000, 616000, 640000, 672000, 704000, 728000, 768000, 784000, 832000, 840000, 896000, 952000, 960000, 1008000, 1024000, 1064000, 1088000, 1120000, 1152000, 1176000, 1216000, 1232000, 1280000, 1288000, 1344000, 1400000, 1408000, 1456000, 1472000, 1512000, 1536000, 1568000, 1600000, 1624000, 1664000, 1680000, 1728000, 1736000, 1792000, 1856000, 1920000, 1984000, 2048000 | Optional |
| MODEM | Modem type supported | **\*SAME**, *NORMAL, *V54, *IBMWRAP, *IBMLPDA1, *IBMLPDA2 | Optional |
| MODEMRATE | Modem data rate select | **\*SAME**, *FULL, *HALF | Optional |
| SWTCNN | Switched connection type | **\*SAME**, *BOTH, *ANS, *DIAL | Optional |
| AUTOANS | Autoanswer | **\*SAME**, *YES, *NO | Optional |
| AUTODIAL | Autodial | **\*SAME**, *YES, *NO | Optional |
| MDMINZCMD | Modem init command string | *Character value*, **\*SAME**, *NONE | Optional |
| DIALCMD | Dial command type | **\*SAME**, *NONE, *V25BIS | Optional |
| ACRSRCNAME | Autocall resource name | *Name*, **\*SAME** | Optional |
| SHMCALLTMR | SHM call timer | 1-60, **\*SAME**, *NONE | Optional |
| SHMMAXCNN | SHM maximum connect timer | 1-254, *NOMAX, **\*SAME** | Optional |

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| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| SHMANSDLY | SHM answer delay timer | 1-254, *NOMAX, **SAME** | Optional |
| SHMCALLFMT | SHM call format | 0-15, **SAME**, *DNIC, *DCC | Optional |
| SHMACC | SHM access code | *Character value*, **SAME**, *NONE | Optional |
| CALLNBR | Calling number | *Character value*, **SAME**, *NONE | Optional |
| STNADR | Station address | 01-FE, **SAME** | Optional |
| CNNPOLLRTY | Connect poll retry | 0-64, **SAME** | Optional |
| CNNTMR | Connect timer | 1-32767, **SAME**, *NOMAX | Optional |
| SHORTTMR | Short timer | 10-600, **SAME** | Optional |
| LONGTMR | Long timer | 100-6000, **SAME** | Optional |
| SHORTRTY | Short retry | 0-254, **SAME** | Optional |
| LONGRTY | Long retry | 0-254, **SAME** | Optional |
| CPSRTY | Call progress signal retry | Single values: **SAME**, *NONE<br>Other values (up to 11 repetitions): *CPS41, *CPS42, *CPS43, *CPS44, *CPS45, *CPS46, *CPS47, *CPS48, *CPS49, *CPS71, *CPS72 | Optional |
| MAXFRAME | Maximum frame size | **SAME**, 265, 521, 1033, 2057 | Optional |
| THRESHOLD | Error threshold level | **SAME**, *OFF, *MIN, *MED, *MAX | Optional |
| DUPLEX | Duplex | **SAME**, *HALF, *FULL | Optional |
| MODULUS | Modulus | **SAME**, 8, 128 | Optional |
| MAXOUT | Maximum outstanding frames | 1-28, **SAME** | Optional |
| INACTTMR | Inactivity timer | 150-4200, **SAME**, *NOMAX | Optional |
| POLLRSPDLY | Poll response delay | 0-2048, **SAME** | Optional |
| NPRDRCVTMR | Nonproductive receive timer | 160-4200, **SAME** | Optional |
| IDLTMR | Idle timer | 5-300, **SAME** | Optional |
| CNNPOLLTMR | Connect poll timer | 2-300, **SAME** | Optional |
| POLLPAUSE | Poll cycle pause | 0-2048, **SAME** | Optional |
| FRAMERTY | Frame retry | 0-64, **SAME** | Optional |
| FAIRPLLTMR | Fair polling timer | 5-60, **SAME** | Optional |
| DSRDRPTMR | Data Set Ready drop timer | 3-60, **SAME** | Optional |
| AUTOANSTYP | Autoanswer type | **SAME**, *DTR, *CDSTL | Optional |
| CTSTMR | Clear To Send timer | 10-60, **SAME** | Optional |
| RMTANSTMR | Remote answer timer | **SAME**, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120 | Optional |
| LINKSPEED | Link speed | **SAME**, *INTERFACE, *MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX | Optional |
| COSTCNN | Cost/connect time | 0-255, **SAME**, *CNN | Optional |
| COSTBYTE | Cost/byte | 0-255, **SAME**, *CNN | Optional |
| SECURITY | Security for line | **SAME**, *NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX | Optional |
| PRPDLY | Propagation delay | **SAME**, *MIN, *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX | Optional |
| USRDFN1 | User-defined 1 | 0-255, **SAME** | Optional |
| USRDFN2 | User-defined 2 | 0-255, **SAME** | Optional |
| USRDFN3 | User-defined 3 | 0-255, **SAME** | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| CMNRCYLMT | Recovery limits | Single values: *SAME, *SYSVAL<br>Other values: *Element list* | Optional |
| | Element 1: Count limit | 0-99 | |
| | Element 2: Time interval | 0-120 | |
| TEXT | Text 'description' | *Character value*, *SAME, *BLANK | Optional |

## Line description (LIND)

Specifies the name of the line description

This is a required parameter.

## Resource names (RSRCNAME)

Specifies the resource name that identifies the hardware this description represents. Use the WRKHDWRSC command to determine the resource name.

This is a required parameter.

You can enter multiple values for this parameter.

**\*SAME**
The value does not change.

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
The value does not change.

**\*YES**  The line is automatically varied on at initial program load (IPL).

**\*NO**  This line is not automatically varied on at IPL.

## Activate swt network backup (ACTSNBU)

Specifies, for modems that support the switched network backup (SNBU) feature and that are not IBM 386x, 586x, or 786x models, whether the SNBU feature is activated or deactivated. The local modem and remote modem must both support the SNBU to activate it. IBM 386x, 586x, and 786x models are activated with a hardware switch only. This feature lets you bypass a broken nonswitched connection (nonswitched line) by establishing a switched connection.

**\*SAME**
This value does not change from the value previously specified either on this parameter or on the SNBU parameter of the command creating the line description.

**\*NO**    The SNBU feature is not used.

**\*YES**    The SNBU feature is activated. You must also specify a value of \*YES for the **Activate swt network backup (ACTSNBU)** parameter for the controller.

## Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**
> The value does not change.

**\*NOWAIT**
> The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*
> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(\*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:
   - Put tasks in place to manage the line
   - Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code
   - Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

## NRZI data encoding (NRZI)

Specifies whether non-return-to-zero-inverted (NRZI) data coding is to be used for modems that are sensitive to certain bit patterns in the data stream. This ensures that the signal does not remain the same for an extended period of time.

**Note:** All data communications equipment on the line must use the same transmission method.

**\*SAME**
> The value does not change.

**\*YES**    NRZI data coding is used.

**\*NO**    NRZI data coding is not used.

# Maximum controllers (MAXCTL)

Specifies the maximum number of controllers that the line supports.

**\*SAME**
>The value does not change.

**1**
One controller is supported. Use the default (1) for:

- Nonswitched point-to-point and switched point-to-point connection types
- Nonswitched point-to-point and multipoint connection types communicating with a host system using duplex, two-way simultaneous data transfer. (The host system specifies duplex data transfer in its NCP generation by specifying LINE ADDRESS=(nnn,FULL) on the LINE macroinstruction.)
- Short-hold mode lines specified with ROLE(\*SEC) and SHMNODE(\*T20)

>Short-hold mode lines specified with ROLE(\*PRI) or ROLE(\*NEG) can support up to 64 controllers.

*maximum-controllers*
>Specify value ranging from 1 to 254. The number must be large enough to account for all of the controllers that are currently active to this line, and for those controllers you know will be attached in the near future.

# Clocking (CLOCK)

Specifies how the clocking function for the line is provided.

**\*SAME**
>The value does not change.

**\*MODEM**
>The clocking function for the line is provided by the modem.

**\*LOOP**
>The receiving clock provided by the modem data circuit-terminating equipment (DCE) is looped back to the modem DCE on the system data terminal equipment (DTE) transmitting clock. This option can be used to provide high speed data transmission when the modem DCE supports such an option. The valid interfaces for \*LOOP are \*V35, \*X21BISV35, and \*RS449V36.

**\*INVERT**
>The transmit clock provided by the modem data circuit-terminating equipment (DCE) is inverted before use. This option can be used when having problems with high speed data transmission and the modem (DCE) does not support looped clocking. The valid interfaces for \*INVERT are \*V35, \*X21, \*X21BISV35, and \*RS449V36.

# Line speed (LINESPEED)

Specifies the line speed in bits per second (bps).

**\*SAME**
>The value does not change.

**9600**
9600 bps is used.

*line-speed*
>Specify the line speeds. Valid lines speeds are: 600, 1200, 2400 4800, 7200, 9600, 14400, 19200,

48000, 56000, 57600, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 392000, 448000, 504000, 512000, 560000, 576000, 616000, 640000, 672000, 704000, 728000, 768000, 784000, 832000, 840000, 896000, 952000, 960000, 1008000, 1024000, 1064000, 1088000, 1120000, 1152000, 1176000, 1216000, 1232000, 1280000, 1288000, 1344000, 1400000, 1408000, 1456000, 1472000, 1512000, 1536000, 1568000, 1600000, 1624000, 1664000, 1680000, 1728000, 1736000, 1792000, 1856000, 1920000, 1984000, or 2048000 bits per second.

## Modem type supported (MODEM)

Specifies the type of modem supported on the communications line. Refer to the modem manual to determine the appropriate value to select.

**\*SAME**
> The value does not change.

**\*NORMAL**
> No attempt is made to run diagnostic tests to your modem.

**\*V54**  Certain types of diagnostic tests (as defined by the CCITT recommendations) are run to your modem. This system supports CCITT V.54 loop 3, (a local loop back,) and loop 2, (which is a remote loop back).

**\*IBMWRAP**
> An IBM modem with wrap test capabilities is used on the communications line.

**\*IBMLPDA1**
> An IBM modem with Link Problem Determination Aid-1 (LPDA-1) is used on the line.

**\*IBMLPDA2**
> An IBM modem with Link Problem Determination Aid-2 (LPDA-2) is used on the line.

## Modem data rate select (MODEMRATE)

Specifies the speed at which the line operates if the modem has the data rate select feature.

**\*SAME**
> The value does not change.

**\*FULL**  The line operates at the full rate of the modem.

**\*HALF**
> The line operates at half the full rate of the modem.

## Switched connection type (SWTCNN)

Specifies whether the switched (Async, BSC, SDLC, or IDLC) line or switched network backup (Async, BSC, or SDLC) line is used for incoming calls, outgoing calls, or both.

**\*SAME**
> The value does not change.

**\*BOTH**
> The line is used for both incoming and outgoing calls.

**\*ANS**    The line is used for incoming calls only.

**\*DIAL**

> The line is used for outgoing calls only.

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## Autoanswer (AUTOANS)

Specifies, for switched or switched network backup lines (Async, BSC, SDLC, or X.25 line), whether the system automatically answers a call from a remote system to establish the connection, or whether the system operator manually answers the call and places the modem in data mode.

**Note:** \*YES is a valid option only if the modem has the automatic answer feature.

**\*SAME**

> The value does not change.

**\*YES**    The incoming call is automatically answered by the automatic answer feature.

**\*NO**    The incoming call must be manually answered.

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## Autodial (AUTODIAL)

Specifies, for switched lines, whether the system automatically calls a remote system to establish a connection or if the system operator must manually place the call.

**\*SAME**

> The value does not change.

**\*NO**    The line connection is made by manually dialing the X.25 network.

**\*YES**    The line connection is made by the system automatically dialing the X.25 network.

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## Modem init command string (MDMINZCMD)

Specifies the modem initialization command string sent to set the modem.

**Note:** Valid only when INTERFACE(\*INTMODEM) or INFTRFTYPE(\*SYNCMODEM) is specified.

**\*SAME**

> The value does not change.

**\*NONE**

> No command string is sent to the modem.

*command-string*

> Specifies up to 60 characters that represent the command string sent to the modem. Valid characters are upper case A thru Z, lower case a thru z, numbers 0 thru 9, and special characters:

```
Period
Less than sign
Left parenthesis
Plus sign
Ampersand
Asterisk
Right parenthesis
```

```
Semicolon
Minus sign
Slash
Comma
Underline
Greater than sign
Question mark
Colon
Equal sign
Spaces
Number sign
Double quote
Exclamation point
At sign
Hat symbol
Percent
Left square bracket
Right square bracket
Back slash
```

**Note:** The modem initialization string must begin with the two characters 'AT'.

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## Dial command type (DIALCMD)

Specifies the type of dial command used to establish a switched connection with a remote system.

**\*SAME**
> The value does not change.

**\*NONE**
> No dial command is used. (An automatic call unit is used to establish the connection.)

**\*V25BIS**
> V.25 bis is a recommendation which allows the use of one physical interface for call establishment and data transmission. It is referred to as a serial automatic call interface because the digits are presented serially on the link from the system to the modem.

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## Autocall resource name (ACRSRCNAME)

Specifies the automatic call resource name that describes the automatic call unit port that is used to establish a connection with a remote system. Use the Work with Hardware Resources (WRKHDWRSC) command to determine the resource name.

**\*SAME**
> The value does not change.

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## SHM call timer (SHMCALLTMR)

Specifies the interval at which a connection is re-established on an X.21 short hold mode (SHM) line to verify the state of the remote system if no SHM reconnection has occurred in the specified interval. This parameter is valid only if \*SHM is specified on the **Connection type (CNN)** parameter.

**\*SAME**
> The value does not change.

**\*NONE**
> No call is made to verify the connection.

*short-hold-mode-call-timer*
> Specify an interval, from 1 to 60 minutes, at which a call is made to verify the connection.

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## SHM maximum connect timer (SHMMAXCNN)

Specifies the amount of time the system allows a connection to continue if there are more controllers than there are available ports. The system clears the connection after the specified amount of time, delays further calls for the amount of time specified on the **SHM answer delay timer (SHMANSDLY)** parameter, and then makes any calls that had been waiting before re-calling the controller that was interrupted.

**Note:** This parameter is valid only if *PRI or *NEG is specified on the **Data link role (ROLE)** parameter and if *SHM is specified on the **Connection type (CNN)** parameter.

**\*SAME**
> The value does not change.

**8**  The system waits eight seconds before checking for other controllers.

**\*NOMAX**
> The timer is disabled.

*maximum-connect-timeout*
> Specify a value ranging from 1 through 254 seconds.

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## SHM answer delay timer (SHMANSDLY)

Specifies the amount of time the system waits for controllers to call in before making outgoing calls. The SHM answer delay timer is started when one of the following is true:

- The time specified by the SHM maximum connect timer (SHMMAXCNN parameter) has expired.
- A period of time equal to twice the value of the SHMMAXCNN parameter has elapsed with no opportunities for incoming calls to be received.

**Note:** This parameter is valid only if *PRI or *NEG is specified on the **Data link role (ROLE)** parameter and if *SHM is specified on the **Connection type (CNN)** parameter.

**\*SAME**
> The value does not change.

**11**  The system waits 1.1 seconds before making outgoing calls.

**\*NOMAX**
> The timer is disabled.

*ans-delay-timeout*
> Specify a value ranging from 1 through 254 tenths of seconds. For example, 10 seconds equal 100 tenths of seconds.

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# SHM call format (SHMCALLFMT)

Specifies the format for the X.21 short hold mode line call number. This parameter is valid only if *SHM is specified on the **Connection type (CNN)** parameter.

**\*SAME**
> The value does not change.

**\*DNIC**
> The Data Network Identification Code (DNIC) is used.

**\*DCC**  The Data Country Code (DCC) is used.

*call-format*
> The length of the area code or country or region code portion of the SHM calling number. Specify a number from 0 to 15.

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# SHM access code (SHMACC)

Specifies the access code for the X.21 short hold mode line. This parameter is valid only if *SHM is specified on the **Connection type (CNN)** parameter.

**\*SAME**
> The value does not change.

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# Calling number (CALLNBR)

Specifies the local telephone number of the line that is used for the V.25 bis Call Request with Identification (CRI) dial command. When V.25 bis CRI dialing is used, the system takes the called (connection) number (CNNNBR parameter ), adds a separator character (;), and puts the calling number at the end. The default, *NONE, indicates that Call Request Normal (CRN) is used.

Specify the calling number only when the modem and network support the CRI dial command.

**\*SAME**
> The value does not change.

**\*NONE**
> Call Request Normal (CRN) is used. CRN dialing sends only the connection number to the V.25 bis modem.

*calling-number*
> Specify the local telephone number if V.25 bis CRI dialing is required. The number can be up to 32 characters in length. See your modem documentation to determine the values allowed by the modem.

**Note:** Specify the calling number only if both the modem and network support the V.25 bis CRI dial command.

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## Station address (STNADR)

Specifies, for a switched secondary or negotiable line, the hexadecimal station address to which the local system responds when polled by the remote system if it answers a call.

**\*SAME**
> The value does not change.

*station-address*
> Specify a hexadecimal value from 01 to FE.

## Connect poll retry (CNNPOLLRTY)

Specifies, for a switched primary line or a negotiable line, the number of connection polling retries to make before indicating the error and making the station inoperative.

**\*SAME**
> The value does not change.

*connect-poll-retry*
> Specify a value from 0 through 64 for the number of retries.

## Connect timer (CNNTMR)

Specifies, for an X.21 circuit switched interface, the amount of time an automatic answer connect request waits for an incoming call to be accepted.

**\*SAME**
> The value does not change.

**\*NOMAX**
> The system waits indefinitely.

*connect-timer*
> Specify a value from 1 to 32767 in 0.1 second intervals.

## Short timer (SHORTTMR)

Specifies, for X.21 circuit switched interface or short hold mode, the short timer used during bursts of retry operations. The system waits between connection attempts for this timeout period.

1. The SHORTTMR parameter is used only for X.21 circuit-switched or short-hold mode lines.
2. The default meets most countries' or regions' requirements relative to call retries and call delays. In the event that the default does not meet your country's or region's requirements, the value must be configured in accordance with the country or region requirement. Before changing this value, ensure that the new value is in accordance with your country's or region's requirements.

   If you are not aware of your country's or region's requirement, your IBM representative or IBM-approved remarketer can provide this information.

This parameter is used to control retries when you are attempting to make a call over an X.21 circuit-switched or short-hold mode network. Call attempts are characterized by bursts of retries. A single burst of retries is controlled by the short timer and short retry value. If all short retries are completed, the

system delays for a longer time (the long timer) before attempting another burst of retries. The total number of these bursts of retries is based on the long retry value.

**\*SAME**
>   The value does not change.

**50**   The system waits five seconds.

*short-timer*
>   Specify a value from 10 to 600 in 0.1 second intervals.

# Long timer (LONGTMR)

Specifies for an X.21 circuit switched interface or short hold mode, the long timer used between bursts of retry operations. After a burst of retry attempts, the system waits for this timeout period before the next attempt.

This parameter is used to control retries when you are attempting to make a call over an X.21 circuit-switched or short-hold mode network. Call attempts are characterized by &odq.bursts&cdq. of retries. A single burst of retries is controlled by the short timer and short retry value. If all short retries are completed, the system delays for a longer time (the long timer) before attempting another burst of retries. The total number of these bursts of retries is based on the long retry value.

**\*SAME**
>   The value does not change.

**600**   The system waits 60 seconds.

*long-timer*
>   Specify a value from 100 to 6000 in 0.1 second intervals.

# Short retry (SHORTRTY)

Specifies for an X.21 circuit switched interface or short hold mode, the number of retry attempts that are made during a burst of retries.

**\*SAME**
>   The value does not change.

*short-retry*
>   Specify a value from 0 to 254 for the number of retries.

# Long retry (LONGRTY)

Specifies, for an X.21 circuit switched interface or short hold mode, the number of burst retry attempts when processing a connect request.

This parameter is used to control retries when you are attempting to make a call over an X.21 circuit-switched or short-hold mode network. Call attempts are characterized by &odq.bursts&cdq. of retries. A single burst of retries is controlled by the short timer and short retry value. If all short retries are completed, the system delays for a longer time (the long timer) before attempting another burst of retries. The total number of these bursts of retries is based on the long retry value.

**\*SAME**
>   The value does not change.

**1**      One retry is attempted.

*long-retry*
>   Specify a value from 0 to 254 for the number of retries.

# Call progress signal retry (CPSRTY)

Specifies which call progress signals are retried for X.21 circuit switched interface or X.21 short hold mode lines. Up to 11 values can be specified; duplicate values are ignored.

Valid values are: *CPS41, *CPS42, *CPS43, *CPS44, *CPS45, *CPS46, *CPS47, *CPS48, *CPS49, *CPS71, and *CPS72.

This parameter can be specified only if *SHM or *SWTPP is specified for the **Connection type (CNN)** parameter and *X21 is specified on the **Physical interface (INTERFACE)** parameter.

**\*SAME**
>   The value does not change.

# Maximum frame size (MAXFRAME)

Specifies the maximum frame size that can be transmitted and received on this line description.

**\*SAME**
>   The value does not change.

*frame-size*
>   The standard frame sizes are:
>   - 265 (All line types)
>   - 521 (All line types)
>   - 1033 (All line types)
>   - 1994 (Token-ring only)
>   - 2057 (SDLC or Token-ring)
>   - 4105 (TDLC or Token-ring)
>   - 4060 (Token-ring only)
>   - 8156 (Token-ring only)
>   - 16393 (Token-ring only)

# Error threshold level (THRESHOLD)

Specifies the temporary error threshold level being monitored by the system. A permanent error is reported only if the errors occurred consecutively and exceeded the retry limit.

**Note:** Specifying the THRESHOLD parameter affects all threshold errors. They cannot be specified individually.

**\*SAME**
     The value does not change.

**\*OFF**    No threshold errors are reported.

**\*MIN**    The threshold for errors is set to a minimum monitoring level.

**\*MED**    The threshold for errors is set to a medium monitoring level.

**\*MAX**    The threshold for errors is set to a maximum monitoring level.

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# Duplex (DUPLEX)

Specifies whether request-to-send (RTS) is permanently turned on (for duplex modems) or turned on only when transmission is required (for half duplex modems).

**\*SAME**
     The value does not change.

**\*HALF**
     Request-to-send (RTS) is turned on only when transmission is required (for half duplex modems). You can choose to run half duplex even if the modem can support duplex communication.

**\*FULL**    Request-to-send (RTS) is permanently set on (for duplex modems).

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# Modulus (MODULUS)

Specifies whether the extended sequence numbers are used.

**\*SAME**
     The value does not change.

**8**     Extended sequence numbers are not used (Modulus 8).

*128*    Extended sequence numbers are used (Modulus 128).

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# Maximum outstanding frames (MAXOUT)

Specifies the maximum number of frames that can be sent to a remote system before the remote system must respond back. For modulus 8, the maximum number of frames must be 1 to 7. For modulus 128, the maximum number of frames must be 8 to 28.

**\*SAME**
     The value does not change.

*maximum-outstanding-frames*
     Specify a value from 1 to 28 for the number of outstanding frames.

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# Inactivity timer (INACTTMR)

Specifies, for a secondary or negotiable line, the time (in tenths of a second) the system waits for a valid frame to flow before reporting the error and disconnecting the line. This timer is started at connection time and restarted when any frame is sent, and then reset when a frame with a valid frame check sequence is received.

**\*SAME**
>       The value does not change.

**300**     The system waits 30 seconds (300 tenths of a second) for a valid frame.

*inactivity-timer*
>       Specify a value from 150 to 4200 in 0.1 second intervals.

# Poll response delay (POLLRSPDLY)

Specifies, for a secondary or negotiable line, the minimum time the system must wait before it responds to a data poll if there is no frame to transmit.

**\*SAME**
>       The value does not change.

*poll-response-delay*
>       Specify a value from 1 to 2048 in 0.0001 second intervals, or 0 to indicate no delay.

# Nonproductive receive timer (NPRDRCVTMR)

Specifies, for a primary or negotiable line, the time the system waits for either a final frame or an idle signal while the secondary station is continuously sending. If this timer expires, the nonproductive receive condition is reported.

**\*SAME**
>       The value does not change.

*nonproductive-receive-timer*
>       Specify a value from 160 to 4200 in 0.1 second intervals.

# Idle timer (IDLTMR)

Specifies, for a primary or negotiable line, the time (in 0.1 second intervals) that the system waits before sampling the line for an idle signal. If an idle signal is detected, error recovery procedures are started.

**\*SAME**
>       The value does not change.

*idle-timer*
>       Specify a value from 5 to 300 in 0.1 second intervals.

## Connect poll timer (CNNPOLLTMR)

Specifies, for a primary or negotiable line, the time the system waits for the response to a connect poll before resending the poll.

**\*SAME**
> The value does not change.

*connect-poll-timer*
> Specify a value from 2 to 300 in 0.1 second intervals.

## Poll cycle pause (POLLPAUSE)

Specifies, for a primary or negotiable line, the time the system pauses after the last remote system in the poll list is polled.

**\*SAME**
> The value does not change.

*poll-cycle-pause*
> Specify a value from 1 to 2048 in 0.0001 second intervals, or 0 to indicate no pause.

## Frame retry (FRAMERTY)

Specifies, for a primary, negotiable, or X.25 line, the number of retries for an unanswered command frame or unacknowledged information frame before indicating the error.

**\*SAME**
> The value does not change.

*frame-retry*
> Specify a value from 0 to 64 for the number of retries.

## Fair polling timer (FAIRPLLTMR)

Specifies, for a multipoint line, the number of seconds the system waits before resuming polling of stations without pending data transfer requests.

**\*SAME**
> The value does not change.

*fair-poll-timer*
> Specify a value from 5 to 60 in one second intervals.

## Data Set Ready drop timer (DSRDRPTMR)

Specifies the amount of time that the system waits for the modem to exit the Data Set Ready (DSR) state before signaling an error.

**\*SAME**
> The value does not change.

*drop-timer*
> Specify a value ranging from 3 through 60 seconds.

# Autoanswer type (AUTOANSTYP)

Specifies the method that the system uses to answer incoming calls.

**\*SAME**
> The value does not change.

**\*DTR**   The system enters the Data Terminal Ready state, signals the modem to answer calls, and waits for the modem to enter the Data Set Ready (DSR) state.

**\*CDSTL**
> The system enters the Connect Data Set to Line (CDSTL) state after monitoring the Ring Indicator to signal the modem to answer the call.

# Clear To Send timer (CTSTMR)

Specifies the amount of time the system waits for the modem to enter or exit the Clear to Send (CTS) state before signaling an error.

**\*SAME**
> The value does not change.

*cts-timer*
> Specify a value ranging from 10 through 60 seconds.

# Remote answer timer (RMTANSTMR)

Specifies the amount of time that system waits for the modem to enter the Data Set Ready (DSR) state after dialing before signaling an error.

**\*SAME**
> The value does not change.

*answer-timer*
> Specify a value ranging from 30 through 120 seconds in 5-second intervals.

# Link speed (LINKSPEED)

Specifies the link speed in bits per second (bps). This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

**\*SAME**
> The value does not change.

**\*INTERFACE (SDLC and X.25 only)**
>  The link speed is based on the physical interface type: 9600 bps for RS-232/V.24 and X.21 bis/V.24, 48000 bps for V.35 and X.21 bis/V.35, and 64000 bps for X.21 and RS-449V.36.

**\*MIN**  A link speed of less than 1200 bps is used.

**\*MAX**  A link speed greater than 100M bps is used.

*link-speed*
>  Specify a link speed. The valid link speeds are 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M and 16M bps.

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## Cost/connect time (COSTCNN)

Specifies the relative cost of being connected on the line. Zero implies a low cost while 255 indicates a high cost. This parameter is valid only if APPN is used on the system.

**\*SAME**
>  The value does not change.

**\*CNN (SDLC and IDLC only)**
>  The cost per connection time is based on the connection type: Zero for nonswitched connections and 128 for switched connections.

*cost-per-connect-time*
>  Specify a value ranging from 0 through 255.

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## Cost/byte (COSTBYTE)

Specifies the relative cost per byte for sending and receiving data on the line. Zero implies a low cost while 255 indicates a high cost. This parameter is valid only if APPN is used on the system.

**\*SAME**
>  The value does not change.

**\*CNN (SDLC and IDLC only)**
>  The cost per byte is based on the connection type: Zero for nonswitched connections and 128 for switched connections.

*cost-per-byte*
>  Specify a value ranging from 0 through 255.

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## Security for line (SECURITY)

Specifies the security level of the physical line. This parameter is valid only if APPN is used on the system.

**\*SAME**
>  The value does not change.

**\*NONSECURE**
>  There is no security on the line.

**\*PKTSWTNET**

A packet switched network is used. Data does not always follow the same path through the network.

**\*UNDRGRDCBL**

An underground cable is used.

**\*SECURECND**

A secure, but unguarded, conduit is used.

**\*GUARDCND**

A guarded conduit, protected against physical tapping, is used.

**\*ENCRYPTED**

Data flowing on the line is encrypted.

**\*MAX** A guarded conduit, protected against physical and radiation tapping is used.

## Propagation delay (PRPDLY)

Specifies the level of propagation delay on the line. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system. The order of the values from shortest to longest delay is \*MIN, \*LAN, \*TELEPHONE, \*PKTSWTNET, and \*SATELLITE.

**\*SAME**

The value does not change.

**\*MIN** The minimum propagation delay is used.

**\*LAN** Propagation delay using a local area network.

**\*TELEPHONE**

Propagation delay using telephone lines.

**\*PKTSWTNET**

Propagation delay using a packet switched network.

**\*SATELLITE**

Propagation delay using satellite communications.

**\*MAX** The maximum propagation delay is used.

## User-defined 1 (USRDFN1)

This field is used to describe unique characteristics of the line that you want to control. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

**\*SAME**

The value does not change.

*user-defined-1*

Specify a value ranging from 0 through 255.

# User-defined 2 (USRDFN2)

This field is used to describe unique characteristics of the line that you want to control. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

***SAME**
> The value does not change.

*user-defined-2*
> Specify a value ranging from 0 through 255.

# User-defined 3 (USRDFN3)

This field is used to describe unique characteristics of the line that you want to control. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

***SAME**
> The value does not change.

*user-defined-3*
> Specify a value ranging from 0 through 255.

# Recovery limits (CMNRCYLMT)

Specifies the second-level communications recovery limits to be used for this line description.

The possible **count-limit** values are:

***SAME**
> The value does not change.

***SYSVAL**
> The value in the QCMNRCYLMT system value is used.

*count-limit*
> Specify the number of recovery attempts to be performed by the system. Valid values range from 0 through 99.

The possible **time-interval** values are:

***SAME**
> The value does not change.

*time-interval*
> Specify the number of minutes within which recovery attempts are made. Valid values range from 0 through 120 in 1-minute intervals.

# Text 'description' (TEXT)

Specifies text that briefly describes the line description.

***SAME**
> The value does not change.

**\*BLANK**
>    Text is not specified.

*character-value*
>    Specify no more than 50 characters of text, enclosed in apostrophes.

## Examples

```
CHGLINSDLC   LIND(TUESDAY)   RSRCNAME(LIN031)
```

This command changes the resource name for line description TUESDAY to LIN031.

## Error messages

**\*ESCAPE Messages**

**CPF261E**
>    Line description &1 not changed.

# Change Line Desc (TDLC) (CHGLINTDLC)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (TDLC) (CHGLINTDLC) command changes a line description for a twinaxial data link control line.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| ONLINE | Online at IPL | **\*SAME**, *YES, *NO | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

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## Line description (LIND)

Specifies the name of the line description

This is a required parameter.

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
> The value does not change.

**\*YES**   The line is automatically varied on at initial program load (IPL).

**\*NO**   This line is not automatically varied on at IPL.

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## Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
> The value does not change.

**491**

**\*BLANK**
>    Text is not specified.

*character-value*
>    Specify no more than 50 characters of text, enclosed in apostrophes.

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## Examples

```
CHGLINTDLC   LIND(WSFLIN1)  TEXT('Virtual line for WSF')
```

This command changes the text for line description WSFLIN1.

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## Error messages

**\*ESCAPE Messages**

**CPF261E**
>    Line description &1 not changed.

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# Change Line Desc (Token-Ring) (CHGLINTRN)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (Token-Ring Network) (CHGLINTRN) command changes a line description for a token-ring network line.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource name | *Name*, **\*SAME**, \*NWID, \*NWSD | Optional |
| ONLINE | Online at IPL | **\*SAME**, \*YES, \*NO | Optional |
| VRYWAIT | Vary on wait | 15-180, **\*SAME**, \*NOWAIT | Optional |
| MAXCTL | Maximum controllers | 1-256, **\*SAME** | Optional |
| LINESPEED | Line speed | **\*SAME**, 4M, 16M, 100M, \*AUTO, \*NWI | Optional |
| DUPLEX | Duplex | *Character value*, **\*SAME**, \*HALF, \*FULL, \*AUTO | Optional |
| MAXFRAME | Maximum frame size | 265-16393, **\*SAME**, 265, 521, 1033, 1466, 1600, 1994, 4060, 8156, 16393 | Optional |
| LECFRAME | LEC frame size | **\*SAME**, 1516, 4544, 9234, 18190 | Optional |
| ACTLANMGR | Activate LAN manager | **\*SAME**, \*YES, \*NO | Optional |
| TRNLOGLVL | TRLAN manager logging level | **\*SAME**, \*OFF, \*MIN, \*MED, \*MAX | Optional |
| TRNMGRMODE | TRLAN manager mode | **\*SAME**, \*OBSERVING, \*CONTROLLING | Optional |
| LOGCFGCHG | Log configuration changes | **\*SAME**, \*LOG, \*NOLOG | Optional |
| TRNINFBCN | Token-ring inform of beacon | **\*SAME**, \*YES, \*NO | Optional |
| ADPTADR | Local adapter address | *Character value*, **\*SAME**, \*ADPT | Optional |
| FCNADR | Functional address | Single values: **\*SAME**, \*NONE<br>Other values (up to 31 repetitions): C00000000001, C00000000002, C00000000004, C00000000008, C00000000010, C00000000020, C00000000040, C00000000080, C00000000100, C00000000200, C00000000400, C00000000800, C00000001000, C00000002000, C00000004000, C00000008000, C00000010000, C00000020000, C00000040000, C00000080000, C00000100000, C00000200000, C00000400000, C00000800000, C00001000000, C00002000000, C00004000000, C00008000000, C00010000000, C00020000000, C00040000000 | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **SSAP** | SSAP list | Single values: **\*SAME**, \*SYSGEN<br>Other values (up to 24 repetitions): *Element list* | Optional |
| | Element 1: Source service access point | 02-FE | |
| | Element 2: SSAP maximum frame | 265-16393, **\*MAXFRAME**, 265, 521, 1033, 1466, 1994, 4060, 8156, 16393 | |
| | Element 3: SSAP type | **\*CALC**, \*NONSNA, \*SNA, \*HPR | |
| **ELYTKNRLS** | Early token release | \*YES, \*NO, **\*SAME**, \*LINESPEED | Optional |
| **THRESHOLD** | Error threshold level | **\*SAME**, \*OFF, \*MIN, \*MED, \*MAX | Optional |
| **PVCID** | PVC identifiers | Single values: **\*SAME**<br>Other values: *Element list* | Optional |
| | Element 1: Virtual path identifier | 0-7 | |
| | Element 2: Virtual circuit identifier | 32-4095 | |
| **USELECSADR** | Use LECS address | **\*SAME**, \*YES, \*NO | Optional |
| **LESATMADR** | LES ATM address | Single values: **\*SAME**, \*NONE<br>Other values: *Element list* | Optional |
| | Element 1: Network prefix | *Hexadecimal value* | |
| | Element 2: End system identifier | *Hexadecimal value* | |
| | Element 3: Selector byte | *Hexadecimal value* | |
| **EMLLANNAME** | Emulated LAN name | *Character value*, **\*SAME**, \*NONE | Optional |
| **LECDSCTIMO** | LEC disconnect time out | 1-30, **\*SAME**, \*NOMAX | Optional |
| **LINKSPEED** | Link speed | 1200-603979776000, **\*SAME**, 4M, 10M, 16M, 100M, \*MIN, \*MAX | Optional |
| **COSTCNN** | Cost/connect time | 0-255, **\*SAME** | Optional |
| **COSTBYTE** | Cost/byte | 0-255, **\*SAME** | Optional |
| **SECURITY** | Security for line | **\*SAME**, \*NONSECURE, \*PKTSWTNET, \*UNDGRDCBL, \*SECURECND, \*GUARDCND, \*ENCRYPTED, \*MAX | Optional |
| **PRPDLY** | Propagation delay | **\*SAME**, \*MIN, \*LAN, \*TELEPHONE, \*PKTSWTNET, \*SATELLITE, \*MAX | Optional |
| **USRDFN1** | User-defined 1 | 0-255, **\*SAME** | Optional |
| **USRDFN2** | User-defined 2 | 0-255, **\*SAME** | Optional |
| **USRDFN3** | User-defined 3 | 0-255, **\*SAME** | Optional |
| **AUTOCRTCTL** | Autocreate controller | \*YES, \*NO, **\*SAME** | Optional |
| **AUTODLTCTL** | Autodelete controller | 1-10000, \*NONE, **\*SAME** | Optional |
| **CMNRCYLMT** | Recovery limits | Single values: **\*SAME**, \*SYSVAL<br>Other values: *Element list* | Optional |
| | Element 1: Count limit | 0-99 | |
| | Element 2: Time interval | 0-120 | |
| **MSGQ** | Message queue | Single values: **\*SAME**, \*SYSVAL, \*SYSOPR<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name* | |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, \*BLANK | Optional |

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# Line description (LIND)

Specifies the name of the line description

This is a required parameter.

# Resource name (RSRCNAME)

Specifies the resource name that identifies the hardware the description represents.

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified for the TYPE parameter to help determine the resource name. The resource name is on the port. For example, the resource name may be CMN01 on an Ethernet port.

**Note:** The value specified on the RSRCNAME parameter cannot be changed from *NWSD to another value or from another value to *NWSD.

**\*SAME**
> The value does not change.

**\*NWID**
> The resource name specified on the attached frame relay network interface description is used.

**\*NWSD**
> The resource name is determined by the network server description used.

*name*    Specify the resource name of the communications port.

This is a required parameter.

# Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
> The value does not change.

**\*YES**    The line is automatically varied on at initial program load (IPL).

**\*NO**    This line is not automatically varied on at IPL.

# Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**
> The value does not change.

**\*NOWAIT**
> The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*
> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:
   - Put tasks in place to manage the line
   - Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code
   - Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

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# Maximum controllers (MAXCTL)

Specifies the maximum number of controllers that the line supports.

**\*SAME**
> The value does not change.

*maximum-controllers*
> Specify value ranging from 1 to 256. The number must be large enough to account for all of the controllers that are currently active to this line, and for those controllers you know will be attached in the near future.

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# Line speed (LINESPEED)

Specifies the line speed in bits per second (bps).

**Note:** When RSRCNAME(*NWID) and NWITYPE(*FR) are specified, *NWI must be specified on this parameter.

**\*SAME**
> The value does not change.

**4M**    The line speed is 4M bps.

**16M**    The line speed is 16M bps.

**100M**    The line speed is 100M bps.

**\*AUTO**
> The line speed value will be determined by the hardware using auto-negotiation.

**\*NWI**    The line speed used is for a network interface.

**Note:** LINESPEED(*NWI) is only valid when RSRCNAME(*NWID) and NWITYPE(*FR) are specified.

Duplex (DUPLEX) parameter set to *AUTO, if it has a default value and line speed (LINESPEED) parameter has 100M or *AUTO.

## Duplex (DUPLEX)

Specifies whether the hardware can send and receive data simultaneously. In half duplex mode, the hardware must alternate between sending data and receiving data. In full duplex mode, data can be sent and received simultaneously.

**\*SAME**
　　　　The value does not change.

**\*HALF**
　　　　The line communicates using half duplex mode.

**\*FULL**　The line communicates using full duplex mode.

**\*AUTO**
　　　　The duplex value will be determined by the hardware using auto-negotiation.

**Note:** Duplex (DUPLEX) parameter set to *AUTO, if it has a default value and line speed (LINESPEED) parameter has 100M or *AUTO.

## Maximum frame size (MAXFRAME)

Specifies the maximum frame size that can be transmitted and received on this line description.

**\*SAME**
　　　　The value does not change.

*maximum-frame-size*
　　　　Specify the maximum frame size value to be used. The valid frame sizes (in bytes) range from 265 through 8148 bytes when the network interface is a frame relay. Otherwise, valid frame sizes (in bytes) range from 265 through 16393.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## LEC frame size (LECFRAME)

Specifies the LAN emulation client (LEC) frame size that can be transmitted and received on this line description.

**Note:** MAXFRAME must always be at least 20 less than this field.

**\*SAME**
　　　　The value does not change.

**4544**　　The LEC frame size is 4544 bytes.

**1516**　　The LEC frame size is 1516 bytes.

**9234**　　The LEC frame size is 9234 bytes.

**18190**    The LEC frame size is 18190 bytes.

## Activate LAN manager (ACTLANMGR)

Specifies whether Local Area Network (LAN) Manager is activated for this line.

**NOTES:**

1. ACTLANMGR(*YES) must be specified when RSRCNAME(*NWID) is specified.
2. ACTLANMGR(*NO) will ignore the values in TRNLOGLVL, TRNMGRMODE, LOGCFGCHG, and TRNINFBCN.

**\*SAME**
> The value does not change.

**\*YES**    LAN manager support is activated for this line.

**\*NO**    LAN manager support is not activated for this line.

## TRLAN manager logging level (TRNLOGLVL)

Specifies the error logging level used by the TRLAN Manager.

**Note:** TRNLOGLVL(*OFF) must be specified when RSRCNAME(*NWID) is specified.

**\*SAME**
> The value does not change.

**\*OFF**    All error reporting on the specified line is stopped.

**\*MIN**    The minimum reporting level, which reports only conditions that indicate degraded performance, is used.

**\*MED**    The medium reporting level, which reports conditions that indicate potential degraded performance in addition to the minimum reporting level, is used.

**\*MAX**    The maximum reporting level, which reports all error conditions, including the information that would be reported for *MIN and *MED reporting levels, is used.

## TRLAN manager mode (TRNMGRMODE)

Specifies which mode of network manager will be active on this line. A controlling manager can do functions that an observing manager can not do such as removing stations and performing a path test.

However, only one controlling manager should be active on any one ring.

**Note:** TRNMGRMODE(*OBSERVING) must be specified when RSRCNAME(*NWID) is specified.

**\*SAME**
> The value does not change.

**\*OBSERVING**
> This line's manager will function as an observing network manger.

**\*CONTROLLING**
>This line's manager will function as a controlling network manger.

## Log configuration changes (LOGCFGCHG)

Specifies if this line's network manager will keep track of changes that happen to the nearest active upstream neighbor (NAUN).

**Note:** LOGCFGCHG(*LOG) must be specified when RSRCNAME(*NWID) is specified.

**\*SAME**
>The value does not change.

**\*LOG**   The line manager logs the changes.

**\*NOLOG**
>This line's manager will not log changes.

## Token-ring inform of beacon (TRNINFBCN)

Specifies if this line's network manager will send a message to the QSYSOPR message queue when a beaconing condition occurs.

**Note:** TRNINFBCN(*YES) must be specified when RSRCNAME(*NWID) is specified.

**\*SAME**
>The value does not change.

**\*YES**   This line's manager will send a message to the QSYSOPR message queue when a beaconing condition occurs.

**\*NO**   This line's manager will not send a message to the QSYSOPR message queue when a beaconing condition occurs but will instead log an entry in the QHST log.

## Local adapter address (ADPTADR)

Specifies the local system's token-ring adapter address.

**\*SAME**
>The value does not change.

**\*ADPT**
>This value gives the user the present token-ring address for this token-ring adapter card. This address can be shown by using the Display Line Description (DSPLIND) command for this line description after it has successfully varied on.

>**Note:** This value is not valid when RSRCNAME(*NWID) and NWITYPE(*FR) are specified, or RSRCNAME(*NWSD) is specified.

*local-adapter-address*
>Specify an adapter address of your choice to describe this system in the token-ring network. Valid values are hexadecimal 400000000000 through 7FFFFFFFFFFF.

# Functional address (FCNADR)

Specifies whether token ring functional addresses are used.

**\*SAME**
> The value does not change.

**\*NONE**
> A functional address is not used.

*functional-address*
> Specify a group of hexadecimal functional addresses that are encoded in bit-significant format. Valid values range from hex C00000000001 through hex C00040000000. The first digit must be C. Functional addresses must be unique.

**Active Monitor**
> C00000000001

**Ring Parameter Server**
> C00000000002

**Network Server Heartbeat**
> C00000000004

**Ring Error Monitor**
> C00000000008

**Configuration Report Server**
> C00000000010

**Synchronous Bandwidth Manager**
> C00000000020

**Locate Directory Server**
> C00000000040

**NetBIOS**
> C00000000080

**Bridge**
> C00000000100

**IMPL Server**
> C00000000200

**Ring Authorization Server**
> C00000000400

**LAN Gateway**
> C00000000800

**Ring Wiring Concentration**
> C00000001000

**LAN Manager**
> C00000002000

**User-defined**
> C00000004000 through C00040000000

# SSAP list (SSAP)

Specifies the source service access point (SSAP) information, including an SSAP value, a maximum frame size, and an SSAP type.

You can enter multiple values for this parameter.

The possible **source service access point** values are:

**\*SAME**
> The value does not change.

**\*SYSGEN**
> The system generates the source service access points 04, 06 or AA.

The possible SSAPs value is:

*source-service-access-point*
> Specify a source service access point for receiving and transmitting data. A maximum of 24 SSAP values can be specified.
> - For Transmission Control Protocol/Internet Protocol (TCP/IP) applications, the SSAP must be AA.
> - For Systems Network Architecture (SNA) applications, the SSAP must be a hex value ranging from 04 through 9C in multiples of four (04, 08, 0C, and so on).
> - For high-performance routing (HPR) applications, the SSAP must be hex C8.
> - For non-SNA applications, the SSAP must be a hex value ranging from 02 through FE in multiples of two (02, 04, 06, and so on).
- For local area network (LAN) printer applications, specify hex 12 for the SSAP value and \*NONSNA for the SSAP type.

The possible **SSAP maximum frame size** values are:

**\*MAXFRAME**
> The system uses the value specified on the MAXFRAME parameter of this command for the SSAP maximum frame size.

*SSAP-maximum-frame*
> Specify the maximum SSAP frame size (the maximum size of the data field that can be transmitted or received). When RSRCNAME(\*NWID) and NWITYPE(\*FR) are specified, valid values for this parameter range from 265 through 8148 bytes. Otherwise, valid values for this parameter range from 265 through 16393 bytes.
>
> **Note:** This value cannot be larger than the value specified on the MAXFRAME parameter.

The possible **SSAP type** values are:

**\*CALC**
> The system calculates the value to use.

**\*SNA** The SSAP used is used for SNA communications. Valid values range from 04 through hex 9C in multiples of four (04, 08, 0C, and so on).

**\*NONSNA**
> The SSAP is used for non-SNA communications. Valid values range from hex 02 through hex FE in multiples of two (02,04, 06, and so on).

**\*HPR** The SSAP is used for HPR communications. It also can be used for SNA applications. The valid value is hex C8.

# Early token release (ELYTKNRLS)

Specifies if the early token release option is used by this line.

**Note:** ELYTKNRLS(*LINESPEED) must be specified when RSRCNAME(*NWID) is specified.

**\*SAME**
> The value does not change.

**\*LINESPEED**
> This line's LINESPEED parameter will select if the early token release option will be used or not used.

**\*YES**    This line will use the early token release option.

**\*NO**    This line will not use the early token release option.

# Error threshold level (THRESHOLD)

This parameter, and its values *SAME, *OFF, *MIN, *MED, and *MAX, can be specified but it is not used by the system starting in release V2R3M0. The parameter may be removed in a later release.

**\*SAME**
> The value does not change.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

# PVC identifiers (PVCID)

Specifies the virtual path identifier and virtual circuit identifier pairs associated with this permanent virtual circuit.

**\*SAME**
> The value does not change.

The possible **Virtual Path Identifier** value is:

*virtual-path-id*
> Specify a number that represents the virtual path identifier. This number must be in the range of 0 to 7.

The possible **Virtual Circuit Identifier** value is:

*virtual-circuit-id*
> Specify a number that represents the virtual circuit identifier. This number must be in the range of 32 to 4095.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Use LECS address (USELECSADR)

Specifies whether the LAN emulation configuration server (LECS) should be connected to request the remote LAN emulation server (LES) address.

**\*SAME**
    The value does not change.

**\*YES**    The LECS address is used.

**\*NO**    The LECS address is not used.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## LES ATM address (LESATMADR)

Specifies the ATM network address of the remote LAN emulation server.

**Note:** This parameter cannot be \*NONE if USELECSADR(\*NO) is specified.

**\*SAME**
    The value does not change.

The possible **Single Value** is:

**\*NONE**
    The ATM network address is not used.

The possible **Network prefix** value is:

*network-prefix*
    Specify the network prefix of the ATM address of the remote server. This is a 26 digit hexadecimal value.

The possible **End system identifier** value is:

*end-system-identifier*
    Specify the end system identifier of the remote server. This is a 12 digit hexadecimal value.

The possible **Selector byte** value is:

*selector byte*
    Specify the selector byte of the remote server. This is a two digit hexadecimal value.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Emulated LAN name (EMLLANNAME)

Specifies the emulated LAN name.

**\*SAME**
    The value does not change.

**\*NONE**
> The emulated LAN name not used.

*emulated-LAN-name*
> Specify the emulated LAN name. A maximum of 32 characters can be specified.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## LEC disconnect time out (LECDSCTIMO)

Specifies the amount of time in minutes a LAN emulation (LE) client waits before disconnecting an idle virtual circuit connection to another client.

**\*SAME**
> The value does not change.

**\*NOMAX**
> The LE client waits indefinitely.

*LEC-disconnect-timeout*
> Specify the number of minutes the LE client waits before disconnecting an idle virtual circuit connection to another client. The value must be in the range of 1 to 30 minutes.

## Link speed (LINKSPEED)

Specifies the link speed in bits per second (bps). This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

**\*SAME**
> The value does not change.

**4M**  The link speed is 4 million bits per second.

**10M**  The link speed is 10 million bits per second.

**16M**  The link speed is 16 million bits per second.

**100M**  The link speed is 100 million bits per second.

**\*MIN**  A link speed of less than 1200 bps is used.

**\*MAX**  A link speed greater than 100M bps is used.

*link-speed*
> Specify the link speed. Valid values range from 1200 to 603979776000 bps.

## Cost/connect time (COSTCNN)

Specifies the relative cost of being connected on the line. This parameter is required only if APPN is used on the system.

**\*SAME**
> The value does not change.

*cost-per-connect-time*
> Specify a value ranging from 0 through 255.

## Cost/byte (COSTBYTE)

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN is used on the system.

**\*SAME**
> The value does not change.

*cost-per-byte*
> Specify a value ranging from 0 through 255.

## Security for line (SECURITY)

Specifies the security level of the physical line. This parameter is valid only if APPN is used on the system.

**\*SAME**
> The value does not change.

**\*NONSECURE**
> There is no security on the line.

**\*PKTSWTNET**
> A packet switched network is used. Data does not always follow the same path through the network.

**\*UNDRGRDCBL**
> An underground cable is used.

**\*SECURECND**
> A secure, but unguarded, conduit is used.

**\*GUARDCND**
> A guarded conduit, protected against physical tapping, is used.

**\*ENCRYPTED**
> Data flowing on the line is encrypted.

**\*MAX**  A guarded conduit, protected against physical and radiation tapping is used.

## Propagation delay (PRPDLY)

Specifies the level of propagation delay on the line. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system. The order of the values from shortest to longest delay is \*MIN, \*LAN, \*TELEPHONE, \*PKTSWTNET, and \*SATELLITE.

**\*SAME**
> The value does not change.

**\*LAN**  Propagation delay using a local area network.

**\*MIN**  The minimum propagation delay is used.

**\*TELEPHONE**
> Propagation delay using telephone lines.

**\*PKTSWTNET**
> Propagation delay using a packet switched network.

**\*SATELLITE**
> Propagation delay using satellite communications.

**\*MAX** The maximum propagation delay is used.

## User-defined 1 (USRDFN1)

Specifies the first of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/ systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-1*
> Specify a value ranging from 0 through 255.

## User-defined 2 (USRDFN2)

Specifies the second of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/ systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-2*
> Specify a value ranging from 0 through 255.

## User-defined 3 (USRDFN3)

Specifies the third of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/ systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-3*
> Specify a value ranging from 0 through 255.

## Autocreate controller (AUTOCRTCTL)

Specifies whether the system automatically creates an advanced program-to-program communications (APPC) controller description when an incoming advanced peer-to-peer networking (advanced peer-to-peer networking (APPN)) call is received from an adjacent system on the Local Area Network (LAN).

**\*SAME**
> The value does not change.

**\*NO**    A controller description is not automatically created for this line.

**\*YES**    A controller description is automatically created for this line.

## Autodelete controller (AUTODLTCTL)

Specifies how many minutes the system waits before automatically varying off and deleting automatically created advanced program-to-program communications (APPC) controller descriptions (associated with this line) which have gone to an idle state.

**\*SAME**
> The value does not change.

**\*NONE**
> The controller descriptions for this line are not automatically deleted.

*auto-delete-controller*
> Specify a value ranging from 1 through 10000 minutes. The value 1440 is 24 hours.

## Recovery limits (CMNRCYLMT)

Specifies the second-level communications recovery limits to be used for this line description.

The possible **count-limit** values are:

**\*SAME**
> The value does not change.

**\*SYSVAL**
> The value in the QCMNRCYLMT system value is used.

*count-limit*
> Specify the number of recovery attempts to be performed by the system. Valid values range from 0 through 99.

The possible **time-interval** values are:

**\*SAME**
> The value does not change.

*time-interval*
> Specify the number of minutes within which recovery attempts are made. Valid values range from 0 through 120 in 1-minute intervals.

## Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

**\*SAME**
> The value does not change.

**\*SYSVAL**
> Messages are sent to the message queue defined in the QCFGMSGQ system value.

**\*SYSOPR**
> Messages are sent to the system operator message queue (QSYS/QSYSOPR).

**Qualifier 1: Message queue**

*name*  Specify the name of the message queue to which operational messages are sent.

**Qualifier 2: Library**

*name*  Specify the name of the library where the message queue is located.

## Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

## Examples

```
CHGLINTRN   LIND(TRLAN1)  MAXCTL(50)
```

This command changes the maximum number of controllers for line description TRLAN1 to 50.

## Error messages

**\*ESCAPE Messages**

**CPF261E**
   Line description &1 not changed.

# Change Line Desc (Wireless) (CHGLINWLS)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (Wireless) (CHGLINWLS) command changes a line description for a wireless local area network (LAN) line.

**Note:** Extended wireless line configuration data is contained in the source file and member specified on the INZFILE and INZMBR parameters, respectively. When the line is varied on, this configuration data is downloaded to the wireless adapter. It is recommended that INZPGM(QZXCINZ) and INZFILE(QEWLSRC) be used, and that a source member containing configuration initialization data be specified on the INZMBR parameter. For more information about downloading extended wireless line configuration data, see the LAN, Frame-Relay and ATM Support book, SC41-5404.

More information about using this command is in the Communications Configuration book, SC41-5401.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource name | *Name*, **\*SAME** | Optional |
| ONLINE | Online at IPL | **\*SAME**, *YES, *NO | Optional |
| VRYWAIT | Vary on wait | 15-180, *NOWAIT, **\*SAME** | Optional |
| ADPTADR | Local adapter address | 020000000000-FEFFFFFFFFFF, **\*SAME**, *ADPT | Optional |
| GRPADR | Group address | Single values: **\*SAME**, *NONE<br>Other values (up to 12 repetitions): 010000000000-FDFFFFFFFFFF | Optional |
| MAXCTL | Maximum controllers | 1-256, **\*SAME** | Optional |
| SSAP | SSAP list | Single values: **\*SAME**, *SYSGEN<br>Other values (up to 24 repetitions): *Element list* | Optional |
| | Element 1: Source service access point | 02-FE | |
| | Element 2: SSAP maximum frame | 265-1496, **\*MAXFRAME**, 265, 521, 1033, 1466, 1493, 1496 | |
| | Element 3: SSAP type | **\*CALC**, *NONSNA, *SNA | |
| LINKSPEED | Link speed | **\*SAME**, *MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, *MAX | Optional |
| COSTCNN | Cost/connect time | 0-255, **\*SAME** | Optional |
| COSTBYTE | Cost/byte | 0-255, **\*SAME** | Optional |

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| Keyword | Description | Choices | Notes |
|---|---|---|---|
| SECURITY | Security for line | **\*SAME**, \*NONSECURE, \*ENCRYPTED | Optional |
| PRPDLY | Propagation delay | **\*SAME**, \*LAN, \*MIN, \*MAX | Optional |
| USRDFN1 | User-defined 1 | 0-255, **\*SAME** | Optional |
| USRDFN2 | User-defined 2 | 0-255, **\*SAME** | Optional |
| USRDFN3 | User-defined 3 | 0-255, **\*SAME** | Optional |
| AUTOCRTCTL | Autocreate controller | \*YES, \*NO, **\*SAME** | Optional |
| AUTODLTCTL | Autodelete controller | 1-10000, \*NONE, **\*SAME** | Optional |
| CMNRCYLMT | Recovery limits | Single values: **\*SAME**, \*SYSVAL <br> Other values: *Element list* | Optional |
|  | Element 1: Count limit | 0-99, **2** |  |
|  | Element 2: Time interval | 0-120, **5** |  |
| INZFILE | Initialization source file | *Qualified object name* | Optional |
|  | Qualifier 1: Initialization source file | *Name*, **\*SAME**, \*NONE |  |
|  | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB |  |
| INZMBR | Initialization source member | *Name*, **\*SAME**, \*NONE | Optional |
| INZPGM | Initialization program | *Qualified object name* | Optional |
|  | Qualifier 1: Initialization program | *Name*, **\*SAME**, \*NONE |  |
|  | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB |  |
| TEXT | Text 'description' | *Character value*, **\*SAME**, \*BLANK | Optional |

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## Line description (LIND)

Specifies the name of the line description

This is a required parameter.

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## Resource name (RSRCNAME)

Specifies the resource name that describes the automatic call unit port. The resource name consists of the input/output adapter (IOA) resource name and the port number on the IOA. For example, if the resource name of the IOA is LIN01 and the port on the IOA is 1, then the resource name would be LIN011.

**\*SAME**
> The value does not change.

*name*   Specify the resource name of the communications port.

This is a required parameter.

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**

> The value does not change.

**\*YES**  The line is automatically varied on at initial program load (IPL).

**\*NO**  This line is not automatically varied on at IPL.

## Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**

> The value does not change.

**\*NOWAIT**

> The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*

> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:

   - Put tasks in place to manage the line
   - Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code
   - Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

## Local adapter address (ADPTADR)

Specifies the 12-character hexadecimal adapter address.

**\*SAME**

> The value does not change.

**\*ADPT**

> The preset wireless adapter address is used as the local adapter address. The adapter address can be displayed by using the Display Line Description (DSPLIND) command after the line description has been successfully varied on.

*local-adapter-address*

> Specify the local wireless adapter address to override the preset local address. The local adapter address must be an individual address (it cannot be a group address). Valid values range from 020000000000 through FEFFFFFFFFFF in hexadecimal format. The second digit (from the left) of the address must be 2, 6, A, or E.

## Group address (GRPADR)

Specifies whether to include the adapter as part of a wireless group address. This address is used to identify all adapters on the wireless network that have the same group address.

**\*SAME**
> The value does not change.

**\*NONE**
> A group address is not used.

*group-address*
> Specify the address of the group of adapters to which the local adapter is added. Valid values range from 010000000000 through FDFFFFFFFFFF in hexadecimal format. The second digit (from the left) must be odd. All group addresses must be unique.

## Maximum controllers (MAXCTL)

Specifies the maximum number of controllers that the line supports.

**\*SAME**
> The value does not change.

*maximum-controllers*
> Specify value ranging from 1 to 256. The number must be large enough to account for all of the controllers that are currently active to this line, and for those controllers you know will be attached in the near future.

## SSAP list (SSAP)

Specifies source service access points (SSAPs). This is the hexadecimal logical address used to route incoming data from the Ethernet bus to the proper user. A maximum frame size can be specified for each SSAP.

**Note:** Ethernet Version 2 (specified as \*ETHV2 on the ETHSTD parameter) does not allow the SSAP values of 06 and AA.

The destination service access point (DSAP), specified by the remote controller, must match one of the SSAPs specified in order for communication to occur. All SSAP values must be unique.

**\*SAME**
> The value does not change.

**\*SYSGEN**
> For ETHSTD(\*ALL or \*IEEE8023), the operating system creates three SSAPs: SSAP 04 for SNA applications; AA and 06 for TCP/IP applications. For ETHSTD(\*ETHV2), the system creates hex 04 for SNA.

The possible SSAPs value is:

*source-service-access-point*
> Specify up to 24 SSAPs, including hex AA and 06 for TCP/IP, and any hexadecimal number 04 through 9C that is divisible by four for SNA applications.

The possible Frame Size for SSAPs values are:

**\*MAXFRAME**
> The system determines the maximum frame size (data field size) that can be transmitted or received. If ETHSTD(\*ALL or \*IEEE8023) is specified, \*CALC produces a frame size of 1496 for TCP/IP and SNA SSAPs. If ETHSTD(\*ETHV2) is specified, \*CALC produces a frame size of 1493 for SNA SSAPs.

*SSAP-maximum-frame*
> Specify the maximum frame size for each SSAP. Valid values for the maximum frame size range from 265 through 1496.

The possible SSAP Type values are:

**\*CALC**
> The system determines the value to use.

**\*SNA** The SSAP is used for SNA communications. Valid values range from 04 through 9C and must be divisible by 4.

**\*NONSNA**
> The SSAP is used for communications other than SNA communications. Valid values range from 02 through FE and must be divisible by 2.

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# Link speed (LINKSPEED)

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN is used on the system.

**\*SAME**
> The value does not change.

**4M** A link speed of 4 million bps is used.

**\*MIN** A link speed of less than 4M is used.

**\*MAX** A link speed greater than 4M is used.

*link-speed*
> Specify the link speed. Valid values are: 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, and 4M.

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# Cost/connect time (COSTCNN)

Specifies the relative cost of being connected on the line. This parameter is required only if APPN is used on the system.

**\*SAME**
> The value does not change.

*cost-per-connect-time*
>Specify a value ranging from 0 through 255.

## Cost/byte (COSTBYTE)

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN is used on the system.

**\*SAME**
>The value does not change.

*cost-per-byte*
>Specify a value ranging from 0 through 255.

## Security for line (SECURITY)

Specifies the security level of the line.

**\*SAME**
>The value does not change.

**\*NONSECURE**
>Normal priority is used.

**\*ENCRYPTED**
>Data flowing on the line is encrypted.

## Propagation delay (PRPDLY)

Specifies the level of propagation delay on the line. This parameter is valid only if Advanced Peer-to-Peer Networking (APPN) is used on the system.

**\*SAME**
>The value does not change.

**\*LAN**   The local area network propagation delay is used.

**\*MIN**   The minimum propagation delay is used.

**\*MAX**   The maximum propagation delay is used.

## User-defined 1 (USRDFN1)

Specifies the first of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/ systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-1*
> Specify a value ranging from 0 through 255.

## User-defined 2 (USRDFN2)

Specifies the second of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/ systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-2*
> Specify a value ranging from 0 through 255.

## User-defined 3 (USRDFN3)

Specifies the third of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/ systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-3*
> Specify a value ranging from 0 through 255.

## Autocreate controller (AUTOCRTCTL)

Specifies whether the system automatically creates controller descriptions when calls are received from adjacent systems on the local area network (LAN).

**\*SAME**
> The value does not change.

**\*NO**   The system does not automatically create a controller description when incoming calls are received.

**\*YES**   The system automatically creates a controller description when incoming calls are received.

# Autodelete controller (AUTODLTCTL)

Specifies the number of minutes an automatically created controller can remain in an idle state (switched from varied on to varied on pending) before the controller description and attached device descriptions are varied off and deleted.

**\*SAME**
> The value does not change.

**\*NONE**
> The system does not automatically delete or vary off the automatically configured idle controller descriptions.

*wait-time*
> Specify the number of minutes to wait before deleting the automatically configured, idle controller descriptions for this line. Valid values range from 1 to 10000 minutes.

# Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

**\*SAME**
> The value does not change.

The possible Maximum Recovery Limit values are:

*count-limit*
> Specify the number of recovery attempts to be made. Valid values range from 0 through 99.

The possible Recovery Time Interval values are:

*time-interval*
> Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

The possible Single Value values are:

**\*SYSVAL**
> The recovery limits specified in the QCMNRCYLMT system value are used.

# Initialization source file (INZFILE)

Specifies the name of a source file containing configuration initialization data.

**Note:** The INZFILE and INZMBR parameters are required when downloading extended wireless line configuration data to the wireless adapter as discussed at the beginning of this command description.

**\*SAME**
> The value does not change.

**\*NONE**
> No initialization file name is specified.

The name of the initialization file can be qualified by one of the following library values:

**\*LIBL**   All libraries in the job's library list are searched until the first match is found.

**\*CURLIB**
   The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*name*   Specify the name of the library to be searched.

*name*   Specify the name of a source file containing the initialization data. A value of \*NONE is accepted for this parameter. If a source file name has not been added prior to varying on this line description, then the current IOP defaults are used for initialization.

## Initialization source member (INZMBR)

Specifies the name of a source file member containing configuration initialization data.

**Note:** The INZFILE and INZMBR parameters are required when downloading extended wireless line configuration data to the wireless adapter as discussed at the beginning of this command description.

**\*SAME**
   The value does not change.

**\*NONE**
   No source file member name is specified.

*name*   Specify the name of a source file member containing the initialization data. If a source member name has not been added prior to varying on this line description, the the current IOP defaults are used for initialization.

## Initialization program (INZPGM)

Specifies the name of a program to manage configuration initialization data.

**Note:** For 2663 wireless adapters, it is recommended that INZPGM(QZXCINZ) be specified. This results in the values of INZFILE and INZMBR being passed to the Change Extended Wireless Line Member (CHGEWLM) command when the line is varied on.

**\*SAME**
   The value does not change.

**\*NONE**
   No initialization program name is specified.

The name of the initialization program can be qualified by one of the following library values:

**\*LIBL**   All libraries in the job's library list are searched until the first match is found.

**\*CURLIB**
   The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*name*   Specify the name of the library to be searched.

*name*   Specify the name of a program to manage configuration initialization data. If a program name is

specified, it is called when this line description is created. The names of the source file and member containing configuration initialization data are passed to this program as parameters.

## Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

## Examples

```
CHGLINWLS   LIND(MYLINE)   INZFILE(*LIBL/MYFILE)   INZMBR(MBR1)
```

This command adds a source file and source member, containing configuration initialization data to a wireless line description named MYLINE.

## Error messages

**\*ESCAPE Messages**

**CPF261E**
> Line description &1 not changed.

# Change Line Desc (X.25) (CHGLINX25)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Line Description (X.25) (CHGLINX25) command changes a line description for an X.25 line.

**Restriction:** You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| LIND | Line description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource name | *Name*, **\*SAME** | Optional |
| LGLCHLE | Logical channel entries | Single values: **\*SAME**, *PROMPT<br>Other values (up to 256 repetitions): *Element list* | Optional |
| | Element 1: Logical channel identifier | *Character value* | |
| | Element 2: Logical channel type | *PVC, *SVCIN, *SVCBOTH, *SVCOUT | |
| NETADR | Local network address | *Character value*, **\*SAME** | Optional |
| CNNINIT | Connection initiation | **\*SAME**, *LOCAL, *REMOTE, *WAIT, *CALLER | Optional |
| ONLINE | Online at IPL | **\*SAME**, *YES, *NO | Optional |
| SWTNWILST | Switched NWI list | Single values: **\*SAME**, *NONE<br>Other values (up to 64 repetitions): *Element list* | Optional |
| | Element 1: NWI description | *Name* | |
| | Element 2: NWI channel type | **\*B** | |
| | Element 3: NWI channel number | 1-30, **\*CALC** | |
| X25DCE | X.25 DCE support | **\*SAME**, *YES, *NO, *NEG | Optional |
| VRYWAIT | Vary on wait | 15-180, **\*SAME**, *NOWAIT | Optional |
| LINESPEED | Line speed | **\*SAME**, *CALC, 600, 1200, 2400, 4800, 7200, 9600, 12000, 14400, 19200, 48000, 56000, 57600, 64000, 128000, 192000, 256000, 320000, 384000, 448000, 512000, 576000, 640000, 704000, 768000, 832000, 896000, 960000, 1024000, 1088000, 1152000, 1216000, 1280000, 1344000, 1408000, 1472000, 1536000, 1600000, 1664000, 1728000, 1792000, 1856000, 1920000, 1984000, 2048000 | Optional |
| SWTCTLLST | Switched controller list | Single values: **\*SAME**, *NONE, *ALL<br>Other values (up to 64 repetitions): *Name* | Optional |
| PKTMODE | Packet mode | **\*SAME**, *YES, *NO | Optional |
| INFTRFTYPE | Information transfer type | *Character value*, **\*SAME**, *UNRESTRICTED, *V110, *DOV, *SYNCMODEM | Optional |
| EXNNETADR | Extended network addressing | **\*SAME**, *YES, *NO | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| MAXFRAME | Maximum frame size | *SAME, 1024, 2048, 4096 | Optional |
| DFTPKTSIZE | Default packet size | Element list | Optional |
| | Element 1: Transmit value | *SAME, 64, 128, 256, 512, 1024, 2048, 4096 | |
| | Element 2: Receive value | *SAME, *TRANSMIT, 64, 128, 256, 512, 1024, 2048, 4096 | |
| MAXPKTSIZE | Maximum packet size | Element list | Optional |
| | Element 1: Transmit value | *SAME, *DFTPKTSIZE, 64, 128, 256, 512, 1024, 2048, 4096 | |
| | Element 2: Receive value | *SAME, *DFTPKTSIZE, *TRANSMIT, 64, 128, 256, 512, 1024, 2048, 4096 | |
| MODULUS | Modulus | *SAME, 8, 128 | Optional |
| DFTWDWSIZE | Default window size | Element list | Optional |
| | Element 1: Transmit value | 1-15, *SAME | |
| | Element 2: Receive value | 1-15, *SAME, *TRANSMIT | |
| ADRINSERT | Insert net address in packets | *SAME, *YES, *NO | Optional |
| NETUSRID | Network user ID | Character value, *SAME, *NONE | Optional |
| IDLTMR | Idle timer | 3-600, *SAME | Optional |
| FRAMERTY | Frame retry | 0-64, *SAME | Optional |
| THRESHOLD | Error threshold level | *SAME, *OFF, *MIN, *MED, *MAX | Optional |
| CNNNBR | Connection number | Character value, *SAME | Optional |
| CALLNBR | Calling number | Character value, *SAME, *NONE | Optional |
| MODEM | Modem type supported | *SAME, *NORMAL, *V54, *IBMWRAP | Optional |
| MODEMRATE | Modem data rate select | *SAME, *FULL, *HALF | Optional |
| SWTCNN | Switched connection type | *SAME, *BOTH, *ANS, *DIAL | Optional |
| CNNLSTOUT | Outgoing connection list | Name, *SAME | Optional |
| CNNLSTOUTE | Connection list entry | Name, *SAME | Optional |
| CNNLSTIN | Incoming connection list | Name, *SAME, *NETATR | Optional |
| AUTOANS | Autoanswer | *SAME, *YES, *NO | Optional |
| AUTODIAL | Autodial | *SAME, *NO, *YES | Optional |
| DIALCMD | Dial command type | *SAME, *NONE, *V25BIS | Optional |
| MDMINZCMD | Modem init command string | Character value, *SAME, *NONE | Optional |
| CALLIMMED | Call immediate | *SAME, *NO, *YES | Optional |
| ACRSRCNAME | Autocall resource name | Name, *SAME | Optional |
| PREDIALDLY | Predial delay | 0-254, *SAME | Optional |
| REDIALDLY | Redial delay | 0-254, *SAME | Optional |
| DIALRTY | Dial retry | 0-254, *SAME | Optional |
| SWTDSC | Switched disconnect | *SAME, *YES, *NO | Optional |
| SWTDSCTMR | Disconnect timers | Single values: *SAME<br>Other values: Element list | Optional |
| | Element 1: Minimum connect timer | 0-65535, 170 | |
| | Element 2: Disconnection delay timer | 0-65535, 0 | |
| DSRDRPTMR | Data Set Ready drop timer | 1-60, *SAME | Optional |
| AUTOANSTYP | Autoanswer type | *SAME, *DTR, *CDSTL | Optional |
| CTSTMR | Clear To Send timer | 10-60, *SAME | Optional |
| RMTANSTMR | Remote answer timer | *SAME, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120 | Optional |
| CLOCK | Clocking | *SAME, *MODEM, *LOOP, *INVERT | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| LINKSPEED | Link speed | *SAME, *INTERFACE, *MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 128000, 192000, 256000, 320000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX | Optional |
| SWTNWISLCT | Switched NWI selection | *SAME, *FIRST, *CALC | Optional |
| COSTCNN | Cost/connect time | 0-255, *SAME | Optional |
| COSTBYTE | Cost/byte | 0-255, *SAME | Optional |
| SECURITY | Security for line | *SAME, *NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX | Optional |
| PRPDLY | Propagation delay | *SAME, *MIN, *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX | Optional |
| USRDFN1 | User-defined 1 | 0-255, *SAME | Optional |
| USRDFN2 | User-defined 2 | 0-255, *SAME | Optional |
| USRDFN3 | User-defined 3 | 0-255, *SAME | Optional |
| CMNRCYLMT | Recovery limits | Single values: *SAME, *SYSVAL<br>Other values: *Element list* | Optional |
| | Element 1: Count limit | 0-99 | |
| | Element 2: Time interval | 0-120 | |
| MSGQ | Message queue | Single values: *SAME, *SYSVAL, *SYSOPR<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name* | |
| TEXT | Text 'description' | *Character value*, *SAME, *BLANK | Optional |

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## Line description (LIND)

Specifies the name of the line description

This is a required parameter.

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## Resource names (RSRCNAME)

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified for the TYPE parameter to help determine the resource name. The resource name is on the port. For example, the resource name may be CMN01 on an Ethernet port.

Specifies the resource name that identifies the hardware the description represents.

**\*SAME**
>  The value does not change.

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# Logical channel entries (LGLCHLE)

Specifies, when using the Create Line X.25 Description (CRTLINX25) or Change Line Description X.25 (CHGLINX25) command, up to 256 entries to be added, removed, or changed in the logical channel table. A channel entry consists of a channel identifier, a logical channel type, and a PVC controller.

**Note:** Logical channel entries with attached permanent virtual circuit (PVC) controllers cannot be added, removed, or changed.

The possible Logical Channel Identifier value is:

**\*SAME**
Specify a three-character hexadecimal number ranging from 001 through FFF for the logical channel identifier. The first digit (from left to right) is the logical channel group number; the second and third digits make up the logical channel number.

The possible **channel identifier** values are:

**\*PROMPT**
Specifying \*PROMPT presents an interactive display that can be used to process current logical channel entries.

*channel-identifier*
Specify a three-character hexadecimal number ranging from 001 to FFF for the logical channel identifier. The first digit (from left to right) is the logical channel group number; the second and third digits make up the logical channel number. Specify a logical channel identifier. Valid values range from hexadecimal numeral 001 through FFF.

The possible **channel type** values are:

**\*PVC** The logical channel is a permanent virtual circuit.

**\*SVCIN**
The logical channel is a switched virtual circuit for incoming calls.

**\*SVCBOTH**
The logical channel is a switched virtual circuit for both incoming and outgoing calls.

**\*SVCOUT**
The logical channel is a switched virtual circuit for outgoing calls.

# Local network address (NETADR)

Specifies the local network address for this system. Up to 17 characters can be specified if \*YES is specified for the EXNNETADR parameter. Otherwise, up to 15 characters can be specified.

**\*SAME**
The value does not change.

*local-network-address*
Specify the local network address.

# Connection initiation (CNNINIT)

Specifies the method used to establish the X.25 data link connection.

**\*SAME**
> The value does not change.

**\*LOCAL**
> The local system initiates the connection by issuing the set asynchronous balanced mode (SABM) communications command to establish the connection.

**\*REMOTE**
> The remote system initiates the connection issuing the SABM communications command. The local system waits for the connection to be established.

**\*WAIT**
> The local system waits for a disconnect (DISC) or disconnect mode (DM) from the DCE before attempting to activate the link.

**\*CALLER**
> The connection is initiated from either the local system or the remote system based on call direction.

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# Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
> The value does not change.

**\*YES**  The line is automatically varied on at initial program load (IPL).

**\*NO**  This line is not automatically varied on at IPL.

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**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

# Switched NWI list (SWTNWILST)

Specifies, for ISDN/T1 switched connections, a list of network interface descriptions to which this line can be attached. A network interface description is chosen from the list based on the value specified by the switched NWI selection parameter (SWTNWISLCT) at the time an incoming or outgoing call is processed.

**Note:** Valid only when RSRCNAME(*NWID) and CNN(*SWTPP).

The possible **Network Interface Description Name** values are:

**\*SAME**
> The value does not change.

**\*NONE**
> No network interface description is specified.

*name*  Specify, for switched connections, the name of the network interface description to which this line attaches.

The possible **Network Interface Channel Type** values are:

**\*B**  The B channel is used.

The possible **Network Interface Channel-Number** values are:

**\*CALC**
> The system selects one of the 30 channel numbers (based on availability) defined for the network interface description when an incoming or outgoing call is processed.

*NWI-channel-number*
> Specify a channel number (1 to 30) to which the line description is restricted.

## X.25 DCE support (X25DCE)

Specifies whether the system communicates through the X.25 data circuit-terminating equipment (DCE) support. This allows a system to communicate with another system without going through an X.25 network.

**\*SAME**
> The value does not change.

**\*NO**    The system does not communicate through the X.25 DCE support.

**\*YES**    The system does communicate through the X.25 DCE support.

**\*NEG**    The operating system negotiates with another system about whether to communicate through the X.25 DCE support. This value can only be specified for switched lines.

## Vary on wait (VRYWAIT)

Specifies whether the line is varied on asynchronously or synchronously. For synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

**\*SAME**
> The value does not change.

**\*NOWAIT**
> The system does not wait for vary on completion. The line is varied on asynchronously.

*vary-on-wait*
> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the line is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

**Notes:**

1. When ONLINE(\*YES) is used, specifying a wait time in the line description affects system IPL time. In such cases, system IPL time is influenced by the amount of time required to synchronously vary on the line or reach the wait-time value.

2. The time required to vary on a line is the time it takes to:
   - Put tasks in place to manage the line
   - Activate the communications I/O processor (IOP), including downloading the IOP model-unique Licensed Internal Code
   - Establish the communications tasks and processes

Normal vary-on time ranges from 5 through 45 seconds, but can be longer, depending on the system, line protocol, and other factors.

# Line speed (LINESPEED)

Specifies the line speed in bits per second (bps).

**\*SAME**
>The value does not change.

**\*CALC**
>The system calculates the value to use.

*line-speed*
>Specify one of the following values (in bps) for the line speed:

| | | | | |
|---|---|---|---|---|
| 600 | 57600 | 576000 | 1152000 | 1728000 |
| 1200 | 64000 | 640000 | 1216000 | 1792000 |
| 2400 | 128000 | 704000 | 1280000 | 1856000 |
| 4800 | 192000 | 768000 | 1344000 | 1920000 |
| 7200 | 256000 | 832000 | 1408000 | 1984000 |
| 14400 | 320000 | 896000 | 1472000 | 2048000 |
| 19200 | 384000 | 960000 | 1536000 | |
| 48000 | 448000 | 1024000 | 1600000 | |
| 56000 | 512000 | 1088000 | 1664000 | |

# Switched controller list (SWTCTLLST)

Specifies the names of up to 64 switched asynchronous controllers or specify \*ALL for an unlimited number of switched asynchronous X.25 controllers that can establish a connection with an X.25 switched virtual circuit (SVC). The controller descriptions must already exist. This parameter is valid only if the line is used to attach switched asynchronous X.25 controllers created by the Create Controller Description (Async) (CRTCTLASC) command. Attaching controllers that specify CNNNBR(\*ANY) or ANSNBR(\*ANY) may result in a reordering of this list.

You can enter multiple values for this parameter.

**\*SAME**
>The value does not change.

**\*ALL**  All X.25 switched controllers that are created using the Create Controller Description (Async) (CRTCTLASC) command and list this line description on the Switched Line List (SWTLINLST) parameter can be used to establish a connection with an X.25 switched virtual circuit (SVC).

**\*NONE**
>No switched asynchronous controller is specified.

*names*  Specify the switched controller names. Up to 64 switched controllers can be specified.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

# Packet mode (PKTMODE)

Specifies whether to access the ISDN or T1 virtual circuit service.

**\*SAME**
>The value does not change.

**\*NO** The ISDN/T1 network is used to provide transparent access to an X.25 packet switched network external to the ISDN/T1 (Case A).

**\*YES** The ISDN/T1 virtual circuit service is accessed (Case B).

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Information transfer type (INFTRFTYPE)

Specifies the information transfer type. The information transfer type determines the layer 1 protocol.

**Note:** Valid only when RSRCNAME(\*NWID) and CNN not \*SWTPP.

**\*SAME**
>The value does not change.

**\*UNRESTRICTED**
>The data-channel traffic appears as digital information; no physical transformation is required and each B-channel operates at capacity (64k bps).

**\*V110** The transfer type is V-series Recommendation 110. Each B-channel operates at 56k bps.

**\*DOV** Allows Data Over Voice (DOV) digital data to be transferred over an ISDN/T1 voice call. Also, this is referred to as Data Over Voice Bearer Service (DOVBS), Data Over Speech Bearer Service (DOSBS), TollSaver, or TollMizer. This option should only be used if an ISDN voice call is less expensive than an ISDN data call or if a bearer service for data is not available. The remote location must also support this feature. Data is transferred at 56Kbps in each direction.

**\*SYNCMODEM**
>Allows data from the integrated synchronous modem to be transferred over an ISDN/T1 voice call. This option should be used to connect to a remote location that is using a synchronous modem on an analog telephone line. Data is transferred at modem speeds up to 33.6Kbps from the remote analog device to this digital connection and up to 56Kbps from this digital connection to the remote analog device.

## Extended network addressing (EXNNETADR)

Specifies whether network addressing is extended to permit the use of 17 characters in an address name.

**\*SAME**
>The value does not change.

**\*NO** Network addresses can be up to 15 characters.

**\*YES** Network addresses can be up to 17 characters.

## Maximum frame size (MAXFRAME)

Specifies the maximum frame size the controller can send or receive.

**\*SAME**
> The value does not change.

*max-frame*
> Specify one of the following values: 1024, 2048, 4096, 8192, or 16384.

## Default packet size (DFTPKTSIZE)

Specifies the default packet sizes used for transmission and reception on this line. The values specified should match the default values used by the X.25 network.

The possible **transmission** values are:

**\*SAME**
> The value does not change.

**128**  The default packet size is 128.

*transmit-packet-size*
> Specify a default packet size for transmission to all controllers that will attach to this line. The controller commands can override this default with the DFTPKTSIZE parameter on the controller commands. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

The possible **reception** values are:

**\*SAME**
> The value does not change.

**\*TRANSMIT**
> The value specified as the default packet size for transmission is used as the default for reception.

*receive-packet-size*
> Specify a default packet size for reception for all controllers that will attach to this line. The controller commands can override this default with the DFTPKTSIZE parameter on the controller commands. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

## Maximum packet size (MAXPKTSIZE)

Specifies the maximum packet sizes for transmission and reception on this line. These values should match the maximum packet sizes supported for transmission and reception by the X.25 network. The value specified must not be less than the default packet size specified.

The possible **transmission** values are:

**\*SAME**
> The value does not change.

**\*DFTPKTSIZE**
> The maximum packet size for transmission is the same as the default packet size for transmission.

*max-transmit-packet-size*
> Specify a packet size for transmission to all controllers attached to this line. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

The possible **reception** values are:

**\*SAME**
>  The value does not change.

**\*TRANSMIT**
>  The maximum packet size for reception is the same as the maximum packet size for transmission.

**\*DFTPKTSIZE**
>  The maximum packet size for reception is the same as the default packet size for reception.

*max-receive-packet-size*
>  Specify a default packet size for reception for all controllers attached to this line. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

## Modulus (MODULUS)

Specifies whether the extended sequence numbers are used.

**\*SAME**
>  The value does not change.

**8**  Extended sequence numbers are not used (Modulus 8).

*128*  Extended sequence numbers are used (Modulus 128).

## Default window size (DFTWDWSIZE)

Specifies the default packet window size for transmission to and reception from controllers attached to this line. The controllers can override this default by specifying the **X.25 default window size (DFTWDWSIZE)** parameter on the controller commands.

The possible **transmission** values are:

**\*SAME**
>  The value does not change.

**2**  The default packet window size is 2.

*transmit-window-size*
>  Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15.

The possible **reception** values are:

**\*SAME**
>  The value does not change.

**\*TRANSMIT**
>  The value specified as the default window size for transmission is used as the default for reception.

*receive-window-size*
>  Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15.

# Insert net address in packets (ADRINSERT)

Specifies whether the system inserts the local network address in call request packets.

**\*SAME**
The value does not change.

**\*YES** The local network address is inserted in packets.

**\*NO** The local network address is not inserted in packets.

# Network user ID (NETUSRID)

For switched lines, this parameter allows the network subscriber to request network user identification (NUI) information be encoded in the NUI Selection Facility for all call request packets sent by the local system on this line.

**\*SAME**
The value does not change.

*network-user-identification*
Specify a NUI up to 214 hexadecimal characters in length.

# Idle timer (IDLTMR)

Specifies the maximum amount of time (in 0.1 second intervals) that the system waits for acknowledgment from the network for each frame sent before re-transmission.

**\*SAME**
The value does not change.

*idle-timer*
Specify a value ranging from 3 through 600. Each unit represents 0.1 seconds, which provides a timeout value ranging from 0.3 through 60 seconds.

# Frame retry (FRAMERTY)

Specifies, for a primary, negotiable, or X.25 line, the number of retries for an unanswered command frame or unacknowledged information frame before indicating the error.

**\*SAME**
The value does not change.

*frame-retry*
Specify a value from 0 to 64 for the number of retries.

# Error threshold level (THRESHOLD)

Specifies the temporary error threshold level being monitored by the system. A permanent error is reported only if the errors occurred consecutively and exceeded the retry limit.

**Note:** Specifying the THRESHOLD parameter affects all threshold errors. They cannot be specified individually.

**\*SAME**
> The value does not change.

**\*OFF**    No threshold errors are reported.

**\*MIN**    The threshold for errors is set to a minimum monitoring level.

**\*MED**    The threshold for errors is set to a medium monitoring level.

**\*MAX**    The threshold for errors is set to a maximum monitoring level.

## Connection number (CNNNBR)

Specifies the number used to connect to this line. This is the telephone number to be dialed by the modem. A maximum of 32 characters can be specified.

**\*SAME**
> The value does not change.

*connection-number*
> Specifies the connection number.

## Calling number (CALLNBR)

Specifies the local telephone number of the line that is used for the V.25 bis Call Request with Identification (CRI) dial command. When V.25 bis CRI dialing is used, the system takes the called (connection) number (CNNNBR parameter ), adds a separator character (;), and puts the calling number at the end. The default, \*NONE, indicates that Call Request Normal (CRN) is used.

Specify the calling number only when the modem and network support the CRI dial command.

**\*SAME**
> The value does not change.

**\*NONE**
> Call Request Normal (CRN) is used. CRN dialing sends only the connection number to the V.25 bis modem.

*calling-number*
> Specify the local telephone number if V.25 bis CRI dialing is required. The number can be up to 32 characters in length. See your modem documentation to determine the values allowed by the modem.

**Note:** Specify the calling number only if both the modem and network support the V.25 bis CRI dial command.

## Modem type supported (MODEM)

Specifies the type of modem supported on the communications line. Refer to the modem manual to determine the appropriate value to select.

**\*SAME**
The value does not change.

**\*NORMAL**
No attempt is made to run a diagnostic test to your modem.

**\*V54**  A certain type of diagnostic test (as defined by the CCITT recommendations) is run to your modem. This system supports CCITT V.54 loop 3, local loop back, and loop 2, which is a remote loop back.

**\*IBMWRAP**
An IBM modem with wrap test capabilities is used on the communications line.

# Modem data rate select (MODEMRATE)

Specifies the speed at which the line operates if the modem has the data rate select feature.

**\*SAME**
The value does not change.

**\*FULL**  The line operates at the full rate of the modem.

**\*HALF**
The line operates at half the full rate of the modem.

# Switched connection type (SWTCNN)

Specifies whether the switched (Async, BSC, SDLC, or IDLC) line or switched network backup (Async, BSC, or SDLC) line is used for incoming calls, outgoing calls, or both.

**\*SAME**
The value does not change.

**\*BOTH**
The line is used for both incoming and outgoing calls.

**\*ANS**  The line is used for incoming calls only.

**\*DIAL**
The line is used for outgoing calls only.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

# Outgoing connection list (CNNLSTOUT)

Specifies, for ISDN switched connections, the name of a connection list object that contains the ISDN assigned numbers for a dial-out operation to the ISDN.

**\*SAME**
The value does not change.

**\*NONE**
> A user specified connection list for dial-out operations is not used. The connection list is automatically configured if OSI Communications Subsystems is installed.

*name*   Specify the name of the connection list for dial out operations.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Connection list entry (CNNLSTOUTE)

Specifies, for ISDN switched connections, the entry name from the connection list used to make a call to the ISDN. The connection list must be specified on the CNNLSTOUT parameter.

**\*SAME**
> The value does not change.

*name*   Specify the entry name from the connection list.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Incoming connection list (CNNLSTIN)

Specifies for ISDN switched connections the name of the connection list that is used to retrieve call information (or connection) for identifying authorized incoming calls.

**\*SAME**
> The value does not change.

**\*NETATR**
> The connection list used by this line description is taken from the list of system default network attributes that were identified at IPL (Initial Program Load). The Display Network Attributes (DSPNETA) command can be used to see the name of the connection list.

*name*   Specify the name of the connection list used for this line description.

## Autoanswer (AUTOANS)

Specifies, for switched or switched network backup lines (Async, BSC, SDLC, or X.25 line), whether the system automatically answers a call from a remote system to establish the connection, or whether the system operator manually answers the call and places the modem in data mode.

**Note:** \*YES is a valid option only if the modem has the automatic answer feature.

**\*SAME**
> The value does not change.

**\*YES**   The incoming call is automatically answered by the automatic answer feature.

**\*NO**   The incoming call must be manually answered.

## Autodial (AUTODIAL)

Specifies, for switched lines, whether the system automatically calls a remote system to establish a connection or if the system operator must manually place the call.

**\*SAME**
> The value does not change.

**\*NO**   The line connection is made by manually dialing the X.25 network.

**\*YES**   The line connection is made by the system automatically dialing the X.25 network.

## Dial command type (DIALCMD)

Specifies the type of dial command used to establish a switched connection with a remote system.

**\*SAME**
> The value does not change.

**\*NONE**
> No dial command is used. (An automatic call unit is used to establish the connection.)

**\*V25BIS**
> V.25 bis is a recommendation which allows the use of one physical interface for call establishment and data transmission. It is referred to as a serial automatic call interface because the digits are presented serially on the link from the system to the modem.

## Modem init command string (MDMINZCMD)

Specifies the modem initialization command string sent to set the modem.

**Note:** Valid only when INTERFACE(\*INTMODEM) or INFTRFTYPE(\*SYNCMODEM) is specified.

**\*SAME**
> The value does not change.

**\*NONE**
> No command string is sent to the modem.

*command-string*
> Specifies up to 60 characters that represent the command string sent to the modem. Valid characters are upper case A thru Z, lower case a thru z, numbers 0 thru 9, and special characters:

```
Period
Less than sign
Left parenthesis
Plus sign
Ampersand
Asterisk
Right parenthesis
Semicolon
Minus sign
Slash
Comma
Underline
Greater than sign
Question mark
```

```
Colon
Equal sign
Spaces
Number sign
Double quote
Exclamation point
At sign
Hat symbol
Percent
Left square bracket
Right square bracket
Back slash
```

**Note:** The modem initialization string must begin with the two characters 'AT'.

## Call immediate (CALLIMMED)

Specifies, for switched lines, whether a call (using the number specified in the CNNNBR parameter) is made immediately after varying on the line.

**\*SAME**
> The value does not change.

**\*NO**   The system does not try to immediately call after varying on.

**\*YES**   The system does try to immediately call after varying on.

## Autocall resource name (ACRSRCNAME)

Specifies the automatic call resource name that describes the automatic call unit port that is used to establish a connection with a remote system. Use the Work with Hardware Resources (WRKHDWRSC) command to determine the resource name.

**\*SAME**
> The value does not change.

## Predial delay (PREDIALDLY)

Specifies the time interval to wait before dialing a number.

**\*SAME**
> The value does not change.

**6**   The default value of six provides a 3-second delay.

*predial-delay*
> Specify a value ranging from 0 through 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

# Redial delay (REDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before re-dialing when the call attempt is unsuccessful.

**\*SAME**
> The value does not change.

**120**   The default value of 120 provides a 60-second delay.

*redial-delay*
> Specify a value ranging from 0 through 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

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# Dial retry (DIALRTY)

Specifies the number of re-dial attempts made by the system before considering the dialing unsuccessful.

**\*SAME**
> The value does not change.

**2**   The default number of retries is 2.

*dial-retry*
> Specify a value ranging from 0 through 254.

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# Switched disconnect (SWTDSC)

Specifies whether the line is dropped when the last switched virtual circuit (SVC) is cleared and the switched disconnect timers (SWTDSCTMRs) have expired.

**\*SAME**
> The value does not change.

**\*YES**   The switched connection is dropped.

**\*NO**   The switched connection is not dropped.

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# Disconnect timers (SWTDSCTMR)

Specifies the timers used for disconnecting switched X.25 lines from the network or remote system. The minimum connect timer specifies the minimum length of time the system keeps the connection active. This timer is started when the connection is established. The disconnect delay timer specifies the length of time the system waits before attempting to disconnect the switched connection when no SVCs are active on the line or the last SVC completes and the **minimum-connect-timer** has expired.

The possible **minimum-connect-timer** values are:

**\*SAME**
> The value does not change.

*min-connect-timer*
> Specify a value ranging from 0 through 65535 seconds.

The possible **disconnect-delay-timer** values are:

*disconnect-delay-timer*
>   Specify a value ranging from 0 through 65535 seconds.

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## Data Set Ready drop timer (DSRDRPTMR)

Specifies the amount of time that the system waits for the modem to exit the Data Set Ready (DSR) state before signaling an error.

**\*SAME**
>   The value does not change.

*drop-timer*
>   Specify a value ranging from 1 through 60 seconds.

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## Autoanswer type (AUTOANSTYP)

Specifies the method that the system uses to answer incoming calls.

**\*SAME**
>   The value does not change.

**\*DTR**  The system enters the Data Terminal Ready state, signals the modem to answer calls, and waits for the modem to enter the Data Set Ready (DSR) state.

**\*CDSTL**
>   The system enters the Connect Data Set to Line (CDSTL) state after monitoring the Ring Indicator to signal the modem to answer the call.

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## Clear To Send timer (CTSTMR)

Specifies the amount of time the system waits for the modem to enter or exit the Clear to Send (CTS) state before signaling an error.

**\*SAME**
>   The value does not change.

*cts-timer*
>   Specify a value ranging from 10 through 60 seconds.

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## Remote answer timer (RMTANSTMR)

Specifies the amount of time that system waits for the modem to enter the Data Set Ready (DSR) state after dialing before signaling an error.

**\*SAME**
>   The value does not change.

*answer-timer*
>   Specify a value ranging from 30 through 120 seconds in 5-second intervals.

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## Clocking (CLOCK)

Specifies how the clocking function for the line is provided.

**\*SAME**
> The value does not change.

**\*MODEM**
> The modem supplies the clocking function.

**\*LOOP**
> The receiving clock provided by the modem data circuit-terminating equipment (DCE) is looped back to the modem DCE on the system data terminal equipment (DTE) transmitting clock. This option can be used to improve high speed data transmission when the modem DCE supports such an option.

**\*INVERT**
> The transmit clock provided by the modem data circuit-terminating equipment (DCE) is inverted before use. This option can be used when having problems with high speed data transmission and the modem (DCE) does not support looped clocking. The valid interfaces for \*INVERT are \*X21, \*X21BISV35, and \*RS449V36.

## Link speed (LINKSPEED)

Specifies the link speed in bits per second (bps). This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

**\*SAME**
> The value does not change.

**\*INTERFACE (SDLC and X.25 only)**
> The link speed is based on the physical interface type: 9600 bps for RS-232/V.24 and X.21 bis/V.24, 48000 bps for V.35 and X.21 bis/V.35, and 64000 bps for X.21.

**\*MIN** A link speed of less than 1200 bps is used.

**\*MAX** A link speed greater than 100M bps is used.

*link-speed*
> Specify the link speed. Valid values are: 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 128000, 192000, 256000, 320000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, and 16M.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of the operating system.

## Switched NWI selection (SWTNWISLCT)

Specifies the method used to select network interfaces from the switched network interface list.

**\*SAME**
> The value does not change.

**\*FIRST**
> Selection begins with the first network interface specified in the switched network interface list.

**\*CALC**
> The system calculates which network interface is selected.

## Cost/connect time (COSTCNN)

Specifies the relative cost of being connected on the line. Zero implies a low cost while 255 indicates a high cost. This parameter is valid only if APPN is used on the system.

**\*SAME**
> The value does not change.

**\*CNN (SDLC and IDLC only)**
> The cost per connection time is based on the connection type: Zero for nonswitched connections and 128 for switched connections.

*cost-per-connect-time*
> Specify a value ranging from 0 through 255.

## Cost/byte (COSTBYTE)

Specifies the relative cost per byte for sending and receiving data on the line. Zero implies a low cost while 255 indicates a high cost. This parameter is valid only if APPN is used on the system.

**\*SAME**
> The value does not change.

**\*CNN (SDLC and IDLC only)**
> The cost per byte is based on the connection type: Zero for nonswitched connections and 128 for switched connections.

*cost-per-byte*
> Specify a value ranging from 0 through 255.

## Security for line (SECURITY)

Specifies the security level of the physical line. This parameter is valid only if APPN is used on the system.

**\*SAME**
> The value does not change.

**\*NONSECURE**
> There is no security on the line.

**\*PKTSWTNET**
> A packet switched network is used. Data does not always follow the same path through the network.

**\*UNDRGRDCBL**
> An underground cable is used.

**\*SECURECND**

> A secure, but unguarded, conduit is used.

**\*GUARDCND**

> A guarded conduit, protected against physical tapping, is used.

**\*ENCRYPTED**

> Data flowing on the line is encrypted.

**\*MAX**  A guarded conduit, protected against physical and radiation tapping is used.

# Propagation delay (PRPDLY)

Specifies the level of propagation delay on the line. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system. The order of the values from shortest to longest delay is \*MIN, \*LAN, \*TELEPHONE, \*PKTSWTNET, and \*SATELLITE.

**\*SAME**

> The value does not change.

**\*MIN**  The minimum propagation delay is used.

**\*LAN**  Propagation delay using a local area network.

**\*TELEPHONE**

> Propagation delay using telephone lines.

**\*PKTSWTNET**

> Propagation delay using a packet switched network.

**\*SATELLITE**

> Propagation delay using satellite communications.

**\*MAX**  The maximum propagation delay is used.

# User-defined 1 (USRDFN1)

Specifies the first of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**\*SAME**

> The value does not change.

*user-defined-1*

> Specify a value ranging from 0 through 255.

# User-defined 2 (USRDFN2)

Specifies the second of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/ systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-2*
> Specify a value ranging from 0 through 255.

## User-defined 3 (USRDFN3)

Specifies the third of the three user-defined fields. This field is used to describe unique characteristics of the line that is controlled. This parameter is valid only if APPN is used on the system.

**Note:** Information about the values that are specified for this parameter is provided in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/ systems/i/infocenter/.

**\*SAME**
> The value does not change.

*user-defined-3*
> Specify a value ranging from 0 through 255.

## Recovery limits (CMNRCYLMT)

Specifies the second-level communications recovery limits to be used for this line description.

The possible **count-limit** values are:

**\*SAME**
> The value does not change.

**\*SYSVAL**
> The value in the QCMNRCYLMT system value is used.

*count-limit*
> Specify the number of recovery attempts to be performed by the system. Valid values range from 0 through 99.

The possible **time-interval** values are:

**\*SAME**
> The value does not change.

*time-interval*
> Specify the number of minutes within which recovery attempts are made. Valid values range from 0 through 120 in 1-minute intervals.

## Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

**\*SAME**
>   The value does not change.

**\*SYSVAL**
>   Messages are sent to the message queue defined in the QCFGMSGQ system value.

**\*SYSOPR**
>   Messages are sent to the system operator message queue (QSYS/QSYSOPR).

**Qualifier 1: Message queue**

*name*   Specify the name of the message queue to which operational messages are sent.

**Qualifier 2: Library**

*name*   Specify the name of the library where the message queue is located.

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# Text 'description' (TEXT)

Specifies text that briefly describes the line description.

**\*SAME**
>   The value does not change.

**\*BLANK**
>   Text is not specified.

*character-value*
>   Specify no more than 50 characters of text, enclosed in apostrophes.

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# Examples

```
CHGLINX25   LIND(X251)  LGLCHLE(*PROMPT)  MAXPKTSIZE(512)
```

This command shows an interactive display listing all current logical channel entries and allows changes to be made to these entries. Maximum packet size will be changed to 512 bytes.

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# Error messages

**\*ESCAPE Messages**

**CPF261E**
>   Line description &1 not changed.

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# Change Management Collection (CHGMGTCOL)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Management Collection (CHGMGTCOL) command changes the atttributes of the specified management collection object.

**Restrictions:**

- You must have object management (*OBJMGT) authority for the management collection object and execute (*EXECUTE) authority to the library.
- The management collection object must have an attribute of either *PFR, *PFRHST, or *PFRDTL.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| MGTCOL | Management collection | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Management collection | *Name* | |
| | Qualifier 2: Library | *Name*, **QPFRDATA** | |
| EXPDATE | Expiration date | *Date*, **\*SAME**, *PERM | Optional |

## Management collection (MGTCOL)

Specifies the management collection object that is to be changed.

This is a required parameter.

**Qualifier 1: Management collection**

*object name*
>    Specify the name of the management collection object. The management collection object must have an attribute of either *PFR, *PFRHST, or *PFRDTL.

**Qualifier 2: Library**

**QPFRDATA**
>    IBM-supplied performance data library QPFRDATA is to be used to locate the management collection object.

*name*  Specify the name of the library for the management collection object.

# Expiration date (EXPDATE)

Specifies the new expiration date of the management collection object.

**\*SAME**
> The expiration date of the management collection object will not change.

**\*PERM**
> The management collection object will not expire.

*date*   Specify the date after which the management collection object will be deleted. The date must be enclosed in apostrophes if date separator characters are used in the value.

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# Examples

```
CHGMGTCOL   MGTCOL(MYLIB/Q099365001) EXPDATE('053006')
```

This command changes the expiration date of the management collection object named Q099365001 in library MYLIB to May 30, 2006 (assuming the job date format is \*MDY).

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# Error messages

**\*ESCAPE Messages**

**CPF9801**
> Object &2 in library &3 not found.

**CPF9810**
> Library &1 not found.

**CPF0AAB**
> Error on Change Management Collection (CHGMGTCOL) command.

**CPF0AAC**
> Error on Change Management Collection (CHGMGTCOL) command.

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# Change Menu (CHGMNU)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Menu (CHGMNU) command can be used to change the following:

- Current library and product library of a menu
- Display file name and library of a display file menu
- Message file name and library of a display file menu
- Whether a long command line, a short command line, or no command line (an option line) is displayed for a display file menu
- Whether a description of the active function keys is shown for a display file menu
- Program name and library of a program menu
- Text description of a menu

**Restrictions:**

- You must have opbject operational (*OBJOPR) and object management (*OBJMGT) authorities for the menu object, and use (*USE) authority for the library where the menu object is located.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **MENU** | Menu | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Menu | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **DSPF** | Display file | Single values: **\*SAME**<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Display file | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **MSGF** | Message file | Single values: **\*SAME**<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Message file | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **CMDLIN** | Command line | **\*SAME**, *LONG, *SHORT, *NONE | Optional |
| **DSPKEY** | Display function keys | **\*SAME**, *NO, *YES | Optional |
| **PGM** | Program | Single values: **\*SAME**<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Program | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **CURLIB** | Current library | *Name*, **\*SAME**, *NOCHG, *MNULIB, *CRTDFT | Optional |
| **PRDLIB** | Product library | *Name*, **\*SAME**, *NOCHG, *NONE | Optional |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

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# Menu (MENU)

Specifies the menu to be changed.

This is a required parameter.

**Qualifier 1: Menu**

*name*   Specify the name of the menu object.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the job is used to locate the menu. If no library is specified as the current library for the job, QGPL is used.

*name*   Specify the library where the menu is located.

# Display file (DSPF)

Specifies the display file used for the menu. The display file must include one record format with the same name as the display file itself, called the menu format. Help formats can also be included in the file.

Help formats follow the naming convention **#Hxxyy**, where xx is the first menu option and yy is the last menu option to which the help format applies. (For example, #H0306 would apply to menu options 3 through 6.) **#H0000** designates the general help for the menu.

This parameter can be specified only if the menu was created with *DSPF specified for the **Menu type (TYPE)** parameter on the Create Menu (CRTMNU) command.

**Single values**

**\*SAME**
> The display file name and library do not change.

**Qualifier 1: Display file**

*name*   Specify the name of the display file to be used.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the job is used to locate the display file. If no library is specified as the current library for the job, QGPL is used.

*name*   Specify the library where the display file is located.

## Message file (MSGF)

Specifies the message file that contains the commands to run when a menu option is selected. The MSGID's of the messages in this file are of the form USRxxxx, where xxxx is the number of the menu option that is typed on the command line.

This parameter can be specified only if the menu was created with *DSPF specified for the **Menu type (TYPE)** parameter on the Create Menu (CRTMNU) command.

**Single values**

**\*SAME**
The message file name and library do not change.

**Qualifier 1: Message file**

*name*    Specify the name of the message file to be used.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
The current library for the job is used to locate the message file. If no library is specified as the current library for the job, QGPL is used.

*name*    Specify the library where the message file is located.

## Command line (CMDLIN)

Specifies whether a long command line, a short command line, or no command line (an option line) is used.

This parameter can be specified only if the menu was created with *DSPF specified for the **Menu type (TYPE)** parameter on the Create Menu (CRTMNU) command.

**\*SAME**
The command line or option line remains the same.

**\*LONG**
A 153-byte long command line is used.

**\*SHORT**
A 73-byte long command line is used.

**\*NONE**
No command line is used. A 4-byte option line is used.

## Display function keys (DSPKEY)

Specifies whether the function key legend appears at the bottom of the menu when the menu is shown.

This parameter can be specified only if the menu was created with *DSPF specified for the **Menu type (TYPE)** parameter on the Create Menu (CRTMNU) command.

**\*SAME**
> The function key legend does not change.

**\*NO** The function key legend is not shown at the bottom of the display.

**\*YES** The function key legend is shown at the bottom of the display.

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## Program (PGM)

Specifies the program to call when the menu is shown.

This parameter can be specified only if the menu was created with \*PGM specified for the **Menu type (TYPE)** parameter on the Create Menu (CRTMNU) command.

**Single values**

**\*SAME**
> The program name and library do not change.

**Qualifier 1: Program**

*name* Specify the name of the program to be called.

**Qualifier 2: Library**

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the job is used to locate the program. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the library where the program is located.

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## Current library (CURLIB)

Specifies the library to be used as the current library when the menu is run.

**\*SAME**
> The current library for the menu does not change.

**\*NOCHG**
> The current library does not change for the processing of this menu.

**\*MNULIB**
> The current library is changed to the library containing the menu while the menu is shown.

**\*CRTDFT**
> There is no current library while the menu is shown. The current library that was active before the menu was shown (if any) is restored after exiting the menu.

*name* Specify the library name used as the current library when the menu is shown.

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## Product library (PRDLIB)

Specifies the library to be used as the product library while the menu is shown.

**Note:** The product library for a command or menu remains in the library list while a command or menu is active, unless another command or menu changes the product library. When a command or menu that changed the product library ends, the product library is restored to what it was when the command or library started.

**\*SAME**
> The product library for the menu does not change.

**\*NOCHG**
> The product library is not changed when the menu is shown and is not restored after exiting the menu.

**\*NONE**
> The product library entry in the library list is not used while the menu is shown.

*name*  Specify the library name to use as the product library while the menu is shown.

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
> The descriptive text does not change.

**\*BLANK**
> No text is specified for the menu.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

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## Examples

```
CHGMNU   MENU(ARLIB/ARPERS)  PGM(ARLIB/PERSLIST)
```

This command changes the program that is called when a menu named ARPERS, located in library ARLIB, is run. The menu now calls a program called PERSLIST, also located in library ARLIB.

Note that the menu (ARPERS) must have been created with TYPE(\*PGM) specified on the Create Menu (CRTMNU) command for the PGM parameter to be specified here.

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## Error messages

**\*ESCAPE Messages**

**CPF6ACD**
> Menu &1 in &2 is wrong version for system.

**CPF6AC2**

Menu &1 in library &2 not changed.

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System i: Programming i5/OS commands Starting with CHGDNSA (Change Domain Name System Server Attributes)

# Change Module (CHGMOD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Module (CHGMOD) command changes the attributes of a module object without requiring the module to be recompiled.

**Restrictions:**

- You must have use (*USE) authority to the library where the module is located.
- You must have *USE and object management (*OBJMGT) authorities to the module to be changed.
- You must have *USE, add (*ADD), and delete (*DLT) authorities to the library in order to change the optimization attribute, the performance collection attribute, the profiling data attribute, or to force module re-creation.
- Modules in library QSYS cannot be changed.

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## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **MODULE** | Module | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Module | *Generic name, name*, *ALL | |
| | Qualifier 2: Library | *Name*, **\*USRLIBL**, *LIBL | |
| **OPTIMIZE** | Optimize module | **\*SAME**, *FULL, *BASIC, *NONE, 40, 30, 20, 10 | Optional |
| **RMVOBS** | Remove observable info | Single values: **\*SAME**, *NONE, *ALL<br>Other values (up to 3 repetitions): *CRTDTA, *DBGDTA, *ILDTA | Optional |
| **PRFDTA** | Profiling data | **\*SAME**, *NOCOL, *COL | Optional |
| **FRCCRT** | Force module recreation | **\*NO**, *YES | Optional |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |
| **LICOPT** | Licensed Internal Code options | Single values: **\*SAME**, *NONE<br>Other values: *Element list* | Optional |
| | Element 1: Options | *Character value* | |
| | Element 2: Action | **\*REPLACE**, *ADD | |
| **ENBPFRCOL** | Enable performance collection | Single values: **\*SAME**, *NONE, *PEP<br>Other values: *Element list* | Optional |
| | Element 1: Collection level | **\*FULL**, *ENTRYEXIT | |
| | Element 2: Procedures | **\*ALLPRC**, *NONLEAF | |

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# Module (MODULE)

Specifies the module for which attributes are to be changed.

This is a required parameter.

**Qualifier 1: Module**

**\*ALL**   All modules in the specified library to which the user has some authority are selected to be changed.

*generic-name*
> Specify the generic name of the modules to be changed. A generic name is a character string of one or more characters followed by an asterisk (*); for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix, for which the user has authority. If an asterisk is not included with the generic (prefix) name, the system assumes it to be the complete object name. If the complete object name is specified, and multiple libraries are searched, multiple objects can be changed, only if *ALL or *ALLUSR library values can be specified for the name.

*name*   Specify the name of the module to be changed.

**Qualifier 2: Library**

**\*USRLIBL**
> Only the libraries in the user portion of the job's library list are searched.

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

*name*   Specify the name of the library where the module is located.

# Optimize module (OPTIMIZE)

Specifies the optimization level for the generated code in the module. Changing the optimization level of the module causes the system to re-create the module with the new optimization level.

**\*SAME**
> The module optimization level attribute is not changed.

**\*NONE or 10**
> No additional optimization will be performed on the generated code. Variables can be displayed and modified while debugging.

**\*BASIC or 20**
> Some optimization is performed on the code. Variables can be displayed but not modified while debugging.

**\*FULL or 30**
> More optimization is performed on the generated code, in addition to the amount performed at optimization level 20. Variables can be displayed but not modified while debugging.
>
> **Note:** The value of the variable displayed during debugging may not be the current value of the variable.

**40**       This level includes all the optimization performed at optimization level 30. In addition, it includes optimization that disables call and instruction tracing. Tracing of modules with optimization level 40 cannot be done.

# Remove observable info (RMVOBS)

Specifies whether the observable information associated with modules is to be removed.

**\*SAME**
> The value does not change.

**\*ALL**  Remove the debug data (\*DBGDTA), the information necessary to re-create the module (\*CRTDTA) using CHGMOD, and the intermediate language data (\*ILDTA).

> **Note:** \*ALL cannot be specified if the module is enabled to collect profiling data.

**\*DBGDTA**
> The information necessary to allow module debugging is to be removed. The module cannot be debugged when it is included in a program or service program object.

**\*CRTDTA**
> The information necessary to allow module re-creation using CHGMOD, to change the optimization level, to change the performance collection attribute, or to change the profiling data attribute, is removed. **NOTES:**
> - \*CRTDTA cannot be specified if the module is enabled to collect profiling data.
> - Creation data (either observable or unobservable) is required to convert modules to a different hardware technology, for example, between CISC (Complex Instruction Set Computer) and RISC (Reduced Instructions Set Computer) technology.
> - Modules created for release V5R1M0 or later (TGTRLS parameter when the module was created) will contain unobservable creation data even when \*ALL or \*CRTDTA observability is removed.

**\*ILDTA**
> The intermediate language data is removed.

**\*NONE**
> Observable information associated with the module is not removed.

# Profiling data (PRFDTA)

Specifies the program profiling data attribute for the module. Program profiling is an advanced optimization technique to reorder procedures and code within the procedures based on statistical data (profiling data).

**\*SAME**
> The value does not change.

**\*NOCOL**
> This module is not enabled to collect profiling data.

**\*COL**  This module is enabled to collect profiling data.

> **Note:** \*COL can be specified only when the optimization level of the module is \*FULL (30) or greater.

# Force module recreation (FRCCRT)

Specifies whether module re-creation is forced.

**\*NO**  Module re-creation is not forced unless the optimization level (OPTIMIZE), enable performance collection (ENBPFRCOL), or profiling data (PRFDTA) parameters are changed. This allows the system to determine whether a change is required.

**\*YES**  Module re-creation is forced. If observable creation data has been removed, then re-creation (forced or not) is not allowed.

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## Text 'description' (TEXT)

Specifies text that briefly describes the module and its function.

**\*SAME**
>   The text description for the module is not changed.

**\*BLANK**
>   Text is not specified.

*'description'*
>   Specify no more than 50 characters of text, enclosed in apostrophes.

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## Licensed Internal Code options (LICOPT)

Specifies individual Licensed Internal Code compile-time options to be selected, and is intended for the advanced programmer who understands the potential benefits and drawbacks of each selected compiler option. Changing the Licensed Internal Code options of an Integrated Language Environment (ILE) module to any value other than *SAME causes the system to re-create the ILE module. Note: Additional information about the LICOPT options can be found in the ILE Concepts book, SC41-5606.

**Element 1: Options**

**\*SAME**
>   If the module object is re-created, the existing Licensed Internal Code compile-time options are input to object re-creation. Otherwise, the Licensed Internal Code compile-time options do not change.

**\*NONE**
>   Module re-creation is forced and no Licensed Internal Code options are used.

*character-value*
>   Specify one or more Licensed Internal Code compile-time options. Changing the Licensed Internal Code options of an Integrated Language Environment (ILE) module causes the system to re-create the ILE module.

**Element 2: Action**

**\*REPLACE**
>   Any existing Licensed Internal Code options for the module are replaced with the specified values.

**\*ADD**  The specified Licensed Internal Code options are added to the end of the existing Licensed Internal Code options string for the module. Any conflicts between Licensed Internal Code option values will be resolved with the last specified value taking precedence.

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## Enable performance collection (ENBPFRCOL)

This parameter is obsolete.

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## Examples

**Example 1: Optimizing for Maximum Performance**

```
CHGMOD   MODULE(XYZ/PERFMOD)  OPTIMIZE(40)
```

This command optimizes module PERFMOD in library XYZ to ensure optimum performance.

**Example 2: Removing All Observability**

```
CHGMOD   MODULE(XYZ/NOOBSERV)  RMVOBS(*ALL)
```

This command removes all observability from module NOOBSERV in library XYZ. It can not be re-created, and can not be debugged when it is included in a program or service program object.

**Example 3: Enabling Collection of Profiling Data**

```
CHGMOD   MODULE(XYZ/PROFMOD)  OPTIMIZE(30)  PRFDTA(*COL)
```

This command enables module PROFMOD in library XYZ to collect profiling data when it is included in a program or service program object. The optimization level must be 30 or greater to enable a module to collect profiling data.

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## Error messages

**\*ESCAPE Messages**

**CPF5CFA**
Modules in library QSYS cannot be changed.

**CPF5CFB**
No modules changed.

**CPF5CFC**
&1 changed. &2 did not require change. &3 not changed.

**CPF5CFE**
Module &1 in library &2 not changed.

**CPF5CFF**
Module &1 in library &2 not changed.

**CPF5CF7**
*USRLIBL or *LIBL not allowed with a generic module name or *ALL.

**CPF5CF8**
Module &1 in library &2 not changed.

**CPF5CF9**

        Module &1 in library &2 not changed.

**CPF9801**

        Object &2 in library &3 not found.

**CPF9803**

        Cannot allocate object &2 in library &3.

**CPF9804**

        Object &2 in library &3 damaged.

**CPF9806**

        Cannot perform function for object &2 in library &3.

**CPF9810**

        Library &1 not found.

**CPF9818**

        Object &2 in library &3 not created.

**CPF9819**

        Object &2 in library &3 not created.

**CPF9820**

        Not authorized to use library &1.

**CPF9828**

        Not authorized to module &1 in library &2.

**CPF9830**

        Cannot assign library &1.

**CPF9899**

        Error occurred during processing of command.

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# Change Mode Description (CHGMODD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Mode Description (CHGMODD) command changes a mode description for advanced-program-to-program communications (APPC) devices. APPC support uses Systems Network Architecture (SNA).

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **MODD** | Mode description | *Name* | Required, Key, Positional 1 |
| **COS** | Class-of-service | *Communications name*, **\*SAME**, #CONNECT, #BATCH, #INTER, #BATCHSC, #INTERSC | Optional |
| **MAXSSN** | Maximum sessions | 1-512, **\*SAME** | Optional |
| **MAXCNV** | Maximum conversations | 1-512, **\*SAME** | Optional |
| **LCLCTLSSN** | Locally controlled sessions | 0-512, **\*SAME** | Optional |
| **PREESTSSN** | Pre-established sessions | 0-512, **\*SAME** | Optional |
| **MAXINPAC** | Maximum inbound pacing value | 1-32767, **\*SAME**, *CALC | Optional |
| **INPACING** | Inbound pacing value | 0-63, **\*SAME** | Optional |
| **OUTPACING** | Outbound pacing value | 0-63, **\*SAME** | Optional |
| **MAXLENRU** | Maximum length of request unit | 241-32767, **\*SAME**, *CALC | Optional |
| **DTACPR** | Data compression | 1-2147483647, **\*SAME**, *NETATR, *NONE, *ALLOW, *REQUEST, *REQUIRE | Optional |
| **INDTACPR** | Inbound data compression | **\*SAME**, *RLE, *LZ9, *LZ10, *LZ12, *NONE | Optional |
| **OUTDTACPR** | Outbound data compression | **\*SAME**, *RLE, *LZ9, *LZ10, *LZ12, *NONE | Optional |
| **SLE** | Session level encryption | *ALL, *NONE, **\*SAME** | Optional |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

## Mode description (MODD)

Specifies the name of the mode description.

This is a required parameter.

This is a required parameter.

# Class-of-service (COS)

Specifies the path control network characteristics (represented by a class-of-service description) used by advanced peer-to-peer networking (APPN).

- #CONNECT
- #BATCH
- #INTER
- #BATCHSC
- #INTERSC

*class-of-service-name*
>    Specify the class-of-service name.

>    **Note:** The class-of-service name will be ignored if using mode for APPC.

**\*SAME**
>    The value does not change.

# Maximum sessions (MAXSSN)

Specifies the maximum number of active sessions that are established for this mode. This number must be greater than or equal to the sum of the number of locally controlled sessions as specified on the **Locally controlled sessions** prompt (LCLCTLSSN) and the number of locally controlled sessions specified at the remote location.

*maximum-number-of-sessions*
>    Specify the maximum number of sessions.

>    Valid values range from 1 to 512.

**\*SAME**
>    The value does not change.

# Maximum conversations (MAXCNV)

Specifies the maximum number of conversations that can be established at the same time with the remote system. The maximum number of conversations is the sum of synchronous and asynchronous conversations; this value must be greater than or equal to the value specified by the **Maximum sessions** prompt (MAXSSN parameter). A synchronous conversation is a conversation where both the source and the target programs are communicating. An asynchronous conversation is a conversation where the source program has detached itself from the conversation, but data is still being read by the target program.

*maximum-number-of-conversations*
>    Specify the maximum number of conversations. Valid values range from 1 to 512.

**\*SAME**
>    The value does not change.

## Locally controlled sessions (LCLCTLSSN)

Specifies the minimum number of locally controlled sessions that must be active to establish this mode. This value must be less than or equal to the value specified in the **Maximum sessions** prompt (MAXSSN parameter).

*locally-controlled sessions*
> Specify the number of locally-controlled sessions used as source sessions. Valid values range from 0 to 512.

**\*SAME**
> The value does not change.

## Pre-established sessions (PREESTSSN)

Specifies the maximum number of locally-controlled sessions that are established when the mode is started. Additional sessions are established as required, up to the maximum number of locally-controlled sessions specified in the **Maximum sessions** prompt (MAXSSN parameter). This value must be less than or equal to the value specified in the **Locally controlled sessions** prompt (LCLCTLSSN parameter).

*number-of-established-sessions*
> Specify the maximum number of concurrent locally-controlled sessions established when the mode is started. Valid values range from 0 to 512.

**\*SAME**
> The value does not change.

## Maximum inbound pacing value (MAXINPAC)

Specifies the maximum SNA pacing value used to schedule incoming request units (RUs). **Pacing** is established by the receiving system to control the rate of transmission of the sending system to prevent loss of data.

**Note:** To ensure an optimum rate, the value *CALC is recommended.

**\*SAME**
> The value does not change.

**\*CALC**
> The system determines the value to use. The value is calculated to be 2*INPACING, which is two times the value specified on the INPACING parameter.

*maximum-inbound-pacing*
> Specify a value, ranging from 1 through 32767 in RUs, for the maximum inbound pacing value.

## Inbound pacing value (INPACING)

Specifies the Systems Network Architecture (SNA) pacing value used to schedule the incoming request units (RUs).

**7**
> A value of 7 is used as the RU pacing value.

*inbound-pacing-value*
>   Specify a value from 0 to 63 used as the limiting value.

**\*SAME**
>   The value does not change.

## Outbound pacing value (OUTPACING)

Specifies the SNA pacing value used for outgoing request units (RUs).

**7**     A value of 7 is used as the RU pacing value.

*outbound-pacing-value*
>   Specify a value from 0 to 63 used as the limiting value.

**\*SAME**
>   The value does not change.

## Maximum length of request unit (MAXLENRU)

Specifies the maximum request unit (RU) length allowed.

**Note:** To ensure an optimum length, the value \*CALC is recommended.

**\*CALC**
>   The system calculates the value to use.

*maximum-request-unit-length*
>   Specify a value, ranging from 241 through 32767 in bytes, for the maximum length of incoming request units.
>
>   Some other common values are:
>   - SDLC lines: 256, 512, 1024, 2048
>   - Token-Ring Network lines: 256, 512, 1024, 1985
>   - X.25 (QLLC) lines: 247, 503, 1015
>   - X.25 (ELLC) lines: 241, 497, 1009

More information is in the Communications Configuration book, SC41-5401 book.

**\*SAME**
>   The value does not change.

## Data compression (DTACPR)

Specifies whether data compression is used.

**\*SAME**
>   The value does not change.

**\*NETATR**
>   The value from the DTACPR network attributes is used.

**\*NONE**
> Compression is not allowed on the session.

**\*ALLOW**
> Data compression is allowed on the session by the local system if requested by a remote system. The local system does not request compression.
>
> If data compression is requested by the remote system, the data compression levels used by the session are the lower of the requested levels and the levels specified on the **Inbound data compression** and **Outbound data compression** prompts (INDTACPR and OUTDTACPR parameters).

**\*REQUEST**
> Data compression is requested on the session by the local system. However, the request can be refused or changed to lower compression levels by the remote system. Data compression is allowed on the session if requested by the remote system. The requested compression levels for inbound and outbound data are the levels specified on the **Inbound data compression** and **Outbound data compression** prompts (INDTACPR and OUTDTACPR parameters).
>
> If data compression is requested by the remote system, the data compression levels used by the session are the lower of the requested levels and the levels specified on the **Inbound data compression** and **Outbound data compression** prompts (INDTACPR and OUTDTACPR parameters).

**\*REQUIRE**
> Data compression is required on the session. If the remote system does not accept the local system's exact required levels of compression, the session is not established.
>
> The data compression levels that the local system require are the levels specified on the **Inbound data compression** and **Outbound data compression** prompts (INDTACPR and OUTDTACPR parameters).

*line-speed*
> Specify the maximum line speed at which data is compressed. If the line speed of the link used by the session is less than or equal to this specified line speed, data compression is used for the session as if \*REQUEST is specified. Otherwise, compression is used for the session as if \*ALLOW is specified. Valid values range from 1 through 2147483647 in bits per second (bps).

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## Inbound data compression (INDTACPR)

Specifies the desired level of compression for inbound data. No data compression occurs if \*NONE is specified on the **Data compression** prompt (DTACPR parameter).

**Note:** Adaptive dictionary-based compression is a dynamic compression algorithm, similar to Lempel-Ziv, that compresses previously seen strings to 9-, 10-, and 12-bit codes. This algorithm is referred to as LZ in the following parameters.

**\*SAME**
> The value does not change.

**\*RLE** The Run Length Encoding (RLE) algorithm is used. RLE substitutes a 1- or 2-byte sequence in the data stream for each repeated occurrence of the same character. This algorithm requires no storage and less processing time than the other options.

**\*LZ9** The LZ algorithm with the 9-bit code for repeated substrings in the data stream is used. These codes refer to entries in a common dictionary, created as the data flows between the sender and

receiver. The LZ algorithms require storage and extra processing time. The LZ9 requires the least storage and processing time of the LZ algorithms; however, it compresses the data stream the least.

**\*LZ10**   The LZ algorithm with the 10-bit code for repeated substrings in the data stream is used. These codes refer to entries in a common dictionary, created as the data flows between the sender and receiver. The LZ algorithms require storage and extra processing time. The LZ10 table algorithm requires more storage and processing time than the LZ9, but less than the LZ12. The LZ10 compresses the data stream more than the LZ9, but less than the LZ12.

**\*LZ12**   The LZ algorithm with the 12-bit code for repeated substrings in the data stream is used. These codes refer to entries in a common dictionary, created as the data flows between the sender and receiver. The LZ algorithms require storage and extra processing time. LZ12 requires the most storage and processing time of the LZ algorithms; however, it compresses the data stream the most.

**\*NONE**
   No compression occurs.

## Outbound data compression (OUTDTACPR)

Specifies the desired level of compression for outbound data. No data compression occurs if \*NONE is specified on the **Data compression** prompt (DTACPR parameter).

**\*SAME**
   The value does not change.

**\*RLE**   The Run Length Encoding (RLE) algorithm is used. RLE substitutes a 1- or 2-byte sequence in the data stream for each repeated occurrence of the same character. This algorithm requires no storage and less processing time than the other options.

**\*LZ9**   The LZ algorithm with the 9-bit code for repeated substrings in the data stream is used. These codes refer to entries in a common dictionary, created as the data flows between the sender and receiver. The LZ algorithms require storage and extra processing time. The LZ9 requires the least storage and processing time of the LZ algorithms; however, it compresses the data stream the least.

**\*LZ10**   The LZ algorithm with the 10-bit code for repeated substrings in the data stream is used. These codes refer to entries in a common dictionary, created as the data flows between the sender and receiver. The LZ algorithms require storage and extra processing time. The LZ10 table algorithm requires more storage and processing time than the LZ9, but less than the LZ12. The LZ10 compresses the data stream more than the LZ9, but less than the LZ12.

**\*LZ12**   The LZ algorithm with the 12-bit code for repeated substrings in the data stream is used. These codes refer to entries in a common dictionary, created as the data flows between the sender and receiver. The LZ algorithms require storage and extra processing time. LZ12 requires the most storage and processing time of the LZ algorithms; however, it compresses the data stream the most.

**\*NONE**
   No compression occurs.

## Session level encryption (SLE)

Specifies the desired level of session encryption.

**\*SAME**
> The value does not change.

**\*NONE**
> No data is encrypted or decrypted.

**\*ALL**   All data is encrypted before it is sent out to the network and is decrypted as it is received from
> the network.

> **Note:** The use of session level encryption requires that IBM Common Cryptographic Architecture
> Services for i5/OS is installed along with the Cryptographic Processor feature or the
> Cryptographic Processor-Commercial feature.

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*BLANK**
> No text is specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

**\*SAME**
> The value does not change.

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## Examples

```
CHGMODD   MODD(MODE1)  PREESTSSN(3)
```

This command changes the number of pre-established sessions for MODE1 to three.

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## Error messages

**\*ESCAPE Messages**

**CPF262D**
> Mode description &1 not changed.

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# Change Message Description (CHGMSGD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Message Description (CHGMSGD) command changes an existing message description stored in a message file, and stores those changes in that message file for later use. The message description remains in the message file until the file is deleted, until the Remove Message Description (RMVMSGD) command is used to remove the message from the file, or until another change to the message is made with a Change Message Description (CHGMSGD) command.

If the message is sent as an inquiry message or as a notify message and a reply is expected, the following validity-checking parameters can be used to specify some requirements that validate the reply received.

- **Reply type (TYPE)** parameter.
- **Maximum reply length (LEN)** parameter.
- **Valid reply values (VALUES)** parameter.
- **Special reply values (SPCVAL)** parameter.
- **Range of reply values (RANGE)** parameter.
- **Relationship for valid replies (REL)** parameter.
- **Default reply value (DFT)** parameter.

These parameters are not necessary for a message to allow a reply, but they can be used to define valid replies made to the message.

**Caution:** Specifying the alert option in the range CPx7B00 to CPx7BFF (messages sent from the alert process) may cause unpredictable results.

**Restrictions:** To change a message description in a message file, you must have change (*CHANGE) authority for the message file and read (*READ) authority for the library in which the file is located.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **MSGID** | Message identifier | *Name* | Required, Positional 1 |
| **MSGF** | Message file | *Qualified object name* | Required, Positional 2 |
| | Qualifier 1: Message file | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **MSG** | First-level message text | *Character value*, **\*SAME** | Optional, Positional 3 |
| **SECLVL** | Second-level message text | *Character value*, **\*SAME**, *NONE, X'' | Optional, Positional 4 |
| **SEV** | Severity code | 0-99, **\*SAME** | Optional, Positional 5 |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| FMT | Message data fields formats | Single values: **\*SAME**, \*NONE<br>Other values (up to 99 repetitions): *Element list* | Optional |
| | Element 1: Data type | \*QTDCHAR, \*CHAR, \*HEX, \*SPP, \*DEC, \*BIN, \*UBIN, \*CCHAR, \*UTC, \*UTCD, \*UTCT, \*DTS, \*SYP, \*ITV | |
| | Element 2: Length | *Integer*, **\*VARY** | |
| | Element 3: \*VARY bytes or dec pos | *Integer*, **0** | |
| TYPE | Reply type | **\*SAME**, \*NONE, \*CHAR, \*DEC, \*ALPHA, \*NAME | Optional |
| LEN | Maximum reply length | Single values: **\*SAME**, \*NONE, \*TYPE<br>Other values: *Element list* | Optional |
| | Element 1: Length | *Integer* | |
| | Element 2: Decimal positions | *Integer* | |
| VALUES | Valid reply values | Single values: **\*SAME**, \*NONE<br>Other values (up to 20 repetitions): *Character value* | Optional |
| SPCVAL | Special reply values | Single values: **\*SAME**, \*NONE<br>Other values (up to 20 repetitions): *Element list* | Optional |
| | Element 1: Original from-value | *Character value* | |
| | Element 2: Replacement to-value | *Character value* | |
| RANGE | Range of reply values | Single values: **\*SAME**, \*NONE<br>Other values: *Element list* | Optional |
| | Element 1: Lower value | *Character value* | |
| | Element 2: Upper value | *Character value* | |
| REL | Relationship for valid replies | Single values: **\*SAME**, \*NONE<br>Other values: *Element list* | Optional |
| | Element 1: Relational operator | \*EQ, \*LE, \*GE, \*GT, \*LT, \*NE, \*NL, \*NG | |
| | Element 2: Value | *Character value* | |
| DFT | Default reply value | *Character value*, **\*SAME**, \*NONE | Optional |
| DFTPGM | Default program to call | Single values: **\*SAME**, \*NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Default program to call | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| DMPLST | Data to be dumped | Single values: **\*SAME**, \*NONE<br>Other values (up to 102 repetitions): 1-99, \*JOB, \*JOBINT, \*JOBDMP | Optional |
| ALROPT | Alert options | Single values: **\*SAME**<br>Other values: *Element list* | Optional |
| | Element 1: Alert type | *Character value*, \*IMMED, \*DEFER, \*UNATTEND, \*NO | |
| | Element 2: Resource name variable | 1-99, **\*NONE** | |
| LOGPRB | Log problem | **\*SAME**, \*NO, \*YES | Optional |
| CCSID | Coded character set ID | 1-65535, \*SAME, \*HEX, **\*JOB** | Optional |

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# Message identifier (MSGID)

Specifies the message identifier of the message being changed. The message identifier must be 7 characters long and in the following format: *pppnnnn*

The first 3 characters (ppp) must be a code consisting of an alphabetic character followed by two alphanumeric (alphabetic or decimal) characters. The last 4 characters (nnnn) must consist of the decimal numbers 0 through 9 and the characters A through F.

This is a required parameter.

# Message file (MSGF)

Specifies the message file where the message description being changed is stored. This command ignores any message file overrides in effect for the job.

This is a required parameter.

**Qualifier 1: Message file**

*name*    Specify the name of the message file where the message description is stored.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
         The current library for the job is used to locate the message file. If no current library entry exists in the library list, QGPL is used.

*name*    Specify the library where the message file is located.

# First-level message text (MSG)

Specifies the new text for the message.

**\*SAME**
         The message text is not changed.

*'message-text'*
         Specify the text of the message that is initially displayed, printed, or sent to a program or log. A maximum of 132 characters (enclosed in apostrophes) can be specified, but the display station screen size may cause additional limitations.

**Note:** If the message text is changing, the **entire** message text is replaced with the specified change.

One or more substitution variables can be embedded in the message text string to indicate positional replacement fields that allow the program to substitute variable data in the message before the message is sent.

**Double-Byte Character Set Considerations**

When entering double-byte characters on this parameter, several combinations of characters may cause errors to occur on this command. The double-byte characters should not contain the string, X'50Fn' (where n is a 1-digit number, 0-9). Examples are: X'50F0', X'50F4', X'50F9'.

**Coded Character Set Identifier (CCSID) Considerations**

The text supplied for the MSG parameter is assumed to be in the CCSID of the job calling this command unless the CCSID parameter is coded. If the CCSID parameter is coded, the text is assumed to be in the CCSID specified. For more information about the message handler and its use of CCSIDs, see the i5/OS globalization topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

# Second-level message text (SECLVL)

Specifies any message help changes. Message help can also be written to the job log, if *SECLVL is specified for the **Log in service log (LOG)** parameter of the job commands.

**\*SAME**
> The message help is not changed.

**\*NONE**
> There is to be no message help for this message description. Any message help in the message description is removed.

*'second-level-text'*
> Enter the text to show as message help. No more than 3000 characters (enclosed in apostrophes) can be specified, but display limitations must be considered. One or more substitution variables can be embedded in the message help, as described on the **First-level message text (MSG)** parameter. If you are changing the message help, the *entire* message help will be replaced with the specified change.

Message help can be formatted for the work station using three format control characters. Each must be followed by a blank.
- **&N** Forces the message help to a new line (column 2). If the help is longer than one line, the next lines are indented to column 4 until the end of the help or until another format control character is found.
- **&P** Forces the message help to a new line, indented to column 6. If the help is longer than one line, the next lines start in column 4 until the end of the help or until another format control character is found.
- **&B** Forces the message help to a new line, starting in column 4. If the help is longer than one line, the next lines are indented to column 6 until the end of the help or until another format control character is found.

**Double-Byte Character Set Considerations**

When entering double-byte characters on this parameter, several combinations of characters may cause errors to occur on this command. The double-byte characters should not contain the string, X'50Fn' (where n is a 1-digit number, 0-9). Examples are: X'50F0', X'50F4', X'50F9'.

**Coded Character Set Identifier (CCSID) Considerations**

The text supplied for the SECLVL parameter is assumed to be in the CCSID of the job calling this command unless the CCSID parameter is coded. If the CCSID parameter is coded, the text is assumed to be in the CCSID specified. For more information about the message handler and its use of CCSIDs, see the i5/OS globalization topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

# Severity code (SEV)

Specifies the severity code of the message being changed. The severity code indicates the severity level of the condition that causes the message to be sent.

**\*SAME**
> The severity code of this message is not changed.

*severity-code*
> Specify a value, 00 through 99, to represent the severity level of this message (99 is the highest severity level). The assigned code for the message should correspond to the IBM predefined severity codes. Any 2-digit value can be specified, even if no severity code has been defined for it (either predefined or user-defined).

# Message data fields formats (FMT)

Specifies the formats of from one to 99 message data fields being changed. Each field is described in this parameter by a list of attributes. All 99 of the message data fields can be used as substitution values in the message and message help defined in this message description. They can also be specified for the **Data to be dumped (DMPLST)** parameter of this command. When specified for the **Message data field values (MSGDTA)** parameter of the Send Program Message (SNDPGMMSG) or Send User Message (SNDUSRMSG) command, the data fields must be concatenated to form one character string of no more than 512 characters and must match the format and sequence specified here.

**Note:** If any of the previously defined formats are being changed, all existing formats must be included in this parameter.

**Single values**

**\*SAME**
> The formats of the message are not changed.

**\*NONE**
> No format is being described for message fields, or the existing formats are removed. If \*NONE is specified, no message data fields can be referred to in the **First-level message text (MSG)** parameter, **Second-level message text (SECLVL)** parameter, or **Data to be dumped (DMPLST)** parameter.
>
> **Note:** If a format had been originally specified, but \*NONE is specified, all referrals to those formats must be removed from the message and message help and from the dump list.

**Element 1: Data type**

The first element specifies the type of data the substitution field contains and how the data is to be formatted in the message text. The contents of the second and third elements vary depending on the type specified. One of the following types can be specified for each field described by this parameter:

**\*QTDCHAR**
> A character string formatted with enclosing apostrophes ('Monday, the 1st') can be specified.

**\*CHAR**
> A character string formatted without enclosing apostrophes can be specified. It is an alphanumeric string that can be used to specify a name, for example, BOB. Trailing blanks are truncated.

**\*HEX** A string of bytes formatted as a hexadecimal value (X'C0F4') can be specified.

**\*DEC** A packed decimal number (X'058C') that is formatted in the message as a signed decimal value with a decimal point (5.8) can be specified. Values for length (required) and decimal positions (optional) specified \*DEC indicate the number of decimal digits and the number of digits to the right of the decimal point. If the number of decimal positions is not specified, zero is assumed.

**\*BIN** A binary value that is either 2, 4 or 8 bytes long (B'0000000000111010'), formatted in the message as a signed decimal value (58) can be specified.

**\*UBIN**

A binary value that is either 2, 4 or 8 bytes long (B'0000000000111010'), formatted in the message as an unsigned decimal value (58) can be specified.

**\*CCHAR**

A character string that can be converted. If data of this type is sent to a message queue that has a CCSID tag other than 65535 or 65534, the data is converted from the CCSID specified on the send function to the CCSID of the message queue. Conversions can also occur on data of this type when the data is obtained from the message queue using a receive or display function. See the Message Handler section of the i5/OS globalization topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/ for more details on CCSID conversions.

**\*UTC** An 8-byte field that contains a system date time stamp in Coordinated Universal Time (UTC) is specified. The output formatted date time stamp contains the date followed by one blank separator and the time. The date and time in the output message are adjusted from UTC using the time zone specified for the job. The date is formatted using the job definition attributes for date format and date separator. The time is formatted using the job definition attribute for time separator. When the 8-byte field is passed as hex zero (X'0000000000000000') the value will be formatted as \*N.

**\*UTCD**

An 8-byte field that contains a system date time stamp in Coordinated Universal Time (UTC) is specified. The date in the output message is adjusted from UTC by the time zone specified for the job. The date is formatted using the job definition attributes for date format and date separator. When the 8-byte field is passed as hex zero (X'0000000000000000') the value will be formatted as \*N.

**\*UTCT**

An 8-byte field that contains a system date time stamp in Coordinated Universal Time (UTC) is specified. The time in the output message is adjusted from UTC by the time zone specified for the job and is formatted using the job definition attribute for time separator. When the 8-byte field is passed as hex zero (X'0000000000000000') the value will be formatted as \*N.

**\*DTS** An 8-byte field that contains a system date time stamp is specified. The date time stamp contains the date followed by one blank separator and the time. The date is formatted in the output message using the job definition attributes for date format and date separator. The time is formatted using the job definition attribute for time separator.

**\*ITV** An 8-byte binary field that contains the time interval (in seconds) for wait time-out conditions is specified. The time interval is formatted in the message as a zero-suppressed zoned decimal value (15 0) representing the number of seconds to wait.

The following formats are valid only in IBM-provided message descriptions and should not be used for other messages.

**\*SPP** A 16-byte space pointer to data in a space object can be specified. \*SPP is not valid as a replacement field in message text.

**\*SYP** A 16-byte system pointer to a system object can be specified. When referred to in message text, the simple name of the system object is formatted as described in the name type, \*CHAR.

**Element 2: Length**

After the type specification, a second element can be specified to indicate the number of characters or digits that are passed in the message data. How the second element is used depends on the type specified in the first element.

- If a length is not specified for *QTDCHAR, *CHAR, *HEX, or *SPP, then *VARY is assumed for the length. If *VARY is assumed, the message data field passed by the SNDPGMMSG or SNDUSRMSG command must be preceded by a 2-byte or 4-byte binary field that indicates the actual number of bytes of data being passed. However, when *SPP is specified, the first bytes pointed to by the space pointer contain the field length. Therefore, the 2-byte or 4-byte field must precede the data pointed to by the space pointer, and not precede the space pointer that is passed as part of the message data.

- If type *DEC is specified, the total number of decimal digits (including the fraction) must be specified as the second element; the number of digits in the fraction can be specified optionally as the third element.

- If type *BIN or *UBIN is specified, the message data field can be only 2, 4 or 8 bytes long; the default is 2 bytes.

- If type *CCHAR is specified, the message data length field can be only *VARY. A variable length field is required because as the data in this field gets converted to different coded character set identifiers (CCSIDs), its length may change.

**Element 3: *VARY bytes or dec pos**

The third element is used in one of two ways, depending on the type specified in the first element: (1) if *QTDCHAR, *CHAR, *CCHAR, *HEX, or *SPP is specified, and if *VARY is specified or assumed for the second element, the third element is used with *VARY to indicate the size of the length field actually passed. The third element can be either a 2 or a 4, which is the number of bytes specifying the length (in binary) of the passed value; (2) if *DEC is specified, the third element indicates the number of decimal positions in the decimal value. If not specified for a decimal substitution value, the default is 0 decimal positions.

**Note:** If an object has been damaged or deleted, the substitution variable, when displayed, is not replaced by the name of the object. Instead, the object appears as &n (where n = number).

## Reply type (TYPE)

Specifies, only if the message is sent as an inquiry or notify message, the type of valid reply to this message.

**\*SAME**
> The reply type is not changed.

**\*NONE**
> There is no reply validity checking. Any existing reply type is removed. *NONE must also be specified for the **Maximum reply length (LEN)** parameter.

**\*CHAR**
> Any character string is valid. If it is a quoted character string, the apostrophes are passed as part of the character string.

**\*DEC**   Only a decimal number is a valid reply.

**\*ALPHA**
> Only an alphabetic character string is valid. Blanks are not allowed.

**\*NAME**

> Only a simple name is a valid reply. The name does not have to be a object name, but must start with an alphabetic character; the remaining characters must be alphanumeric.

# Maximum reply length (LEN)

Specifies, only if the message is sent as an inquiry or notify message, the maximum reply length.

**Single values**

**\*SAME**

> The reply length is not changed.

**\*NONE**

> There is no reply validity checking. The existing length specification, if any, is removed. \*NONE must also be specified for the **Reply type (TYPE)** parameter.

**\*TYPE** The maximum length is determined by the type of reply specified for the **Reply type (TYPE)** parameter. The maximum length for each type of reply is:

- Up to 132 characters for types \*CHAR and \*ALPHA can be specified. If any additional validity checking is to be performed (VALUES, RANGE, REL, SPCVAL, or DFT are specified), the maximum length allowed for \*CHAR and \*ALPHA is 32 characters.
- Up to 15 digits can be specified for \*DEC, of which a maximum of 9 digits can be to the right of the decimal point.
- Up to 10 alphanumeric characters can be specified for \*NAME.

**Element 1: Length**

*length* Specify the maximum reply length. The length specified here cannot exceed the maximums shown above.

**Element 2: Decimal positions**

*number*

> If the reply type is a decimal value, the number of decimal positions can be optionally specified. If a value is not specified, zero decimal positions are assumed.

# Valid reply values (VALUES)

Specifies, only if the message is sent as an inquiry or notify message, a list of values of which one can be received as a valid reply. No more than 20 values can be specified in the list. Each value in the list must meet the requirements specified for message replies on the **Reply type (TYPE)** parameter and the **Maximum reply length (LEN)** parameter. If this parameter is specified, the **Range of reply values (RANGE)** parameter and the **Relationship for valid replies (REL)** parameter cannot be specified.

**Single values**

**\*SAME**

> The existing values list is not changed.

**\*NONE**

> No list of reply values is specified. The reply can have any value that is consistent with the other validity-checking parameters. Any existing values are removed.

**Other values**

*value*  Specify 1 to 20 values. To be valid, these must match a reply value sent in response to the message defined in this message description. The maximum length of each value is 32 characters.

## Special reply values (SPCVAL)

Specifies, only if the message is sent as an inquiry or notify message, a list of up to 20 sets of special values of which one set (if the from-value is matched by the sent reply) is used as the reply. These values are special in that they may not meet all the validity checking specifications given in the other reply-oriented parameters. The reply sent is compared to the from-value in each set. If a match is found, and a to-value was specified in that set, the to-value is sent as the reply. If no to-value was specified, the from-value is sent as the reply. If the reply sent does not match any from-value, then the reply is validity-checked by the specifications in the other reply-oriented parameters.

**Single values**

**\*SAME**
        The special values list is not changed.

**\*NONE**
        No special values are specified for the replies to this message. Any existing special values are removed from the message description.

**Element 1: Original from-value**

*from-value*
        Specify a from-value to compare to a message reply value.

**Element 2: Replacement to-value**

*to-value*
        Specify a to-value that the from-value will be mapped to before the reply is sent.

## Range of reply values (RANGE)

Specifies, only if the message is sent as an inquiry or notify message, the upper and lower value limits for valid replies to this message. These values must meet the requirements specified for replies by the TYPE and LEN parameters, and both values must be of the same type. If both values are not of the same length, the shorter value is padded on the right with blanks. For type \*CHAR and \*ALPHA replies, the reply is padded on the right with blanks or truncated on the right (to the length of the specified values) before the value range is validity-checked. If this parameter is specified, the **Valid reply values (VALUES)** parameter and the **Relationship for valid replies (REL)** parameter cannot be specified.

**Single values**

**\*SAME**
        The upper and lower range limits are not changed.

**\*NONE**
        No range values are specified for the replies to this message. Any existing range values are removed from the message description.

**Element 1: Lower value**

*lower-value*
>    Specify the lower limit value for valid replies to this message.

**Element 2: Upper value**

*upper-value*
>    Specify the upper limit value for valid replies to this message.

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# Relationship for valid replies (REL)

Specifies, only if the message is sent as an inquiry or notify message, the relationship that must exist for a reply to be valid. The value specified must meet the requirements specified for replies on the **Reply type (TYPE)** parameter and the **Maximum reply length (LEN)** parameter. For replies of the types *CHAR and *ALPHA, the reply is padded on the right with blanks or truncated on the right to match the length of the value specified, before the system performs the test on the reply value sent.

**Single values**

**\*SAME**
>    The relationship is not changed.

**\*NONE**
>    No relationship is specified for replies to this message. Any existing relationship specifications are removed from the message description.

**Element 1: Relational operator**

*operator*
>    Specify one of the following relational operators:
>    - *LT — Less than
>    - *LE — Less than or equal to
>    - *GT — Greater than
>    - *GE — Greater than or equal to
>    - *EQ — Equal to
>    - *NL — Not less than
>    - *NG — Not greater than
>    - *NE — Not equal to

**Element 2: Value**

*value*   Specify value against which the message reply is checked. If the reply is valid in the relational test, it is sent to the sender of the message.

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# Default reply value (DFT)

Specifies, only if the message is sent as an inquiry or notify message, the default reply (enclosed in apostrophes, if it contains special characters) used when the receiver of the message has indicated that all messages to him are to use default replies, or when a message is deleted from a message queue and no reply was specified. The default reply can also be used to answer notify messages that are not monitored. The default reply must meet the requirements specified for replies by the validity-checking parameters.

**\*SAME**
> The default reply is not changed.

**\*NONE**
> No default reply is specified. Any existing default reply is removed.

*'default-reply'*
> Specify the reply, enclosed in apostrophes if it contains special characters, to use as the default reply.

# Default program to call (DFTPGM)

Specifies the default program (if any) to take default action when this message is sent as an escape message to a program that is not monitoring for it.

**Single values**

**\*SAME**
> The default program is not changed.

**\*NONE**
> No default program is specified for this message. Any existing default program is removed from the message description.

**Qualifier 1: Default program to call**

*name*    Specify the name of the default program called when an escape message is sent.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the job is used to locate the program. If no current library entry exists in the library list, QGPL is used.

*name*    Specify the library where the program is located.

# Data to be dumped (DMPLST)

Specifies the data dumped when this message is sent as an escape message to a program that is **not** monitoring for it. This parameter can specify that data related to the job be dumped, that data from message data fields be dumped, or that a combination of these be dumped. When data from message data fields is dumped, this parameter specifies one or more numbers that identify, by position, the data fields being dumped.

The system objects indicated by system pointers are dumped. The data in a space object, indicated by a space pointer, is dumped starting from the offset indicated by the space pointer for the length indicated in the field description. The standard job dump can also be requested.

**Single values**

**\*SAME**
> The dump list is not changed.

**\*NONE**
> There is no dump list for this message. Any existing dump list is removed from the message description.

**Other values**

**\*JOB**   This value is the same as specifying * for the **Job name (JOB)** parameter and *PRINT for the **Output (OUTPUT)** parameter of the DSPJOB (Display Job) command.

**\*JOBDMP**
> The data areas of the job are dumped as specified by the Dump Job (DMPJOB) command. *JOBDMP can be specified by itself, with *JOB, with *JOBINT, or with a list of message data field numbers.

**\*JOBINT**
> The internal machine data structures related to the job processing are dumped to the machine error log as specified by the Dump Job Internal (DMPJOBINT) command. *JOBINT can be specified by itself, with *JOBDMP, *JOB, or with a list of message data field numbers.

*message-data-field-number*
> Specify the numbers of the message data fields that identify the data dumped when this escape message is sent but not monitored. As many as 99 data field numbers can be specified in the list; additionally, the list can contain the values *JOB, *JOBDMP and *JOBINT.

## Alert options (ALROPT)

Specifies the alert option associated with messages sent to the QHST log and the system operator message queue.

**Single values**

**\*SAME**
> The alert option is not changed.

**Element 1: Alert type**

**\*NO**   No alert is sent.

**\*IMMED**
> An alert is sent immediately, simultaneous with sending the message to QHST.

**\*UNATTEND**
> An alert is sent immediately only when *UNATTEND is specified for the **Alert status (ALRSTS)** parameter of the Change Network Attributes (CHGNETA) command.

**\*DEFER**
> The alert is sent after local problem analysis. *DEFER should be specified only for those messages against which problem analysis can be run. An alert is sent at the first exit from problem analysis for the problem referred to by the message. All alerts set to *DEFER are treated as *IMMED if:
>
> - *UNATTEND is specified for the **Alert status (ALRSTS)** parameter of the Change Network Attributes (CHGNETA) command.
> - An error log ID is not available for a problem that might be resolved using problem analysis.
> - *NO is specified for the **Log problem (LOGPRB)** parameter (problem analysis is not available for the condition reported by the message).

**Element 2: Resource name variable**

**\*NONE**
> No message data field format number is passed with the alert identifier.

*1-99*　　Specify the message data field format number that is passed with the alert identifier.

## Log problem (LOGPRB)

Specifies, for IBM-supplied messages, whether or not an entry can be put into the problem log. If there is an error log ID for the message and \*YES is specified for this parameter, you can request problem analysis by pressing F14 from the system operator message queue display (by running DSPMSG \*SYSOPR command).

**\*SAME**
> The value is not changed.

**\*NO**　　An entry is not put in the problem log.

**\*YES**　　An entry is put in the problem log if there is an error log ID associated with the message.

## Coded character set ID (CCSID)

Specifies the coded character set identifier (CCSID) that the text supplied for the MSG and SECLVL parameters is in.

If the MSG and SECLVL parameters are not coded, the value supplied for the CCSID parameter is used to change the CCSID tag associated with the message description. No text conversion occurs in this case. Use the CCSID parameter in this way to correct a message description that has an incorrect CCSID tag.

If either the MSG or the SECLVL parameters are coded along with the CCSID parameter, the text supplied for the MSG and SECLVL parameters will be assumed to be in the CCSID specified. If only one of the MSG or SECLVL parameters is coded, but not both, any existing text associated with the parameter that is not coded is converted to the specified CCSID so that all the text is in the same CCSID.

If the message file is anything other than 65535 or 65534, the text is converted from the CCSID specified to the CCSID of the message file. Otherwise, the CCSID specified is saved with the MSG description in the event a conversion is needed during a retrieve or display function.

If the CCSID specified does not match the character encoding of the message description, unpredictable results may occur.

To use the CCSID associated with the message description, the CCSID associated with the message file must be 65534. See the Change Message File (CHGMSGF) command for details on how to change the CCSID associated with the message file.

The CCSID only applies to the first level message text and the second level message text of the message description.

**\*JOB**　　The CCSID tag of the message description is changed to the CCSID of the job running this command. If the MSG and SECLVL parameters are specified, the text supplied in these parameters is assumed to be in the CCSID specified. If the MSG and SECLVL parameters are not coded, the CCSID of the message description is not changed.

**\*SAME**
> The CCSID tag of the message description is not changed. If the MSG or SECLVL parameter is specified, the text is assumed to be in the same CCSID as the text it is replacing.

**\*HEX**  The CCSID tag of the message description is changed to the special CCSID value of 65535 which means this message description is not to be converted when used.

*coded-character-set-identifier*
> Specify the CCSID you want the text to be considered in. Valid values range form 1 through 65535. See the Globalization information in the iSeries Information Center at http://www.ibm.com/eserver/iseries/infocenter for a list of valid CCSID values. Only CCSIDS that a job can be changed to are accepted.
>
> If the MSG and SECLVL parameters are specified, the text supplied in these parameters is assumed to be in the CCSID specified. For more information about the message handler and its use of CCSIDs, see the i5/OS globalization topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

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## Examples

**Example 1: Changing the First-Level Message and Severity**

```
CHGMSGD   MSGID(UIN0115)  MSGF(INV)  MSG('Enter your name')
          SEV(55)
```

This command changes the first-level message and the severity of message UIN0115 stored in the message file INV. The rest of the message description remains as originally specified in the ADDMSGD command.

**Example 2: Changing to a Range of Valid Replies**

Assume the user created message UPY0047 as follows:

```
ADDMSGD   MSGID(UPY0047)  MSGF(PAYLIB/TIMECARD)
          MSG('Enter department number:')
          TYPE(*DEC)  LEN(4)  VALUES(0816 0727 0319 8774)
```

To change to a range of valid replies (RANGE parameter), instead of specific reply values (as specified with the VALUE parameter), the following command can be used:

```
CHGMSGD   MSGID(UPY0047)  MSGF(PAYLIB/TIMECARD)  VALUES(*NONE)
          RANGE(0300 8900)
```

The VALUES as originally defined are removed and the RANGE parameters are added to the message description. The type and length of the reply values do not change.

**Note:** All changes made to an existing message description must be compatible with the existing message description. For example, the following change would be diagnosed as invalid because the RANGE values are not compatible with the reply length as defined on the original ADDMSGD command.

**Example 3: Changing the Length Parameter**

```
ADDMSGD   MSGID(XYZ0202)  MSGF(XYZMSGF)
          MSG('Enter routing code:')
          TYPE(*CHAR)  LEN(2)  VALUES(AA BB CC DD EE)



CHGMSGD   MSGID(XYZ0202)  MSGF(XYZMSGF)  VALUES(*NONE)
          RANGE(AAA ZZZ)
```

To make the change to the range of reply values valid, the user must also change the length (LEN parameter). The correct command coding would be as follows:

```
CHGMSGD   MSGID(XYZ0202)  MSGF(XYZMSGF)  LEN(3)
          VALUES(*NONE)  RANGE(AAA ZZZ)
```

# Error messages

**\*ESCAPE Messages**

**CPF2401**
> Not authorized to library &1.

**CPF2407**
> Message file &1 in &2 not found.

**CPF2411**
> Not authorized to message file &1 in &2.

**CPF2419**
> Message identifier &1 not found in message file &2 in &3.

**CPF2461**
> Message file &1 could not be extended.

**CPF2483**
> Message file currently in use.

**CPF2499**
> Message identifier &1 not valid.

**CPF2510**
> Message file &1 in &2 logically damaged.

**CPF2542**
> Message description not changed for &1.

**CPF9830**
> Cannot assign library &1.

**CPF9838**
> User profile storage limit exceeded.

# Change Message File (CHGMSGF)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Message File (CHGMSGF) command changes the attributes of a specified message file or a list of message files.

**Restrictions**

1. Only libraries to which you have use (*USE) authority for are searched.
2. You must have *USE and delete (*DLT) authorities for the message file.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| MSGF | Message file | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Message file | *Generic name, name*, *ALL | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB, *USRLIBL, *ALLUSR, *ALL | |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |
| CCSID | Coded character set ID | 1-65535, **\*SAME**, *HEX, *MSGD, *JOB | Optional, Positional 2 |

## Message file (MSGF)

Specifies the message file or files whose attributes are being changed.

This is a required parameter.

**Qualifier 1: Message file**

**\*ALL** All message files in the libraries identified in the library qualifier are changed.

*generic\*-message-file-name*
Specify the generic name of the message file whose attributes are to be changed. A generic name is a character string of one or more characters followed by an asterisk (*); for example, ABC*. The asterisk is a substitute for any valid character. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic (prefix) name, the system assumes it to be the complete object name. If the complete object name is specified and the library qualifier is *USRLIBL, *ALL, or *ALLUSR, all message files of the specified name are changed.

*name* Specify the name of the message file whose attributes are to be changed.

**Qualifier 2: Library**

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

> The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

**\*USRLIBL**

> Only the libraries in the user portion of the thread's library list are searched.

**\*ALL**  All libraries in the system, including QSYS, are searched.

**\*ALLUSR**

> All user libraries are searched. All libraries with names that do not begin with the letter Q are searched except for the following:

```
#CGULIB     #DSULIB     #SEULIB
#COBLIB     #RPGLIB
#DFULIB     #SDALIB
```

> Although the following Qxxx libraries are provided by IBM, they typically contain user data that changes frequently. Therefore, these libraries are considered user libraries and are also searched:

```
QDSNX       QRCLxxxxx   QUSRDIRDB   QUSRVI
QGPL        QSRVAGT     QUSRIJS     QUSRVxRxMx
QGPL38      QSYS2       QUSRINFSKR
QMGTC       QSYS2xxxxx  QUSRNOTES
QMGTC2      QS36F       QUSROND
QMPGDATA    QUSER38     QUSRPOSGS
QMQMDATA    QUSRADSM    QUSRPOSSA
QMQMPROC    QUSRBRM     QUSRPYMSVR
QPFRDATA    QUSRDIRCF   QUSRRDARS
QRCL        QUSRDIRCL   QUSRSYS
```

> 1. 'xxxxx' is the number of a primary auxiliary storage pool (ASP).
> 2. A different library name, in the format QUSRVxRxMx, can be created by the user for each previous release supported by IBM to contain any user commands to be compiled in a CL program for the previous release. For the QUSRVxRxMx user library, VxRxMx is the version, release, and modification level of a previous release that IBM continues to support.

*name*  Specify the name of the library to be searched.

## Text 'description' (TEXT)

Specifies text that describes the message file. The text specified replaces any previous text.

**\*SAME**

> The text, if any, is not changed.

**\*BLANK**

> No text is specified.

*'description'*

> Specify no more than 50 characters of text, enclosed in apostrophes.

# Coded character set ID (CCSID)

Specifies the coded character set identifier (CCSID) that is to be associated with the message file. This will not result in any text conversions on the message descriptions that already exist in the message file. Any message descriptions subsequently added to this message file will be converted from the CCSID specified on the Add Message Description (ADDMSGD) command to the CCSID of the message file. The CCSID associated with the message file overrides the CCSID associated with the message description. To use the CCSID associated with the message description, change the CCSID associated with the message file to *MSGD.

**\*SAME**
> The CCSID associated with the message file is not changed.

**\*HEX**   The CCSID associated with the message file is changed to 65535. 65535 means that no conversions are to occur when adding or changing message descriptions to the message file and no conversions are to occur when retrieving message descriptions from the file. The CCSID specified on the ADDMSGD or CHGMSGD commands is saved in case this message file is ever changed to *MSGD.

**\*MSGD**
> The CCSID associated with the message file is changed to 65534. 65534 means to use the CCSID associated with the message description when retrieving message text from the file. When adding or changing message descriptions to the message file, no conversions are to occur and the message description is tagged with the CCSID specified on the ADDMSGD or CHGMSGD commands.

**\*JOB**   The CCSID associated with the message file is changed to the CCSID of the job that is calling this command.

*coded-character-set-identifier*
> Specify the coded character set identifier (CCSID) that is to be associated with the message file. The valid values range from 1 through 65535. Only CCSIDs that a job can be changed to are accepted. See the Globalization information in the iSeries Information Center at http://www.ibm.com/eserver/iseries/infocenter for a list of valid CCSID values.

> **Note:** Changing the CCSID associated with the message file does not change the CCSID associated with the message descriptions. If the message file CCSID is ever changed back to *MSGD the original CCSIDs associated with the message descriptions are remembered.

> Changing the CCSID associated with a message file that contains message descriptions may cause unpredictable results. This can occur when the character encoding of those message descriptions do not match the CCSID specified. Only change the CCSID of a message file that contains message descriptions to correct a message file CCSID. The change is made when a message file CCSID does not match the encoding of its message descriptions.

> For more information on the message handler and its use of CCSIDs, see the i5/OS globalization topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

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# Examples

```
CHGMSGF   MSGF(*ALL/*ALL)  CCSID(65534)
```

This command changes the CCSID to 65534 for all of the message files on the system.

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# Error messages

**CPF2401**

Not authorized to library &1.

**CPF2407**

Message file &1 in &2 not found.

**CPF2411**

Not authorized to message file &1 in &2.

**CPF247E**

CCSID &1 is not valid.

**CPF2483**

Message file currently in use.

**CPF9830**

Cannot assign library &1.

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# Change Message Queue (CHGMSGQ)

The Change Message Queue (CHGMSGQ) command changes the attributes of the specified message queue. If the delivery mode is being changed to *BREAK or *NOTIFY and if the message queue is not already in *BREAK or *NOTIFY mode or specifically allocated to another job, it is implicitly allocated by this command. The DLVRY, PGM, and SEV parameters are not contained in the Create Message Queue (CRTMSGQ) command, but default values are assigned to them by the system when the message queue is created. This command can also be used to reset the status of old messages to that of new messages so they can be received again without the use of message reference keys.

**Restrictions:**

1. You must have use (*USE) and delete (*DLT) authorities for the queue.
2. The message queues being changed cannot be allocated with either a *SHRRD, or *EXCL lock by another job. If the queue is allocated by another job when the CHGMSGQ command is attempted, an error message will be sent. One exception to this is that no lock is required when changing the CCSID of a workstation message queue.
3. If you are changing multiple message queues with the generic support you are not allowed to change the value for the DLVRY parameter to *BREAK or to *NOTIFY.
4. The QHST message queue has a message queue full action of *SNDMSG and this value cannot be changed. The CPF2433 message (Function not allowed for system log message queue QHST.) is issued if the message queue full action is changed for QHST.
5. Message queue QSYSOPR is shipped with a message queue full action of *WRAP. If the value is changed to *SNDMSG and the queue needs to be recreated because it was damaged, the value is reset to the shipped value of *WRAP.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| MSGQ | Message queue | Single values: *USRPRF, *WRKSTN<br>Other values: *Qualified object name* | Required, Positional 1 |
| | Qualifier 1: Message queue | *Generic name, name*, *ALL | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB, *USRLIBL, *ALLUSR, *ALL | |
| DLVRY | Delivery | **\*SAME**, *HOLD, *BREAK, *NOTIFY, *DFT | Optional, Positional 2 |
| SEV | Severity code filter | 0-99, **\*SAME** | Optional, Positional 4 |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| PGM | Break handling attributes | Single values: **\*SAME**, \*DSPMSG<br>Other values: *Element list* | Optional,<br>Positional 3 |
| | Element 1: Break handling program | *Qualified object name* | |
| | Qualifier 1: Break handling program | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| | Element 2: Allow other jobs to reply | **\*NOALWRPY**, \*ALWRPY | |
| RESET | Reset old messages | **\*NO**, \*YES | Optional |
| FORCE | Force to auxiliary storage | **\*SAME**, \*NO, \*YES | Optional |
| ALWALR | Allow alerts | **\*SAME**, \*NO, \*YES | Optional |
| CCSID | Coded character set ID | 1-65535, **\*SAME**, \*MSG, \*HEX, \*JOB | Optional |
| MSGQFULL | Message queue full action | **\*SAME**, \*SNDMSG, \*WRAP | Optional |

## Message queue (MSGQ)

Specifies the name of the message queue whose attributes are being changed.

This is a required parameter.

**Single values**

**\*WRKSTN**

> The attributes of the work station's message queue are being changed. (This parameter is not valid for a batch job.)

**\*USRPRF**

> The attributes of the message queue associated with the currrent user profile are being changed.

**Qualifier 1: Message queue**

**\*ALL**    All message queues in the libraries identified in the library qualifier are changed.

*generic\*-message-queue-name*

> Specify the generic name of the message queue whose attributes are being changed. A generic name is a character string of one or more characters followed by an asterisk (\*); for example, ABC\*. The asterisk (\*) is a substitute for any valid character. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic (prefix) name, the system assumes it to be the complete object name. If the complete object name is specified and the library qualifier is \*USRLIBL, \*ALL, or \*ALLUSR, all message queues of the specified name are changed.

*name*    Specify the name of the message queue whose attributes are to be changed.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

> The current library for the job is used to locate the message queue. If no current library entry exists in the library list, QGPL is used.

**\*USRLIBL**

> Only the libraries in the user portion of the thread's library list are searched.

**\*ALL** All libraries in the system, including QSYS, are searched.

**\*ALLUSR**

> All user libraries are searched. All libraries with names that do not begin with the letter Q are
> searched except for the following:

```
#CGULIB      #DSULIB      #SEULIB
#COBLIB      #RPGLIB
#DFULIB      #SDALIB
```

> Although the following Qxxx libraries are provided by IBM, they typically contain user data that
> changes frequently. Therefore, these libraries are considered user libraries and are also searched:

```
QDSNX        QRCLxxxxx    QUSRDIRDB    QUSRVI
QGPL         QSRVAGT      QUSRIJS      QUSRVxRxMx
QGPL38       QSYS2        QUSRINFSKR
QMGTC        QSYS2xxxxx   QUSRNOTES
QMGTC2       QS36F        QUSROND
QMPGDATA     QUSER38      QUSRPOSGS
QMQMDATA     QUSRADSM     QUSRPOSSA
QMQMPROC     QUSRBRM      QUSRPYMSVR
QPFRDATA     QUSRDIRCF    QUSRRDARS
QRCL         QUSRDIRCL    QUSRSYS
```

> 1. 'xxxxx' is the number of a primary auxiliary storage pool (ASP).
> 2. A different library name, in the format QUSRVxRxMx, can be created by the user for each
>    previous release supported by IBM to contain any user commands to be compiled in a CL
>    program for the previous release. For the QUSRVxRxMx user library, VxRxMx is the version,
>    release, and modification level of a previous release that IBM continues to support.

*name* Specify the library where the message queue is located.

## Delivery (DLVRY)

Specifies how the messages that are sent to this message queue are delivered. The method of delivery is
in effect only as long as the message queue is allocated to the job. When the queue is no longer allocated,
the delivery mode is changed to \*HOLD for work station, system operator, and user message queues.

**\*SAME**

> The method of message delivery is not changed. If this parameter has not been changed in a
> previous command, \*SAME means that \*HOLD is the method of delivery. However, if the
> specified message queue is a display station message queue, it is automatically changed to
> \*NOTIFY by the system at sign-on.

**\*HOLD**

> The messages are held in the message queue until they are requested by the user or program.

**\*BREAK**

> When a message arrives at the message queue, the job to which the message queue is allocated is
> interrupted, and the program specified for the **Break handling program (PGM)** parameter is
> called, or the Display Message (DSPMSG) command is processed. When changing to \*BREAK

mode, if a program name is not specified or if PGM(*SAME) is specified the PGM parameter defaults to *DSPMSG for the break program and *ALWRPY for the allow other jobs to reply attribute.

**\*NOTIFY**
When a message arrives at the message queue, an interactive job to which the message queue is allocated is notified by the message light turning on and a buzzer sounding (if you have that feature).

**\*DFT**  Messages requiring replies are answered with their default reply. No messages are added to the message queue unless the message queue is QSYSOPR.

## Severity code filter (SEV)

Specifies the lowest severity level that a message can have and still be delivered to a user in break or notify mode. Messages arriving at the message queue whose severities are lower than that specified here do not interrupt the job or turn on the Message Waiting light; they are held in the queue until they are displayed by the Display Message (DSPMSG) command.

**\*SAME**
The severity code is not changed.

*severity-code*
Specify a value, 0 through 99, that specifies the lowest severity code that a message can have and still be delivered to a user if the message queue is in break or notify delivery mode.

## Text 'description' (TEXT)

Specifies the user-defined text that describes the message queue. The text specified here replaces any previous text.

**\*SAME**
The text is not changed.

**\*BLANK**
No text is specified.

*'description'*
Specify no more than 50 characters, enclosed in apostrophes.

## Break handling attributes (PGM)

Two elements are used to specify the program parameter. The first element specifies the program called when a message arrives at the message queue and break delivery has been specified. The second element indicates whether or not to allow other jobs to reply to messages on the message queue when it is placed in *BREAK delivery mode with a break handling program other than *DSPMSG specified.

Because the QSYSOPR message queue receives messages that require manual operator action, only *DSPMSG should be specified or assumed if the message queue being changed is QSYSOPR.

The following parameters are passed to the program:
• Message queue name (10 characters). The name of the message queue to which the message was sent.

- Library name (10 characters). The name of the library containing the message queue.
- Message reference key (4 characters). The reference key of the message sent to the message queue.

**Single values**

**\*SAME**
> The same program, if any, is called. (If this parameter has not been changed previously in another Change Message Queue (CHGMSGQ) command, \*SAME means that \*DSPMSG and \*ALWRPY are assumed.) When changing to \*BREAK mode and if this parameter is not specified or if \*SAME is specified, then the break program defaults to \*DSPMSG and the allow other jobs to reply value is set to \*ALWRPY.

**\*DSPMSG**
> The Display Message (DSPMSG command) is processed when a message arrives for break delivery and the allow other jobs to reply value is set to \*ALWRPY. For interactive jobs, the messages are shown on the display. For batch jobs, the message is sent to a spooled printer file.

**Element 1: Break handling program**

Specify the program that is called when a message arrives for break delivery.

> **Qualifier 1: Break handling program**
>
> *name*  Specify the name of the program to be called.
>
> **Qualifier 2: Library**
>
> **\*LIBL**  All libraries in the library list for the current thread are searched until the first match is found.
>
> **\*CURLIB**
> > The current library for the job is used to locate the program. If no current library entry exists in the library list, QGPL is used.
>
> *name*  Specify the library where the program is located.

**Element 2: Allow other jobs to reply**

Specifies whether other jobs can reply to inquiry messages on the message queue when it is placed in \*BREAK delivery mode with a break handling program other than \*DSPMSG specified. If \*DSPMSG is specified for the break handling program then \*ALWRPY is assumed for this attribute. If QMHDSMSS is specified for the break handling program in a library other than QSYS, then \*ALWRPY will also be assumed for this attribute unless \*NOALWRPY is explicitly specified.

**Note:** If a value is specified for this element, you must also specify a break handling program for element 1 of this parameter.

**\*NOALWRPY**
> When the message queue is in \*BREAK mode with a break handling program other than \*DSPMSG specified, other jobs can display the message queue, but cannot reply to inquiry messages on the message queue.

**\*ALWRPY**
> When the message queue is in \*BREAK mode with a break handling program other than \*DSPMSG specified, other jobs can reply to inquiry messages on the message queue.

## Reset old messages (RESET)

Specifies whether old messages (messages that have been received once and were not removed from the message queue) held in the message queue are reset to the new message status.

**\*NO**  Old messages in the message queue are not reset to new message status. To receive an old message, reply to it, or remove it, you must enter the message reference key.

**\*YES**  All messages in the message queue, except inquiry messages that have been sent a reply, are reset to the new message status.

## Force to auxiliary storage (FORCE)

Specifies whether changes made to the message queue description or messages added to or removed from the queue are immediately forced into auxiliary storage; this ensures that changes to the queue, or messages sent or received, are not lost if a system failure occurs.

**\*SAME**
The value specified in the referred to message queue is not changed.

**\*NO**  Changes made to the message queue, including its messages, are not immediately forced to auxiliary storage.

**\*YES**  All changes to the message queue description and to the messages in the queue are immediately forced to auxiliary storage. Warning: This could result in program performance problems.

## Allow alerts (ALWALR)

Specifies whether the queue being changed allows alerts to be generated from alert messages that are sent to it.

**\*SAME**
The value is not changed.

**\*NO**  Does not allow alerts to be generated from this message queue.

**\*YES**  Allows alerts to be generated from this message queue.

## Coded character set ID (CCSID)

Specifies the coded character set identifier (CCSID) associated with this message queue. This applies only to immediate messages and message data that is defined as a character field that can be converted (*CCHAR).

**\*SAME**
The value is not changed.

**\*HEX**  Messages sent, received, or displayed from this message queue are not converted. The message queue CCSID is 65535.

**\*MSG**  Messages sent to this message queue are not converted. The CCSID specified by the sending job is saved in case a conversion is needed for a display or receive function. The message queue CCSID is 65534.

**\*JOB**  The CCSID of the message queue is changed to the CCSID of the job running this command.

*coded-character-set-identifier*
Specify the CCSID associated with this message queue. Messages sent to this message queue are converted to this CCSID. Valid values range from 1 through 65535. See the i5/OS globalization topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/ for a list of valid CCSID values.

Note: When changing the CCSID of a message queue, the messages on the queue are not converted and the CCSID associated with each individual message is not changed. If the message queue is changed back to \*MSG the original CCSID of each message is then used.

Changing the CCSID of a message queue that already has messages on it can cause unpredictable results. This can occur when the encoding of the messages does not match the CCSID you specify. Only change the CCSID of a message queue when the CCSID of a message queue does not match the encoding of the messages on it.

For more information on the message handler and its use of CCSIDs, see the i5/OS globalization topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

## Message queue full action (MSGQFULL)

Specifies the action to take when the message queue is full.

**\*SAME**
The value does not change.

**\*SNDMSG**
When the message queue is full, CPF2460 (Message queue could not be extended.) is sent to the program or user that is sending a message to the full message queue.

**\*WRAP**
When the message queue is full, the oldest informational and answered messages are removed from the message queue to allow space for new messages to be added. If the removing of the informational and answered messages does not provide enough space to add the requested message, then unanswered inquiry messages are removed until there is space to add the requested message. The default reply is sent before an unanswered inquiry message is removed. When the message queue is wrapped, CPI2420 or CPI2421 is sent to the queue that was full to indicate it was wrapped. If there is no space on the queue to send these messages they are sent to the joblog of the user that was sending the message to the queue and they are sent to QHST if the full queue was QSYSOPR.

NOTE: When a queue uses \*WRAP and a job sends a message to the queue that causes a wrap, messages are removed for the following conditions in order to perform the wrap:
- the queue is in break or notify mode for a job
- a job is in a message wait state because it did a receive function on the queue with a wait time specified
- the queue is allocated by a job via the ALCOBJ command

Only the system wrap function can remove messages from queues in these conditions. Other jobs still are not allowed to remove messages from the queues during these conditions. With \*SNDMSG, these conditions do not allow another job to remove messages from the queue.

Also when a queue specifies *WRAP and it is in break mode, the wrap function only removes messages that have been received by the break-handling program. For example, if the break-handling program did not receive all messages from the queue and it was becoming full, CPF2460 could be issued because messages could not be removed to perform the wrap.

## Examples

**Example 1: Changing Method of Delivery to Notify Mode**

```
CHGMSGQ   MSGQ(JONES)  DLVRY(*NOTIFY)
```

This command changes the method of delivery of the message queue named JONES to notify mode. The user is immediately notified by the attention light and audible alarm (if installed) when a message has been sent to his queue.

**Example 2: Changing Method of Delivery to Break Mode**

```
CHGMSGQ   MSGQ(INV)  DLVRY(*BREAK)  PGM(INVUPDT)
```

This command changes the delivery mode of the message queue named INV to *BREAK and calls a program named INVUPDT when a message arrives at INV. Other jobs will not be allowed to reply to inquiry messages on message queue INV.

## Error messages

**\*ESCAPE Messages**

**CPF2401**
> Not authorized to library &1.

**CPF2403**
> Message queue &1 in &2 not found.

**CPF2406**
> Authority error occurred on call to break program &1 in &2 for message queue &3 in &4.

**CPF2408**
> Not authorized to message queue &1.

**CPF2437**
> MSGQ(*WRKSTN) not allowed unless done interactively.

**CPF244E**
> The delivery specified is not valid with a generic message queue

**CPF2446**
> Delivery mode specified not valid for system log message queue.

**CPF2450**
> Work station message queue &1 not allocated to job.

**CPF2451**
> Message queue &1 is allocated to another job.

**CPF247E**

CCSID &1 is not valid.

**CPF2477**

Message queue &1 currently in use.

**CPF2485**

Number of parameters for break program &1 in &2 message queue &3 in &4 not valid.

**CPF2507**

MODE(*NOTIFY) not allowed in batch mode.

**CPF2522**

Break program &1 in &2 for message queue &3 in &4 cannot be called.

**CPF2534**

MSGQ(*USRPRF) specified and no msg queue with user profile.

**CPF8127**

&8 damage on message queue &4 in &9. VLIC log-&7.

**CPF8176**

Message queue for device description &4 damaged.

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# Change Nickname (CHGNCK)

The Change Nickname (CHGNCK) command is used to change an existing nickname in the system distribution directory.

A **nickname** is a short version of either a directory entry or a distribution list name. More information about nicknames is in the SNA Distribution Services book, SC41-5410.

**Restrictions:**

1. You must have security administrator (*SECADM or *ALLOBJ) authority to change a public nickname that you do not own. No special authority is needed for you to change a public or private nickname that you own.

2. Only the owner can change a private nickname. No special authority is needed. However, to change the ownership of a nickname that you own, you must have at least change (*CHANGE) authority to the user profile of the user to be named as the new owner.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **NCK** | Nickname | *Element list* | Required, Key, Positional 1 |
| | Element 1: Nickname | *Character value* | |
| | Element 2: Access | ***PRIVATE**, *PUBLIC* | |
| **OWNER** | Owner | *Name*, ***SAME*** | Optional |
| **NEWACCESS** | New access | *PRIVATE, *PUBLIC, ***SAME*** | Optional |
| **TEXT** | Nickname description | *Character value*, ***SAME*** | Optional |
| **USRID** | User identifier | *Element list* | Optional |
| | Element 1: User ID | *Character value*, ***SAME*** | |
| | Element 2: Address | *Character value* | |
| **LSTID** | List identifier | *Element list* | Optional |
| | Element 1: List ID | *Character value*, ***SAME*** | |
| | Element 2: List ID qualifier | *Character value* | |

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## Nickname (NCK)

Specifies the existing nickname that is being changed and the access of the nickname.

The possible nickname value is:

*nickname*
> Specify the nickname you are changing.

The possible nickname access values are:

**\*PRIVATE**
> The private nickname is to be changed. Private nicknames can be changed only by the owner.

**\*PUBLIC**
> The public nickname is to be changed. Public nicknames can be changed only by a user with security administrator (\*SECADM) authority or by the owner.

This is a required parameter.

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## Owner (OWNER)

Specifies the user profile name of the user who is to own the nickname. The user profile named must exist on the system.

**\*SAME**
> The value does not change.

*user-profile-name*
> Specify the user profile name of the user to whom the nickname is being assigned.

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## New access (NEWACCESS)

Specifies the new access of the nickname.

**\*SAME**
> The value does not change. The value is the value on the ACCESS parameter.

**\*PRIVATE**
> The nickname cannot be shared with other users. It can be accessed and changed only by the owner.

**\*PUBLIC**
> The nickname can be shared with other users. It can be accessed by any user on the local system, but it can be changed only by the owner or a user with security administrator (\*SECADM) authority.

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## Nickname description (TEXT)

Specifies the new description of the nickname.

**\*SAME**
> The value does not change.

*'nickname-description'*
> Specify the description that further identifies the nickname. A maximum of 50 characters can be specified and must be enclosed in apostrophes.

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# User identifier (USRID)

Specifies the new identifier of the user for whom the user nickname is being changed. More information about specifying the user ID and address is in the SNA Distribution Services book, SC41-5410.

**Note:** This parameter cannot be specified when the LSTID parameter is specified.

Both the user ID and address elements must be specified unless *SAME is specified.

The possible value is:

**\*SAME**
The value does not change.

The possible User ID value is:

*user-ID*
Specify the user ID for this nickname. A maximum of 8 characters can be specified.

The possible user address value is:

*user-address*
Specify the address for this nickname. A maximum of 8 characters can be specified.

# List identifier (LSTID)

Specifies the new list identifier of the distribution list for the list nickname being changed.

**Note:** This parameter cannot be specified when the USRID parameter is specified.

Both the list identifier and qualifier elements must be specified unless *SAME is specified.

**\*SAME**
The value does not change.

The possible list identifier value is:

*list-ID*
Specify the list identifier (ID) of the distribution list.

The possible list qualifier value is:

*list-ID-qualifier*
Specify the list ID qualifier of the distribution list.

**Note:** The distribution list identifier has two parts, the ID and the qualifier, separated by at least one space. If lowercase characters are specified, the system changes them to uppercase.

The naming rules for the two-part list ID are identical to the rules for the user ID and address. A complete description of these rules is in the SNA Distribution Services book, SC41-5410.

# Examples

```
CHGNCK   NCK(SEC44A *PRIVATE)   NEWACCESS(*PUBLIC)
         TEXT('Secretary for Area 44A')   USRID(XZWS44A RCHVMP2)
```

This command changes the access, nickname description, and user ID of the nickname SEC44A. If the nickname is a user nickname and the user has proper authority to the nickname, the nickname is changed.

# Error messages

## *ESCAPE Messages

**CPF8360**
> Not enough storage for commitment control operation.

**CPF8AA1**
> Library QUSRSYS not completely installed.

**CPF9A80**
> Public nickname &1 in use.

**CPF9A89**
> Nickname function not successful.

**CPF9024**
> System cannot get correct record to finish operation.

**CPF905C**
> Error occurred trying to find a translation table.

**CPF9838**
> User profile storage limit exceeded.

# Change Network Attributes (CHGNETA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Network Attributes (CHGNETA) command changes the network attributes of a system. A network attribute is control information about the communications environment. Network attributes contain specifications that can be used for networking and communications.

**Restrictions:**

1. This command is shipped with public exclude (*EXCLUDE) authority. When this command is shipped, authority is issued only to the security officer. The security officer can grant the use of this command to other users.

2. A user is required to have both all object (*ALLOBJ) and input/output system configuration (*IOSYSCFG) special authority to change the network attributes **Network job action (JOBACN)**, **DDM/DRDA request access (DDMACC)**, and **Client request access (PCSACC)**.

3. A user is required to have *IOSYSCFG special authority to change the network attribute **Allow add to cluster (ALWADDCLU)**.

**Notes:**

1. Information about specifying communications names is in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

2. Information about advanced program-to-program communications (APPC), advanced peer-to-peer networking (APPN), and high-performance routing (HPR) is in the APPN information in the Networking category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

3. More information on this command is in the Work management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/ or the Communcations Management book, SC41-5406.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| SYSNAME | System name | *Character value*, **\*SAME** | Optional |
| LCLNETID | Local network ID | *Communications name*, **\*SAME** | Optional |
| LCLCPNAME | Local control point name | *Communications name*, **\*SAME** | Optional |
| LCLLOCNAME | Default local location name | *Communications name*, **\*SAME** | Optional |
| DFTMODE | Default mode | *Communications name*, **\*SAME** | Optional |
| NODETYPE | Node type | **\*SAME**, *ENDNODE, *NETNODE, *BEXNODE | Optional |
| DTACPR | Data compression | 1-2147483647, **\*SAME**, *NONE, *REQUEST, *ALLOW, *REQUIRE | Optional |
| DTACPRINM | Intermediate data compression | 1-2147483647, **\*SAME**, *NONE, *REQUEST | Optional |
| MAXINTSSN | Maximum intermediate sessions | 0-9999, **\*SAME** | Optional |
| RAR | Route addition resistance | 0-255, **\*SAME** | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| NETSERVER | Network node servers | Single values: **\*SAME**, \*NONE<br>Other values (up to 5 repetitions): *Element list* | Optional |
| | Element 1: Server network ID | *Communications name*, \*LCLNETID | |
| | Element 2: Control point name | *Communications name*, \*ANY | |
| ALRSTS | Alert status | **\*SAME**, \*ON, \*OFF, \*UNATTEND | Optional |
| ALRLOGSTS | Alert logging status | **\*SAME**, \*NONE, \*LOCAL, \*RCV, \*ALL | Optional |
| ALRPRIFP | Alert primary focal point | **\*SAME**, \*NO, \*YES | Optional |
| ALRDFTFP | Alert default focal point | **\*SAME**, \*NO, \*YES | Optional |
| ALRBCKFP | Alert backup focal point | Single values: **\*SAME**, \*NONE<br>Other values: *Element list* | Optional |
| | Element 1: Network ID | *Communications name*, \*LCLNETID | |
| | Element 2: Control point name | *Communications name* | |
| ALRRQSFP | Alert focal point to request | Single values: **\*SAME**, \*NONE<br>Other values: *Element list* | Optional |
| | Element 1: Network ID | *Communications name*, \*LCLNETID | |
| | Element 2: Control point name | *Communications name* | |
| ALRCTLD | Alert controller description | *Name*, **\*SAME**, \*NONE | Optional |
| ALRHLDCNT | Alert hold count | 0-32767, **\*SAME**, \*NOMAX | Optional |
| ALRFTR | Alert filter | Single values: **\*SAME**, \*NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Alert filter | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| MSGQ | Message queue | Single values: **\*SAME**<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| OUTQ | Output queue | Single values: **\*SAME**<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Output queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| JOBACN | Network job action | **\*SAME**, \*REJECT, \*FILE, \*SEARCH | Optional |
| MAXHOP | Maximum hop count | 1-255, **\*SAME** | Optional |
| DDMACC | DDM/DRDA request access | Single values: **\*SAME**, \*REJECT, \*OBJAUT<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: DDM/DRDA request access | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| PCSACC | Client request access | Single values: **\*SAME**, \*REJECT, \*OBJAUT, \*REGFAC<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Client request access | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| DFTNETTYPE | Default ISDN network type | *Character value*, **\*SAME**, \*ATT, \*DBP1TR6, \*ETSI, \*JAPAN, \*NISDN, \*NORTEL, \*NORTHAMT1 | Optional |
| DFTCNNLST | Default ISDN connection list | *Name*, **\*SAME** | Optional |
| ALWANYNET | Allow AnyNet support | **\*SAME**, \*NO, \*YES | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| NWSDOMAIN | Network server domain | *Character value*, **\*SAME**, *SYSNAME | Optional |
| ALWVRTAPPN | Allow APPN virtual support | **\*SAME**, *NO, *YES | Optional |
| ALWHPRTWR | Allow HPR transport tower | **\*SAME**, *NO, *YES | Optional |
| VRTAUTODEV | Virtual ctl autocreate dev | 1-254, **\*SAME** | Optional |
| HPRPTHTMR | HPR path switch timers | *Element list* | Optional |
| | Element 1: Network priority | 1-10000, **\*SAME**, *NONE | |
| | Element 2: High priority | 1-10000, **\*SAME**, *NONE | |
| | Element 3: Medium priority | 1-10000, **\*SAME**, *NONE | |
| | Element 4: Low priority | 1-10000, **\*SAME**, *NONE | |
| ALWADDCLU | Allow add to cluster | **\*SAME**, *NONE, *ANY, *RQSAUT | Optional |
| MDMCNTRYID | Modem country or region ID | *Character value*, **\*SAME** | Optional |

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# System name (SYSNAME)

Specifies the name assigned to the system. The name can contain up to 8 alphanumeric characters. If the system name is not set, it is defaulted at initial program load (IPL) to the machine serial number (with the first character changed, if necessary, to an alphabetic character).

**\*SAME**
> The system name does not change.

*character-value*
> Specify the name that identifies the system. The pending system name is changed when a request to change the system name is issued (except when entered during IPL). The pending system name becomes the current system name at the next IPL of the system.

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# Local network ID (LCLNETID)

Specifies the local network ID assigned to the system.

**\*SAME**
> The local network ID does not change.

*communications-name*
> Specify the local network ID for the system.

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# Local control point name (LCLCPNAME)

Specifies the name of the local control point for the system. If the local control point name is not set, it is defaulted at initial program load (IPL) to the machine serial number with the first character changed (if necessary) to an alphabetic character.

**\*SAME**
> The local control point name does not change.

*communications-name*
> Specify the name of the local control point for the system.

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# Default local location name (LCLLOCNAME)

Specifies the default local location name for the system. If the default local location name is not set, it is defaulted at initial program load (IPL) time to the machine serial number (with the first character changed, if necessary, to an alphabetic character).

**\*SAME**
> The local location name does not change.

*communications-name*
> Specify the name of the default local location for the system.

# Default mode (DFTMODE)

Specifies the default mode for APPC and APPN locations.

**\*SAME**
> The default mode does not change.

*communications-name*
> Specify the default mode. Mode names SNASVCMG and CPSVCMG are not allowed. Specifying BLANK for the default mode is the same as specifying a mode of all blanks.

# Node type (NODETYPE)

Specifies the APPN node type.

**\*SAME**
> The node type does not change.

**\*ENDNODE**
> The node does not provide network services to other nodes but can participate in the APPN network using the services of an attached network server, or can operate in a peer environment similar to low entry networking nodes. You cannot specify \*ENDNODE if \*YES is specified for either the **Alert primary focal point (ALRPRIFP)** parameter or the **Alert default focal point (ALRDFTFP)** parameter.

**\*NETNODE**
> The node provides intermediate routing, route selection services, and distributed directory services for local users, and to end nodes and low entry networking nodes that it is serving.

**\*BEXNODE**
> The node performs as a branch extender node. The node performs as an end node in the backbone APPN network, and performs as a network node server to end nodes within its local domain.

# Data compression (DTACPR)

Specifies the level of data compression used when the system is an SNA end node.

**\*SAME**
> The value does not change.

**\*NONE**
> Data compression is not allowed on the session.

**\*ALLOW**
> Data compression is allowed on the session by the local system if requested by a remote system. The local system does not request compression.
>
> If data compression is requested by the remote system, the data compression levels used by the session are the lower of the requested levels and the configured levels.

**\*REQUEST**
> Data compression is requested on the session by the local system. However, the request can be refused or negotiated to lower compression levels by the remote system. Data compression is allowed on the session if requested by the remote system.
>
> The data compression levels that the local system will request are the configured levels. The negotiated data compression levels can never exceed the configured values.
>
> If data compression is requested by the remote system, the data compression levels used by the session are the lower of the requested levels and the configured levels.

**\*REQUIRE**
> Data compression is required on the session. If the remote system does not negotiate to the local system's exact required levels of compression, the session is not established.
>
> The data compression levels that the local system requires are the configured levels.

**_1-2147483647_**
> Specify the maximum line speed, in bits per second (bps), at which data is compressed. If the line speed of the link used by the session is less than or equal to this specified line speed, data compression is negotiated for the session as if *REQUEST is specified. Otherwise, compression is negotiated for the session as if *ALLOW is specified.

## Intermediate data compression (DTACPRINM)

Specifies the level of data compression to request when the system is an SNA intermediate node.

**\*SAME**
> The value does not change.

**\*NONE**
> The remote systems are not notified of a need to compress data when the system is an SNA intermediate node.

**\*REQUEST**
> The remote systems are requested to compress data when the system is an SNA intermediate node.

**_1-2147483647_**
> Specify a line speed in bits per second (bps). If either the receiving or sending link has a line speed equal to or less than this specified line speed, data compression is requested from the remote systems. Otherwise, remote systems are not requested to compress the data.

# Maximum intermediate sessions (MAXINTSSN)

Specifies the maximum number of APPN intermediate sessions. This parameter is used only when *NETNODE or *BEXNODE is specified for the **Node type (NODETYPE)** parameter.

**\*SAME**
> The maximum number of APPN intermediate sessions does not change.

*0-9999*   Specify the maximum number of intermediate sessions.

# Route addition resistance (RAR)

Specifies the APPN route addition resistance. This parameter is used only when *NETNODE or *BEXNODE is specified for the **Node type (NODETYPE)** parameter.

**\*SAME**
> The route addition resistance does not change.

*0-255*   Specify the route addition resistance.

# Network node servers (NETSERVER)

Specifies the APPN network node servers. This parameter is used only when *ENDNODE or *BEXNODE is specified for the **Node type (NODETYPE)** parameter.

A network node server is a network identifier (ID) qualified by a control point name.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> The current list of network node servers is cleared.

**Other values (up to 5 repetitions)**

**Element 1: Server network ID**

**\*LCLNETID**
> The value used is the current value of the **Local network ID (LCLNETID)** parameter at the time the node server is referred to.

*communications-name*
> Specify the local network ID that will become the network node server.

**Element 2: Control point name**

**\*ANY**   The first network node that offers services will become the network node server. Any network node with the same network ID as that specified for the **Local network ID (LCLNETID)** parameter can be a potential network node server.

*communications-name*
> Specify the control point name of the network node server.

# Alert status (ALRSTS)

Specifies whether local alerts are created. When alert status is active, alerts are created for all of the messages that have been defined as alertable and that report a permanent error with network lines, local devices or control units, or programming and operator errors.

**\*SAME**
The value does not change.

**\*ON**   Alerts are created by the system for all alert conditions, except unattended conditions.

**\*OFF**   Alerts are not created by the system.

**\*UNATTEND**
Alerts are created by the system for all alert conditions, including messages for which \*UNATTEND is specified for the **Alert options (ALROPT)** parameter of the Add Message Description (ADDMSGD) or Change Message Description (CHGMSGD) command.

# Alert logging status (ALRLOGSTS)

Specifies which alerts are logged.

**\*SAME**
Alert logging does not change.

**\*NONE**
No alerts are logged.

**\*LOCAL**
Only locally created alerts are logged.

**\*RCV**   Only alerts received from other nodes are logged.

**\*ALL**   Both locally created alerts and alerts received from other nodes are logged.

# Alert primary focal point (ALRPRIFP)

Specifies whether the system is an alert primary focal point. If the system is defined as a primary alert focal point, alerts are received from all network nodes explicitly defined in the sphere of control.

**\*SAME**
The alert primary focal point does not change.

**\*NO**   The system is not an alert primary focal point. This parameter cannot be changed from \*YES to \*NO if there is any node in the sphere of control that has a status of Active-in Sphere of Control or Add Pending-in Sphere of Control. Use the Display Sphere of Control Sts (DSPSOCSTS) command to see the status for all nodes in the sphere of control.

**\*YES**   The system is defined as an alert primary focal point and provides focal point services to all nodes in the network that are explicitly defined in the sphere of control. If a system is defined as a focal point, \*ALL or \*RCV should be specified for the **Alert logging status (ALRLOGSTS)** parameter to ensure that alerts coming in from nodes in the sphere of control are logged.

# Alert default focal point (ALRDFTFP)

Specifies whether the system is an alert default focal point. If the system is defined as a Default Focal Point, alerts are received from all nodes in the network which are not explicitly defined in the sphere of control of some other focal point node within the network.

**\*SAME**
> The alert default focal point does not change.

**\*NO**    The system is not an alert default focal point. This parameter cannot be changed from \*YES to \*NO if there are any nodes in the sphere of control that have a status of Active-in Sphere of Control or Add Pending-in Sphere of Control. Use the Display Sphere of Control Sts (DSPSOCSTS) command to see the status for all nodes in the sphere of control.

**\*YES**    The system is an alert default focal point, and provides focal point services to all nodes in the network which are not being serviced by an alert primary focal point or another alert default focal point. If a system is defined as a focal point, \*ALL or \*RCV should be specified for the **Alert logging status (ALRLOGSTS)** parameter to ensure that alerts coming in from nodes in the sphere of control are logged. If a system is defined as a focal point, the APPN node type must have the value \*NETNODE.

# Alert backup focal point (ALRBCKFP)

Specifies the name of the system that provides alert focal point services if the primary focal point is unavailable.

**Single values**

**\*SAME**
> This value does not change.

**\*NONE**
> The backup focal point is not defined.

**Element 1: Network ID**

**\*LCLNETID**
> The network ID of the backup focal point is same as that of the local system.

*communications-name*
> Specify the network ID of the system that provides backup focal point services for alerts.

**Element 2: Control point name**

*communications-name*
> Specify the control point name of the system that provides backup focal point services for alerts.

# Alert focal point to request (ALRRQSFP)

Specifies the name of the system that is requested to provide alert focal point services.

**Single values**

**\*SAME**
> This value does not change.

**\*NONE**
>A focal point is not requested and the current focal point is revoked.

**Element 1: Network ID**

**\*LCLNETID**
>The network ID of the requested focal point is same as that of the local system.

*communications-name*
>Specify the network ID of the system that is requested to provide focal point services for alerts.

**Element 2: Control point name**

*communications-name*
>Specify the control point name of the system that is requested to provide focal point services for alerts.

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## Alert controller description (ALRCTLD)

Specifies the name of the controller through which alerts are sent on the alert controller session. Only a type HOST or APPC controller can be specified. The controller must be varied on for alert processing to be operational on the alert controller session, although it does not need to be varied on when this command is used.

**\*SAME**
>The value does not change.

**\*NONE**
>There is no alert controller description. Specifying \*ON for the **Alert status (ALRSTS)** parameter and \*YES for the **Alert primary focal point (ALRPRIFP)** parameter with \*NONE for the controller description means that only local alerts are created and logged.

*name*  Specify the name of the controller that is used for alerts in an alert controller session. This controller is ignored if the system has a focal point (for example, if the node is in another system's sphere of control).

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## Alert hold count (ALRHLDCNT)

Specifies the maximum number of alerts that are created before the alerts are sent over the alert controller session (ALRCTLD network attribute). The alerts are held (queued) by the system until the specified number of alerts have been created. This parameter can be used to manage alerts that are sent over a limited resource by reducing the number of times alerts are sent.

**Note:** The ALRHLDCNT network attribute applies only when the ALRCTLD network attribute is used. When management services sessions, APPN, and sphere of control support are used, the ALRHLDCNT value is ignored.

**\*SAME**
>The hold alert count network attribute does not change.

**\*NOMAX**
>The alerts are held indefinitely. The current alert hold count is the maximum value. The alerts can be sent at a later time by changing the ALRHLDCNT value to a lower value.

*0-32767*

> Specify the maximum number of alerts that can be created before being sent. Alerts have a "held" status until the maximum is reached. If the value 0 is specified, alerts are sent as soon as they are created.

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## Alert filter (ALRFTR)

Specifies the qualified name of the alert filter used by the alert manager when processing alerts. The alert filter must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> An alert filter is not used.

**Qualifier 1: Alert filter**

*name*  Specify the name of the alert filter.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*  Specify the library where the alert filter is located.

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## Message queue (MSGQ)

Specifies the name and library of the message queue where messages received through the SNADS network are sent for users who have no message queue specified in their user profile, or whose message queue is not available. The message queue must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

**Single values**

**\*SAME**
> The message queue does not change.

**Qualifier 1: Message queue**

*name*  Specify the name of the message queue.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the library where the message queue is located.

**Note:** When *LIBL is used as the library name, the library list of the thread calling this command is searched to find a message queue with the object name specified. If the message queue is found, the name of the library in which it is found is used as the name stored. If the message queue is not found, an exception is signaled and no network attributes are changed. When the library name or *CURLIB is specified, this command attempts to find the message queue. If the message queue cannot be found in the library specified, a diagnostic message is sent. If all other parameters on the command were specified correctly, the MSGQ network attribute is changed to the qualified message queue name, whether or not this command is able to find the message queue in the library specified.

## Output queue (OUTQ)

Specifies the name and library of the output queue to which spooled files received through the SNADS network are sent for users whose output queue is not available.

**Single values**

**\*SAME**
The output queue does not change.

**Qualifier 1: Output queue**

*name* Specify the name and library of the output queue.

**Qualifier 2: Library**

**\*LIBL** All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the library where the output queue is located.

**Note:** When *LIBL is used as the library name, the library list of the thread calling this command is searched to find an output queue with the object name specified. If the output queue is found, the name of the library where it is found is used in the name stored. If the output queue is not found, an exception is signaled, and no network attributes are changed.

When the library name or *CURLIB is specified, this command attempts to find the output queue. If the output queue cannot be found in the specified library, a diagnostic message is sent. If all other parameters on the command were specified correctly, the OUTQ network attribute is changed to the output queue name, whether or not this command is able to find the output queue in the specified library.

## Network job action (JOBACN)

Specifies the action taken for input streams received through the SNADS network by the system.

**\*SAME**
The action taken for an input stream does not change.

**\*REJECT**

> The input stream is rejected by the system. This action allows you to secure your system from job streams received through the network.

**\*FILE**  The input stream is filed in the queue of network files received by the user to whom it was sent. That user can then view, end, or receive the input stream, or submit the input stream to a job queue.

**\*SEARCH**

> The table of network job entries is searched to determine the action taken for the input stream.

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## Maximum hop count (MAXHOP)

Specifies the maximum number of times in a SNADS network that a distribution queue entry originating at this node can be received and routed on the path to its final destination. If this number is exceeded, the distribution queue entry is ended, and a feedback status is sent back to the sender.

**\*SAME**

> The maximum number of times that a distribution queue entry can be received and routed does not change.

**1-255**  Specify the maximum number of times that a distribution queue entry can be received and routed before it is ended.

<div align="right">Top</div>

## DDM/DRDA request access (DDMACC)

Specifies how the system processes distributed data management (DDM) and Distributed Relational Database Architecture (DRDA) requests from remote systems for access to the data resources of the system. The DDM or DRDA connections refer to APPC conversations or active TCP/IP or OptiConnect connections. Changes to this parameter are immediate and apply to DRDA, DDM, or DB2 Multisystem applications. However, jobs that are currently running on the system do not use the new value. The DDMACC value is accessed only when a job is first started.

If a program name is specified, the program must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

**Single values**

**\*SAME**

> The method for processing DDM requests from remote systems does not change.

**\*REJECT**

> This system does not allow DDM and DRDA requests from remote systems. However, this system can still use DDM or DRDA to access files or SQL tables on remote systems. Source (client) systems cannnot access files or SQL tables on any other system that specifies \*REJECT.

**\*OBJAUT**

> If the user profile associated with the DDM or DRDA job is authorized to the files, all file or remote SQL requests are accepted. Object authorities such as read, write, or update must also exist for the files.

**Qualifier 1: DDM/DRDA request access**

*name*  Specify the name of the validation program.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**
> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*   Specify the library where the validation program is located.

**Note:** When \*LIBL is used as the library name, the library list of the thread calling the command is searched to find the program. If the program is found, the library containing it is used in the stored name. If the program is not found, an exception is signaled, and no network attributes are changed.

When the library name or \*CURLIB is specified, the command attempts to find the program. If the program is found, the DDMACC network attribute changes to the qualified program if all other parameters on the command were specified correctly. If the program cannot be found, a diagnostic message is sent.

The program name identifies a customer validation program that can supplement system object level security. The user security exit program parameter list is also used by personal computer Support/38 applications. The user-exit program can restrict user access to public (\*PUBLIC) and privately authorized files. The target distributed data manager support calls the user program each time a file is referred to. The user exit program indicates to DDM whether the request should proceed or end.

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## Client request access (PCSACC)

Specifies how IBM System i Access for Windows requests are handled. You must specify a special value or program name which dictates how the requests are to be handled. This permits greater control over IBM System i Access for Windows applications. Changes to this parameter are immediate. However, jobs that are currently running on the system do not use the new value. The PCSACC value is accessed only when a job is first started.

If a program name is specified, the program must exist in the system auxiliary storage pool (ASP) or in a basic user ASP.

**Single values**

**\*SAME**
> This value does not change.

**\*REJECT**
> The system rejects all requests from the client.

**\*OBJAUT**
> Normal object authorizations are checked for this client request (for example, authorization to retrieve data from a database file for a transfer facility request).

**\*REGFAC**
> The system uses the system's registration facility to determine which exit program (if any) to run. If no exit program is defined for an exit point and this value is specified, \*OBJAUT is used.

**Qualifier 1: Client request access**

*name*   Specify the name of the program.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the thread's library list are searched until a match is found.

**\*CURLIB**

> The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name*   Specify the library where the program is located.

Note: When \*LIBL is used as the library name, the library list of the thread calling the command is searched to find the program. If the program is found, the library containing it is used in the stored name. If the program is not found, an exception is signaled, and no network attributes are changed.

When the library name or \*CURLIB is specified, the command attempts to find the program. If the program is found, the PCSACC network attribute changes to the qualified program name if all other parameters on the command were specified correctly. If the program is not found, a diagnostic message is sent.

The program name is the name of the customer-supplied IBM System i Access for Windows host system application exit program that can supplement system object level security. This user-exit program can restrict requests handled from the client. Each personal computer support application calls the exit program for requests from the client. Two parameters are passed to the user-exit program: the first describes the client request (which application and what kind of request). The second is used by the exit program to indicate to the client support application whether this client request must be handled.

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## Default ISDN network type (DFTNETTYPE)

Specifies the system default value for the Integrated Services Digital Network (ISDN) network type. The operating system no longer uses this network attribute. Changes made to this network attribute have no effect.

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## Default ISDN connection list (DFTCNNLST)

Specifies the system default value for the Integrated Services Digital Network (ISDN) connection list. The operating system no longer uses this network attribute. Changes made to this network attribute have no effect.

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## Allow AnyNet support (ALWANYNET)

Specifies the network attribute that allows the Communications APIs to use other communication transports that are not native for the API. Examples include ICF over TCP/IP or Sockets over SNA.

**\*SAME**

> The value does not change.

**\*NO**   SNA transport is not used.

**\*YES**   SNA transport is used.

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# Network server domain (NWSDOMAIN)

Specifies the LAN Server domain to which all Integrated PC Servers, also known as File Server Input/Output Processors (FSIOP) on the system belong.

**\*SAME**
> The value does not change.

**\*SYSNAME**
> The current system name is used.

*character-value*
> Specify a 1 to 8 character system name.

# Allow APPN virtual support (ALWVRTAPPN)

Specifies the network attribute that allows APPN sessions and devices to use virtual controllers.

**Note:** The setting of this parameter has nothing to do with sessions using HPR transport tower support—only APPN (non-HPR) session traffic is affected by this parameter setting; if sessions are using HPR transport tower support they will use virtual controllers, regardless of the setting of this network attribute.

**\*SAME**
> The value does not change. Allowing APPN sessions and devices to use virtual controllers is shipped with a value of \*NO.

**\*NO**    Virtual APPN controllers are not used.

**\*YES**    Virtual APPN controllers are used.

# Allow HPR transport tower (ALWHPRTWR)

Specifies the network attribute that allows the use of HPR transport tower support for APPN session traffic.

**\*SAME**
> The value does not change. The use of HPR transport tower support for APPN session traffic is shipped with a value of \*NO.

**\*NO**    HPR transport tower is not used.

**\*YES**    HPR transport tower is used.

# Virtual ctl autocreate dev (VRTAUTODEV)

Specifies the upper limit for number of automatically created APPC devices on virtual controllers.

**\*SAME**
> The value does not change. The limit for the number of automatically created APPC devices on virtual controllers is shipped with a value of 100.

*1-254*    Specify the limit for the number of automatically created APPC devices on virtual controllers. If the number of devices attached to a virtual controller is equal or greater than the specified value,

no additional APPC devices will be automatically created for that virtual controller. Additional devices beyond this limit may still be created manually.

# HPR path switch timers (HPRPTHTMR)

Specifies the amount of time, in minutes, to allow for a path switch attempt of an RTP connection. Four positional values can be specified to control the time allowed based on the type of session traffic:

* Network Priority Traffic
* High Priority Traffic
* Medium Priority Traffic
* Low Priority Traffic

**Element 1: Network priority**

**\*SAME**
> The value does not change. The amount of time to allow for a path switch attempt of an RTP connection that has network transmission priority is shipped with a value of 1 minute.

**\*NONE**
> No path switch is allowed.

*1-10000*
> Specify the amount of time in minutes to allow for a path switch attempt of an RTP connection that has network transmission priority.

**Element 2: High priority**

**\*SAME**
> The value does not change. The amount of time to allow for a path switch attempt of an RTP connection that has high transmission priority is shipped with a value of 2 minutes.

**\*NONE**
> No path switch is allowed.

*1-10000*
> Specify the amount of time in minutes to allow for a path switch attempt of an RTP connection that has high transmission priority.

**Element 3: Medium priority**

**\*SAME**
> The value does not change. The amount of time to allow for a path switch attempt of an RTP connection that has medium transmission priority is shipped with a value of 4 minutes.

**\*NONE**
> No path switch is allowed.

*1-10000*
> Specify the amount of time in minutes to allow for a path switch attempt of an RTP connection that has medium transmission priority.

**Element 4: Low priority**

**\*SAME**
> The value does not change. The amount of time to allow for a path switch attempt of an RTP connection that has low transmission priority is shipped with a value of 8 minutes.

**\*NONE**
> No path switch is allowed.

*1-10000*
> Specify the amount of time in minutes to allow for a path switch attempt of an RTP connection that has low transmission priority.

## Allow add to cluster (ALWADDCLU)

Specifies whether this system will allow another system to add it as a node in a cluster.

**\*SAME**
> The value does not change. The system is shipped with a value of \*NONE.

**\*NONE**
> No other system can add this system as a node in a cluster.

**\*ANY**  Any other system can add this system as a node in a cluster.

**\*RQSAUT**
> Any other system can add this system as a node in a cluster only after the cluster add request has been authenticated.

## Modem country or region ID (MDMCNTRYID)

Specifies the country or region identifier associated with a modem. The list of valid modem country or region identifiers will be displayed when F4 is pressed while prompting for this parameter.

MDMCNTRYID defines the country-specific or region-specific default characteristics for modems which are internal to system I/O adapters. This value must be configured correctly to insure proper operation and, in some countries or regions, meet legal requirements. The adapter will fail the vary on of the line if modem country or region ID is not set.

**\*SAME**
> The value does not change. The system is shipped with blanks.

*character-value*
> Specify the country or region identifier to be used by a modem.

## Examples

**Example 1: Changing the Pending System Name**
```
CHGNETA   SYSNAME(SYSTEST)  ALRSTS(*ON)
          ALRPRIFP(*YES)  ALRLOGSTS(*LOCAL)
```

This command changes the pending system name. The current system name is changed at the next IPL. Local alerts are generated and logged and the system is a primary focal point.

**Example 2: Changing the Node Servers**

```
CHGNETA   LCLCPNAME(CPNAME)  LCLNETID(NETNAME)
          NETSERVER((*LCLNETID  BOSTON)
                    (MINN ROCHEST) (MAINE BANGOR))
```

This command changes the name of the local control point, the network ID, and the list of network node servers. The servers are used only if the node type is *ENDNODE or *BEXNODE.

### Example 3: Clearing the List of Node Servers

```
CHGNETA   NETSERVER(*NONE)  DDMACC(DDMLIB/DDMPGM)
```

This command clears the list of network node servers and sets the name of the DDM access program.

### Example 4: Implementing the APPN Virtual Object Model

```
CHGNETA   ALWVRTAPPN(*YES)
```

This command causes any future APPN devices and sessions to use virtual controllers.

### Example 5: Allowing HPR Transport Tower for APPN Sessions

```
CHGNETA   ALWHPRTWR(*YES)  HPRPTHTMR(1 2 4 8)
```

This command enables APPN session traffic to use HPR transport tower support when possible. It also resets the HPR path switch timers to the default values.

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# Error messages

**\*ESCAPE Messages**

**CPFE018**
> Subsystem QSYSWRK not active or being ended.

**CPFE033**
> IP over IPX not activated.

**CPFE034**
> IP over IPX activated; however errors occurred.

**CPFE035**
> IP over IPX deactivated; however errors occurred.

**CPF1001**
> Wait time expired for system response.

**CPF1007**
> Character is not valid for value &1.

**CPF1066**
> Network attributes not changed.

**CPF1097**

No authority to change certain network attributes.

**CPF1844**

Cannot access network attribute &1.

**CPF9801**

Object &2 in library &3 not found.

**CPF9807**

One or more libraries in library list deleted.

**CPF9808**

Cannot allocate one or more libraries on library list.

**CPF9899**

Error occurred during processing of command.

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# Change Network Job Entry (CHGNETJOBE)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Network Job Entry (CHGNETJOBE) command changes an existing network job entry in the system. The network job entry is used to determine the action taken when an input stream is sent to a user using the Submit Network Job (SBMNETJOB) command.

This entry determines whether the input stream is automatically submitted, placed on the queue of network files for a user, or rejected. The entry also specifies the user profile that is used for checking the authority to the job description referred to in the input stream. There should be one entry for each user or distribution group who submit jobs to the system. There is a network attribute, JOBACN (Job Action), that provides overall control of network job submission; its value must be *SEARCH before the network job table is searched for an action. If the network attribute is *REJECT, all incoming jobs are rejected. If the network attribute is *FILE, all incoming network jobs are saved in the user's queue of network files regardless of the network job entry.

Each network job entry is identified by the two-part user ID of the sender. When an input stream arrives, the user ID of the sending user is used to find a network job entry. If no entry is found, the second part of the user ID is used to find an entry, using *ANY for the first part. If this search fails, a search is made using *ANY for both parts of the user ID. If no entry is found, the job is rejected.

**Restrictions:**

1. This command is shipped with public *EXCLUDE authority.
2. The internal value for a node identifier may differ from the characters shown by the CHGNETJOBE command depending on the type of work station (language) you are using. If the byte-string value specified for the FROMUSRID parameter does not match the rules for an internal node identifier value, or if it does not match the internal value for any defined node (ignoring case differences), an error may be reported.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **FROMUSRID** | User ID | *Element list* | Required, Key, Positional 1 |
| | Element 1: User ID | *Character value* | |
| | Element 2: User ID qualifier | *Character value* | |
| **ACTION** | Network job action | **\*SAME**, *FILE, *REJECT, *SUBMIT | Optional, Positional 2 |
| **SBMUSER** | User profile | *Name*, **\*SAME** | Optional, Positional 3 |
| **MSGQ** | Message queue | Single values: **\*SAME**, *USRPRF, *NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Message queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |

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| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| JOBQ | Job queue | Single values: **\*SAME**<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Job queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |

## User ID (FROMUSRID)

Specifies the two-part user ID of the user who submits an input stream to this system. Any input streams received from the user are handled as specified in this network job entry. Both parts of the user ID are required. A special value of \*ANY can be entered for the first part or for both parts of the user ID.

**Note:** Depending on the type of work station you are using, the internal value for a user identifier may differ from the characters shown by the Work with Network Job Entry (WRKNETJOBE) command. If the byte-string value specified for the FROMUSRID parameter does not match the rules for an internal user identifier value, or if it does not match the internal value for any enrolled user, an error may be reported.

This is a required parameter.

## Network job action (ACTION)

Specifies the action that is taken for a job controlled by this entry.

**\*SAME**
> The option in the job entry remains the same.

**\*REJECT**
> The input stream is rejected.

**\*FILE** The input stream is placed on the queue of network files received for the user to whom the input stream is sent.

**\*SUBMIT**
> The input stream is submitted to a batch job queue. The user profile specified in the network job entry is used to check for the required authority to the job queues.

## User profile (SBMUSER)

Specifies the user profile name under which the jobs are submitted. This user profile is used to check the authority to the job queues and job descriptions specified in the input stream. The value specified for this parameter is effective if ACTION(\*SUBMIT) is specified either on this command or on the Add Network Job Entry (ADDNETJOBE) command.

**\*SAME**
> The user profile that submits the jobs in the job entry does not change.

*user-profile*
> Specify the name of the user profile that is used to submit the jobs.

# Message queue (MSGQ)

Specifies the name and library of the message queue to which messages are sent after an input stream arrives. A message is also sent to the history log (QHST) when an input stream is received.

**\*SAME**
> The message queue in the job entry does not change.

**\*USRPRF**
> The message queue of the user profile to whom the job was sent is used.

**\*NONE**
> No message is sent to a user; however, a message is sent to the history log.

*message-queue-name*
> Specify the name of the message queue that is used to receive messages.

The possible library values are:

**\*LIBL**  The library list is used to locate the message queue.

**\*CURLIB**
> The current library for the job is used to locate the message queue. If no library is specified as the current library for the job, QGPL is used.

*library-name*
> Specify the library where the message queue is located.

# Job queue (JOBQ)

Specifies the name and library of the job queue on which the job entries are placed. A job is placed on this queue for each job in the input stream that specified \*RDR on the **Job queue** prompt (JOBQ parameter) of the BCHJOB command. If \*RDR is not specified on the BCHJOB command, the job queue specified on the BCHJOB command or in the job description is used. (The job queue for each job in the input stream can be different.) This parameter is valid only if ACTION(\*SUBMIT) is specified on this command, in the existing network job entry, or in a subsequent Change Network Job Entry (CHGNETJOBE) command.

**\*SAME**
> The job queue in the job entry does not change.

*job-queue-name*
> Specify the name of the job queue that is used.

The possible library values are:

**\*LIBL**  The library list is used to locate the job queue.

**\*CURLIB**
> The current library for the job is used to locate the job queue. If no library is specified as the current library for the job, QGPL is used.

*library-name*
> Specify the library where the job queue is located.

## Examples

```
CHGNETJOBE   FROMUSRID(JOHN SMITH)  SBMUSER(ANDERSON)
```

This command changes the network job entry that is used to determine the action taken for any input stream received from user JOHN SMITH. The option and the message queue in the existing entry are not changed. The user profile that is used to check the authority to the job queues and job descriptions specified in the input stream is changed to ANDERSON.

## Error messages

*ESCAPE Messages

**CPF8050**

Network job table could not be accessed.

**CPF8051**

*ANY not correct for second part of user ID.

**CPF8053**

Network job entry &1 &2 not changed.

**CPF9040**

Wrong characters used in User ID or address, or List identifier &1 &2.

# Change NFS Export (CHGNFSEXP)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Network File System Export (CHGNFSEXP) command adds directory names to (exports) or removes directory names from (unexports) the list of directory trees that are currently exported to Network File System (NFS) clients. The flags in the OPTIONS list indicate what actions the CHGNFSEXP command should perform.

A list of directories and options for exporting the directory and its contents is stored in the */etc/exports* file. The CHGNFSEXP command allows the user to export all of the directory trees specified in the */etc/exports* file using the -A flag, or to export a single directory tree by specifying the directory name. When the directory tree to be exported exists in the */etc/exports* file, the user can export it with the options specified there, or one can use the -I flag to override the options, specifying the new options on the CHGNFSEXP command.

The user can also export a directory tree not previously defined in the */etc/exports* file by providing the options for it on the CHGNFSEXP command. The user can unexport directory trees by using the -U flag on the CHGNFSEXP command.

The forced unexport will be available only if the user specifies the -U flag and wants to release all NFS version 4 locks and state held by the NFS server on the exported file system. This option should only be used if the state cannot be removed through normal methods.

The user can also add, change, or remove export entries in the */etc/exports* file by using the -F flag.

This command can also be issued using the following alternative command name:

- EXPORTFS

For more information about Network File System commands, see the i5/OS Network File System Support book, SC41-5714.

**Restrictions:**
- The user must have input/output (I/O) system configuration (*IOSYSCFG) special authority to use this command.
- The user must have execute (*X) authority to each directory in the path name prefixes.
- When the -F flag is specified and the */etc/exports* file does not exist, the user must have write and execute (*WX) authority to the */etc* directory.
- When the -F flag is specified and the */etc/exports* file does exist, the user must have read and write (*RW) authority to the */etc/exports* file and *X authority to the */etc* directory.
- Mixed CCSID encoding schemes are not supported. Specified CCSIDs must be single-byte character set (SBCS) or pure double-byte character set (DBCS).

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| OPTIONS | NFS export options | *Character value*, **\*DFT** | Optional, Positional 1 |
| DIR | Directory | *Path name* | Optional, Positional 2 |
| HOSTOPT | Host options | Single values: **\*DFT**<br>Other values (up to 10 repetitions): *Element list* | Optional |
| | Element 1: Host name | *Character value* | |
| | Element 2: Data file CCSID | 1-65533, **\*BINARY**, \*ASCII, \*JOBCCSID | |
| | Element 3: Path name CCSID | 1-65533, **\*ASCII**, \*JOBCCSID | |
| | Element 4: Force synchronous write | **\*SYNC**, \*ASYNC | |

## NFS export options (OPTIONS)

The export options list contains some flags followed optionally by a list containing a character string of characteristics for the directory tree to be exported.

Each flag consists of a minus "-" followed by a character. The flags are separated by spaces. Only certain combinations of flags are allowed. If an invalid combination is detected, an error is returned.

**Note:** A value (other than *NONE) must be specified for either the OPTIONS or **Directory (DIR)** parameter. Both OPTIONS and DIR can be specified so long as '-A' is not part of the options list specified for the OPTIONS parameter.

**\*DFT**  The default value for the options string is:

'-A'

*options-flags*

**-A**  This is the "all" flag and it indicates that all entries in the */etc/exports* file are to be processed. The following flag combinations have special significance:

**-A and not -U**
This will export every entry in the */etc/exports* file (making them available to NFS clients).

**-A and -U**
This will unexport every entry that is currently exported (making them unavailable to NFS clients). This makes no reference to the contents of the */etc/exports* file.

**-A and the DIR parameter**
This combination is not allowed.

**-A and (-I or -F or -O)**
These combinations are not allowed.

**-I**  This is the "ignore" flag and it indicates, for the directory tree specified in the DIR parameter, how the export characteristics are determined. The following flag combinations have special significance:

**-I and -O**

The export characteristics specified on the -O flag are used, and the definitions listed in the */etc/exports*, if they exist, are ignored.

**not -I and not -O**

Either the export characteristics listed for the entry in the */etc/exports* file are used, or, if there are no options in that file, the default options are assumed. See the -O flag description for the list of default options.

**-I and (-A or -U)**

These combinations are not allowed.

**-U** This is the "unexport" flag and it indicates that the specified directory tree entered in the DIR parameter is to be unexported (made unavailable to NFS clients). The following flag combinations have special significance:

**FORCE**

Specifies a forced unexport of the entry referenced in the DIR parameter; this option will only be available if the -U flag has been specified. The FORCE option will release all NFS version 4 locks and state for the exported path. This option should only be used when the locks and state for the exported path cannot be released though normal methods.

**-U and -A**

This will unexport every entry that is currently exported (making them unavailable to NFS clients). This makes no reference to the contents of the */etc/exports* file.

**-U and -F**

The entry referenced in the DIR parameter is removed from the */etc/exports* file (if it exists) in addition to being unexported (making it unavailable to NFS clients).

**-U and (-I or -O)**

These combinations are not allowed.

**-F** This is the "file" flag and it requires the DIR parameter. The following flag combinations have special significance:

**-F and -U**

The entry referenced in the DIR parameter is removed from the */etc/exports* file (if it exists) in addition to being unexported (making it unavailable to NFS clients).

**-F and not -U and not -O**

The specified directory tree entered in the DIR parameter is to be exported (made available to NFS clients). In addition, an entry for this directory tree entered in the DIR parameter will be added to the */etc/exports* file. If the entry already exists in the file, it will be replaced with this new export entry. If the file does not exist, it will be created and the export entry will be added to it. Note that the "ignore" flag -I is implied when the "file" flag -F is specified without the "unexport" flag -U. Since the "options" flag -O is not specified, the default options are assumed. See the -O flag description for the list of default options.

**-F and not -U and -O**

The specified directory tree entered in the DIR parameter is to be exported (made available to NFS clients). In addition, an entry for this directory tree entered in the DIR parameter will be added to the */etc/exports* file. If the entry already exists in the file, it will be replaced with this new export entry. If the file does not exist, it will be created and the export entry will be added to it. Note that the "ignore"

flag -I is implied when the "file" flag -F is specified without the "unexport" flag -U. All export characteristic options provided with the "options" flag -O are stored in the */etc/exports* file as given on the command.

**-F and -A**
This combination is not allowed.

**Note:** Successful use of the -F flag will cause the contents of the */etc/exports* file to be replaced completely such that it reflects the changes, additions, or deletions caused by the -F flag. Any unrelated existing entries are copied, however ALL comments in the */etc/exports* file will be lost as a result of using the -F flag.

**-E** This is the "escape message" flag and it indicates that an escape message should be issued if the command fails for any of the exports attempted.

**-O** This flag specifies the export characteristics for the directory tree that is to be exported (made available to NFS clients). The options list following the -O flag list consists of options separated by commas. Some options are followed by an equal '=' and a value (or list of values separated by colons ':'). The options list may contain spaces. If an option is not specified, the default value for that option will be used. The -O flag is only valid when either the "ignore" flag -I or the "file" flag -F is specified.

If options are required and the -O flag is not specified, the following are the default options.
- 'RW=' All host names have read-write access to the directory tree.
- ANON=UID associated with the profile *QNFSANON*.
- Requests to bits in the mode other than the permission bits are allowed.
- 'ROOT=' Root access is not allowed for any hosts.
- 'ACCESS=' All clients are allowed to mount the directory.
- 'SEC=SYS' Security is UNIX-like (not recommended for NFS version 4).
- 'VERS=3:2' NFS version 3 and NFS version 2 are the versions allowed to connect.

The following are the available options and their descriptions.

**RO** Specifies the protection for the exported directory tree. If RO is specified, the directory tree is exported allowing only read-only access to the directory and its contents. If it is not specified, read-write access is allowed to the directory and its contents.

**RW=[HOSTNAME[:HOSTNAME]](...)**
Specifies the host name or host names which will be allowed read-write access to the exported directory and its contents. For host names not specified, the directory and its contents will be exported allowing only read-only access.

If neither RO or RW is specified, then 'RW=' is assumed, and all host names have read-write access to the exported directory.

**ANON=UID**
If a request comes in from an unknown user, use this UID as the effective userid. Note that root users are considered unknown, unless specified on the ROOT option below. The default value for this option is the UID associated with the user profile *QNFSANON*.

If the user does not want to allow any requests from unknown users, use 'ANON=-1'.

**NOSUID**

Specifies that any attempt by the client to enable bits other than the permission bits will be ignored. If this option is not specified, attempt to set bits other than the permission bits will be carried out.

**ROOT=[HOSTNAME[:HOSTNAME]](...)**

Specifies the host name or host names for which root access is allowed to the exported directory tree. If root access is allowed for a host, an incoming UID of 0 is mapped to the user profile QSECOFR, and incoming requests from users with all object (*ALLOBJ) special authority are allowed. If root access is not allowed for a host, an incoming UID of 0 and incoming requests from users with *ALLOBJ special authority are mapped to the UID provided in the ANON option. If the ROOT option is not specified, no hosts will be granted root access.

**ACCESS=[CLIENT[:CLIENT]](...)**

Specifies the client or clients that are allowed to mount the exported directory tree. A client can be a host name or a netgroup. If no clients are specified, all clients will be allowed to mount the directory tree.

**SEC=[SEC[:SEC]](...)**

Specifies which security flavors are supported for this particular export entry. Available flavors are:

**sys**    UNIX-like (user ids, group ids).

**krb5**   Kerberos 5, no integrity or privacy. Only valid when NFS version 4 specified.

**krb5i**  Kerberos 5, with integrity. Only valid when NFS version 4 specified.

**krb5p**  Kerberos 5, with privacy. Only valid when NFS version 4 specified.

**VERS=[VERS[:VERS]](...)**

Specifies which NFS versions are allowed to mount this export entry. Available versions are 2:3:4. If no version is specified then 3:2 are the default values for this parameter.

**EXNAME=[EXPORTED_NAME]**

Specifies the name that should be displayed in the client's file system. The export name must be an absolute path name, beginning at the "root" (/). Only valid when NFS version 4 specified.

**PUBLIC**

Specifies that the exported directory is to be the public directory. This must be a subdirectory of the NFSROOT path. The default option is not public. Only valid when NFS version 4 specified.

**NFSROOT**

NFS version 4 root: Version 4 clients that mount "/" will see the specified directory (on DIR parmameter) as the server's root. The default root of the NFS version 4 exported file tree is the system root "/". This option can only be used when no other directories are exported. If the NFSROOT path is changed, all future exports must be subdirectories of the new root path. Only valid when NFS version 4 specified.

# Directory (DIR)

Specifies the absolute path name of the existing directory to be exported (made available to NFS clients) or unexported (made unavailable to NFS clients). This directory can not be a subdirectory or a parent of an already exported directory (unless it is in a different file system). This parameter is not allowed when the -A flag is specified on the **NFS export options (OPTIONS)** parameter. This parameter is required when the -F flag is specified on the OPTIONS parameter.

**Note:** A value (other than *NONE) must be specified for either the OPTIONS or DIR parameter. Both OPTIONS and DIR can be specified so long as '-A' is not part of the options list specified for the OPTIONS parameter.

# Host name (HOSTOPT)

The HOSTOPT parameter has four elements that specify additional information about the NFS clients that a directory tree is to be exported to. If the HOSTOPT parameter is not specified for a host name the user is exporting the directory tree to, the defaults for each of the elements of the HOSTOPT parameter are assumed for that host.

**\*DFT**  \*DFT specifies that the default values for the elements of the HOSTOPT parameter are used for all clients to which the directory tree or directory trees are to be exported. The network data file coded character set identifier (CCSID) is *BINARY, the network path name CCSID is *ASCII, and Force synchronous write is *SYNC.

**Element 1: Host name**

The name of the host for which additional options are to be specified. This host should be specified above in the OPTIONS -O list as a host that has access to the exported directory tree. Specify either a single host name that is an alias for an address of a single host or a netgroup name to be associated with these options.

The user can assign names to an internet address with the Work with TCP/IP host table entries option on the Configure TCP/IP menu (CFGTCP) command or via the System i Navigator. Also, a remote name server can be used to map remote system names to internet addresses.

**Element 2: Network data file coded character set identifier (CCSID)**

The network data file CCSID is used for data of the files sent and received from the specified HOST NAME (or netgroup name). For any hosts not specified on a HOSTOPT parameter, the default network data file CCSID (*BINARY) is used. The CCSID may be one of the following:

**\*BINARY**
The default network data file CCSID (binary, no conversion) is used.

**\*ASCII**
The ASCII equivalent of the default job CCSID associated with the current job is used.

**\*JOBCCSID**
The CCSID obtained from the default job CCSID is used.

*1-65533*
Specify a CCSID for data files.

**Element 3: Network path name coded character set identifier (CCSID)**

The network path name CCSID is used for the path name components of the files sent to and received from the specified HOST NAME (or netgroup name). For any hosts not specified on a HOSTOPT parameter, the default network path name CCSID (*ASCII) is used. The CCSID may be one of the following:

**\*ASCII**
> The ASCII equivalent of the default job CCSID associated with the current job is used.

**\*JOBCCSID**
> The CCSID obtained from the default job CCSID is used.

*1-65533*
> Specify a CCSID for path name components of files. Only code pages whose CCSIDs can be converted into UCS-2 level 1 (1200) are supported. See Globalization information in the iSeries Information Center at http://www.ibm.com/eserver/iseries/infocenter for a list of supported conversions.

> **Element 4: Write mode**

> Specifies whether write requests are handled synchronously or asynchronously for this HOST NAME (or netgroup name). The default value of \*SYNC means that data will be written to disk immediately. \*ASYNC does not guarantee that data is written to disk immediately, and can be used to improve server performance.

> **Note:** The Network File System (NFS) protocol has traditionally used synchronous writes.

**\*SYNC**
> Write requests are performed synchronously.

**\*ASYNC**
> Write requests are performed asynchronously.

# Examples

**Example 1: Exporting All Entries from /etc/exports**
```
CHGNFSEXP   OPTIONS('-A')
 -or-
CHGNFSEXP   '-A'
```

Both of these commands export all entries that exist in the **/etc/exports** file.

**Example 2: Exporting One Directory with Options**
```
CHGNFSEXP   '-I -O RO,ANON=guest1,ACCESS=Roch1:9.7.431.2'
            '/programs/public'  HOSTOPT((MIAMI1 850 850))
```

This command exports the directory tree under the path name **/programs/public** as read-only. It allows only two clients to mount this directory tree. It takes advantage of the positional parameters OPTIONS and DIR. It uses the HOSTOPT parameter to specify coded character set identifier (CCSID) for the host MIAMI1.

**Example 3: Exporting One Directory with Options and Updating the /etc/exports File.**
```
CHGNFSEXP   '-I -F -O RO,ANON=guest1,ACCESS=Roch1:9.7.431.2'
            '/programs/public'  HOSTOPT((MIAMI1 850 850))
```

This command exports the directory tree under the path name **/programs/public** as read-only. It allows only two clients to mount this directory tree. The OPTIONS parameter value is specified positionally. It uses the HOSTOPT parameter to specify data and path name coded character set identifiers (CCSIDs) of 850 for host name MIAMI1.

In addition, it also adds an export entry for **/programs/public**, along with the OPTIONS and HOSTOPT parameter values, to the **/etc/exports** file.

**Example 4: Exporting One Directory with NFS version 4 Options**

```
CHGNFSEXP   '-I -O RO,VERS=4,SEC=KRB5,ACCESS=9.7.431.2'
            '/programs/public'
```

This command exports the directory tree under the path name **/programs/public** as read-only. It allows only one client to mount this directory tree. It allows access only through NFS version 4 protocol and requires a minimum of Kerberos version 5 authentication.

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## Error messages

**\*ESCAPE Messages**

**CPFA089**
Pattern not allowed in path name.

**CPFA0CE**
Error occurred with path name parameter specified.

**CPFA1B8**
*IOSYSCFG authority required to use &1.

**CPFB41C**
&1 entries exported, &2 entries not exported.

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# Change Node Group Attributes (CHGNODGRPA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Node Group Attributes (CHGNODGRPA) command changes the data partitioning attributes for a node group. The node group contains a table with 1024 partitions. Each partition contains a node number. Node numbers were assigned when the node group was created and correspond to the relational databases specified on the RDB parameter of the CRTNODGRP (Create Node Group) command. You can use the DSPNODGRP (Display Node Group) command to see the valid node number values and correspondence between node numbers and relational database names.

This command does not affect existing distributed files that were created using the specified node group. Distributed files created after the node group is changed will use the changed partitioning attributes.

- You can create a database file as a distributed file by specifying values for the NODGRP and PTNKEY parameters on the CRTPF (Create Physical File) command.
- For an existing database physical file that is not a distributed file, you can make the file distributed by specifying values for the NODGRP and PTNKEY parameters on the CHGPF (Change Physical File) command.
- For an existing distributed database file, you can change the data partitioning attributes by specifying values for the NODGRP and PTNKEY parameters on the CHGPF (Change Physical File) command. This will cause the data to be redistributed according to the partitioning table in the node group.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **NODGRP** | Node group | *Qualified object name* | Required, Positional 1 |
| | Qualifier 1: Node group | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **PTNNBR** | Partition number | 0-1023 | Optional, Positional 2 |
| **CMPDTA** | Compare data | Values (up to 300 repetitions): *Character value* | Optional, Positional 3 |
| **NODNBR** | Node number | 1-32 | Optional, Positional 4 |

## Node group (NODGRP)

Specifies the node group whose attributes are to be changed.

This is a required parameter.

**Qualifier 1: Node group**

*name*    Specify the name of the node group being changed.

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**Qualifier 2: Library**

**\*LIBL**  All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
>   The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*name*  Specify the name of the library to be searched.

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## Partition number (PTNNBR)

Specifies a partition number to change.

*0-1023:*
>   Specify the partition number to be changed.

>   **Note:** Either PTNNBR or CMPDTA must be specified. PTNNBR should be used when you know which partition you want to change. You can use the %PARTITION built-in function on the OPNQRYF (Open Query File) command to obtain this information. Other useful built-in OPNQRYF functions for distributed files and data partitioning are %HASH, %NODENUMBER, and %NODENAME.

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## Compare data (CMPDTA)

Specifies a value that is used to determine the partition number to change. The specified value is used as input to a hashing algorithm that determines which partition to change.

*character-value*
>   Specify the data to be used to determine the partition to be changed. Multiple values can be entered to correspond to a partitioning key with multiple columns (fields). Character data should be entered without leading or trailing blanks. Numeric data should be entered using the character representation, without leading or trailing zeroes, and without decimal points or commas. For example, the number 3.5 should be entered as 35. Up to 300 values can be specified.

>   **Note:** Either PTNNBR or CMPDTA must be specified. CMPDTA should be used when you want to direct records (or rows) for a distributed file to a particular node whenever the partitioning key contains the specified value.

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## Node number (NODNBR)

Specifies the new node number to be associated with the partition being changed.

*1-32*  Specify a valid node number for the node group. You can use the Display Node Group (DSPNODGRP) command to view the valid node numbers for a node group.

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# Examples

**Example 1: Specify a Partition Number**

```
CHGNODGRPA   NODGRP(LIB1/GROUP1)   PTNNBR(1019)   NODNBR(2)
```

This command changes the partitioning attributes of the node group named GROUP1 in library LIB1. Partition 1019 is changed to refer to node number 2. Node number 2 corresponds to the second relational database specified when the node group was created (RDB parameter on the CRTNODGRP command).

**Example 2: Specify a Comparison Value**

```
CHGNODGRPA   NODGRP(GROUP2)   CMPDTA('CHICAGO')   NODNBR(3)
```

This command changes the partitioning attributes of the node group named GROUP2 (GROUP2 is found by using the library search list *LIBL). The value specified on the CMPDTA parameter is hashed, and the resulting partition number is changed from its existing node number to node number 3.

# Error messages

**\*ESCAPE Messages**

**CPF3166**
> Node group &1 in library &2 not found.

**CPF3167**
> Node group &1 in library &2 was not changed.

**CPF2189**
> Not authorized to object &1 in &2 type *&3.

**CPF9801**
> Object &2 in library &3 not found.

**CPF9810**
> Library &1 not found.

# Change NetBIOS Description (CHGNTBD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change NetBIOS Description (CHGNTBD) command changes a NetBIOS description object. More information about using this command is in the Communications Configuration book, SC41-5401.

**Note:** Changes to this object while using a configuration object, such as a network server description that is varied on, do not affect that object until it is varied off and back on.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| NTBD | NetBIOS description | *Name* | Required, Key, Positional 1 |
| FULLBUFDTG | Full buffer datagrams | **\*SAME**, *YES, *NO | Optional, Positional 2 |
| ADPWDWITV | Adaptive window interval | 0-65535, **\*SAME** | Optional |
| MAXWDWERR | Maximum window errors | 0-10, **\*SAME** | Optional |
| MAXRCVDATA | Maximum receive data size | 512-16384, **\*SAME** | Optional |
| INACTTMR | Inactivity timer | 1000-65535, **\*SAME** | Optional |
| RSPTMR | Response timer | 50-65535, **\*SAME** | Optional |
| ACKTMR | Acknowledgement timer | 50-65535, **\*SAME** | Optional |
| MAXIN | Maximum outstanding receives | 1-127, **\*SAME** | Optional |
| MAXOUT | Maximum outstanding transmits | 1-127, **\*SAME** | Optional |
| QRYTMR | Query timeout | 500-10000, **\*SAME** | Optional |
| NTBRTY | NetBIOS retry | 1-50, **\*SAME** | Optional |
| ALWMULTACK | Allow multiple acknowledgement | **\*SAME**, *YES, *NO | Optional |
| PREBLTPKT | Prebuilt message packets | 1-200, **\*SAME** | Optional |
| PKTRESTART | Packet confirms for restart | 0-9999, **\*SAME** | Optional |
| DLCRTY | DLC retries | 1-65535, **\*SAME** | Optional |
| ETHSTD | Ethernet standard | **\*SAME**, *IEEE8023, *ETHV2 | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

## NetBIOS description (NTBD)

Specifies the name of the NetBIOS description being changed.

This is a required parameter.

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## Full buffer datagrams (FULLBUFDTG)

Specifies whether to request the full transmit buffer size for datagrams.

**\*SAME**
> The value does not change.

**\*YES**  The full transmit buffer size is requested.

**\*NO**  The full transmit buffer size is not requested. The length of a datagram is equal to the transmit buffer size minus the size of the overhead, for a maximum of 512 bytes. Large messages are truncated.

> **Note:** The size of the overhead is the sum of the sizes of the NetBIOS header (44 bytes), the LAN header (a maximum of 36 bytes), and the buffer hold overhead (a maximum of 6 bytes).

## Adaptive window interval (ADPWDWITV)

Specifies the time, in milliseconds, between runs of the adaptive window algorithm. For each link, this algorithm is used to change the values on the MAXIN and MAXOUT parameters to match the values set on the remote workstation using NetBIOS protocol. The algorithm considers the conditions of the link, including adapter receive buffers and transmission load, when changing the values.

**\*SAME**
> The value does not change.

*adaptive-window-interval*
> Specify the time between algorithm runs, in milliseconds. Valid values range from 0 through 65535.

> **Note:** The value 0 disables the algorithm.

## Maximum window errors (MAXWDWERR)

Specifies the number of dropped packets the adaptive window algorithm allows before decreasing the value on the MAXOUT parameter.

**\*SAME**
> The value does not change.

*window-errors*
> Specify the number of window errors allowed. Valid values range from 0 through 10.

## Maximum receive data size (MAXRCVDATA)

Specifies the maximum data size in any frame that can be received in a session. The partner in the transmission limits the size to the smaller of this specified size, or the size available in the partner's transmit buffer. NetBIOS takes into account the maximum size that is forwarded by bridges in the path.

**\*SAME**
> The value does not change.

*maximum-receive-data-size*
> Specify the maximum data size that can be received, in bytes. Valid values range from 512 through 16384.

# Inactivity timer (INACTTMR)

Specifies the amount of time that a link can be inactive before the NetBIOS protocol driver checks to verify that the link is operational.

**\*SAME**
> The value does not change.

*inactivity-timer*
> Specify the amount of time to wait for activity, in milliseconds. Valid values range from 1000 through 65535.

# Response timer (RSPTMR)

Specifies the amount of time to wait before again transmitting a link-level frame when no acknowledgement is received from the previous transmission.

**\*SAME**
> The value does not change.

*response-timer*
> Specify the amount of time to wait, in milliseconds. Valid values range from 50 through 65535.

# Acknowledgement timer (ACKTMR)

Specifies the amount of time the NetBIOS protocol driver delays acknowledging a received frame, when the number of frames sent is less than the maximum specified on the MAXIN parameter.

**\*SAME**
> The value does not change.

*acknowledgement-timer*
> Specify the amount of time to delay, in milliseconds. Valid values range from 50 through 65535.

# Maximum outstanding receives (MAXIN)

Specifies the maximum number of NetBIOS messages packets that can be received before sending an acknowledgement.

**\*SAME**
> The value does not change.

*maximum-receives*
>   Specify the number of packets to receive. Valid values range from 1 through 127.

## Maximum outstanding transmits (MAXOUT)

Specifies the maximum number of NetBIOS messages packets that can be sent before expecting an acknowledgement.

**Note:** This parameter is used only when ADPWDWITV(0) is specified.

**\*SAME**
>   The value does not change.

*maximum-transmits*
>   Specify the number of packets to send. Valid values range from 1 through 127.

## Query timeout (QRYTMR)

Specifies the time, in milliseconds, to wait between transmission retry attempts.

**\*SAME**
>   The value does not change.

*query-timer*
>   Specify a value in the range of 500 through 10000 milliseconds.

## NetBIOS retry (NTBRTY)

Specifies the number of transmission retries that are attempted at the NetBIOS level before assuming that the receiving party is not present.

**\*SAME**
>   The value does not change.

*NetBIOS-retry*
>   Specify a value in the range of 1 through 50 attempts.

## Allow multiple acknowledgement (ALWMULTACK)

Specifies whether acknowledgements for received data can be combined with requests for data.

**Note:** When the NetBIOS protocol driver sends and receives acknowledgements with incoming data, LAN performance is improved.

**\*SAME**
>   The value does not change.

**\*YES**   The acknowledgements can be combined with data requests.

**Note:** Both parties to the transmission must support combining acknowledgements with data requests or this value is ignored.

**\*NO**     The acknowledgements cannot be combined with data requests.

## Prebuilt message packets (PREBLTPKT)

Specifies the number of NetBIOS message packets that are prebuilt for each session.

**\*SAME**
        The value does not change.

*prebuilt-packets*
        Specify a value in the range of 1 through 200 message packets.

## Packet confirms for restart (PKTRESTART)

Specifies the number of transmission confirmations that must be received before sending additional packets when an out-of-resource condition occurs. The NetBIOS protocol driver stops sending packets when an out-of-resource condition is received from a port.

**\*SAME**
        The value does not change.

*packet-restart*
        Specify a value in the range of 0 through 9999 confirmations.

## DLC retries (DLCRTY)

Specifies the number of additional transmission attempts that will be made before assuming that the receiving data link control (DLC) layer is not responding.

**\*SAME**
        The value does not change.

*DLC-retries*
        Specify a value in the range of 1 through 65535 attempts.

## Ethernet standard (ETHSTD)

Specifies the Ethernet standard frame type that is used for NetBIOS communication.

**\*SAME**
        The value does not change.

**\*IEEE8023**
        IEEE 802.3 frames are used.

**\*ETHV2**
        Ethernet Version 2 frames are used.

## Text 'description' (TEXT)

Specifies the text that briefly describes the NetBIOS description.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

**'description'**
> Specify no more than 50 characters of text, enclosed in apostrophes.

## Examples

```
CHGNTBD   NTBD(MYNETBIOS)   ACKTMR(3000)
```

This command changes a NetBIOS description named MYNETBIOS to delay acknowledging a received frame for 3000 milliseconds (3 seconds) when the number of received packets is less than the value specified on the MAXIN parameter.

## Error messages

**\*ESCAPE Messages**

**CPF27A2**
> NetBIOS description &1 not changed.

# Change SNTP Attributes (CHGNTPA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Network Time Protocol Attributes (CHGNTPA) command is used to change configurable Simple Network Time Protocol (SNTP) service attributes. The changes take effect the next time the SNTP service is started either by the Start TCP/IP(STRTCP) command or by the Start TCP/IP Server (STRTCPSVR) command.

Most of the SNTP attributes have an initial value. The following figure shows the initial values, as shipped by IBM, for the command keyword parameters:

*Table 1.* **Figure: Shipped initial values for SNTP attributes**

```
    AUTOSTART      *NO
    POLLITV        60 minutes
    MINADJ         20 milliseconds
    MAXADJ         20 minutes
    ADJTHLD        *MAXADJ
    ACTLOG         *NONE
    SVRAUTOSTR     *NO
    SVRACTLOG      *NONE
    SYNCRQD        *NO
```

**Restrictions:**

- You must have input/output system configuration (*IOSYSCFG) special authority to run this command.

# Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **RMTSYS** | Remote system | Single values: **<u>*SAME</u>**, *NONE<br>Other values (up to 3 repetitions): *Character value* | Optional |
| **AUTOSTART** | Client autostart | **<u>*SAME</u>**, *NO, *YES | Optional |
| **POLLITV** | Client poll interval | 1-1440, **<u>*SAME</u>** | Optional |
| **MINADJ** | Client minimum adjustment | 0-300000, **<u>*SAME</u>**, *NONE | Optional |
| **MAXADJ** | Client maximum adjustment | 1-120, **<u>*SAME</u>** | Optional |
| **ADJTHLD** | Client adjustment threshold | 1-7200, **<u>*SAME</u>**, *MAXADJ | Optional |
| **ACTLOG** | Client activity log | **<u>*SAME</u>**, *NONE, *CHANGE, *POLL | Optional |
| **SVRAUTOSTR** | Server autostart | **<u>*SAME</u>**, *NO, *YES | Optional |
| **SVRACTLOG** | Server activity log | **<u>*SAME</u>**, *NONE, *ALL, *ERROR | Optional |
| **SYNCRQD** | Synchronization required | **<u>*SAME</u>**, *NO, *YES | Optional |

# Remote system (RMTSYS)

Specifies one or more remote systems to which the SNTP client can connect for the time service. The first parameter value in the list that can provide valid time service will be selected. When the selected time server fails, a new time server will be selected. The remote system name must be valid, and the system must be able to communicate with the local system. The user can assign names to an internet address with the Work with TCP/IP host table entries option on the Configure TCP/IP menu (CFGTCP command). Also, a remote name server can be used to map remote system names to internet addresses.

A list of public time servers is maintained on the Internet. You can use a search engine with a query of "NTP servers", or refer to the resources in the SNTP topic in the Information Center. The time server should be selected based on minimum network response time delay at the location where the system is installed. If a firewall is installed between the local system and the time server, the firewall configuration may need to be updated to allow the passing of UDP packets on port 123.

**Single values**

**\*SAME**
The remote systems used for the time service do not change.

**\*NONE**
No remote systems are to be used for the time service.

**Other values (up to 3 repetitions)**

*character-value*
Specify the host name or internet address of the NTP or SNTP time server system.
- An internet address is specified in the form *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255.
- A host name can be either the short form or the full domain version of the name. A common practice is to define one short name that is unique within your local network and to also define the full domain version of the host name that is unique within the internet. A domain name or a host name can be a text string having 1 to 255 characters. Domain names consist of one or more labels separated by periods. Each label can contain up to 63 characters.

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# Client autostart (AUTOSTART)

Specifies whether to start the SNTP client automatically when TCP/IP is started using the Start TCP/IP (STRTCP) command, or by specifying SERVER(*AUTOSTART) on the Start TCP/IP Server (STRTCPSVR) command.

**\*SAME**
The client autostart value does not change if it was previously set.

**\*NO**   Do not automatically start the SNTP client. AUTOSTART(*NO) is the initial value.

**\*YES**   Automatically start the SNTP client.

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# Client poll interval (POLLITV)

Specifies the time interval, in minutes, after which the SNTP client will connect to the NTP or SNTP time server in order to determine if the system clock needs correction.

**\*SAME**
> The polling interval does not change if it was previously set.

*1-1440* Specify the number of minutes to use as the polling interval.

## Client minimum adjustment (MINADJ)

The threshold, in milliseconds, between the NTP or SNTP server time and the local clock time. When the difference is below this value, the local clock will not be adjusted.

**\*SAME**
> The minimum adjustment does not change if it was previously set.

**\*NONE**
> The value is set to zero.

*0-300000*
> Specify the number of milliseconds to use as the clock minimum adjustment threshold.

## Client maximum adjustment (MAXADJ)

The threshold, in minutes, between the NTP or SNTP server time and the local clock time. When the difference is above this value, the local clock will not be set/adjusted.

**\*SAME**
> The maximum adjustment does not change if it was previously set.

*1-120* Specify the number of minutes to use as the clock maximum adjustment threshold.

## Client adjustment threshold (ADJTHLD)

Specifies the threshold which determines whether changing the clock will require **setting** or **adjusting** the clock.

- Setting the clock means replacing the current clock value with a new value. For instance replacing 12:47:56 (in hhmmss format where hh = hours, mm = minutes, ss = seconds) with the value 12:56:15 or 12:40:10. Setting the clock in this manner causes the clock to jump either forward or backward and can cause errors and unpredictable results if programs are accessing the clock time values before and after this setting of the clock. Setting of the clock requires full knowledge of the system environment. Otherwise unpredictable results can occur.

- Adjusting the clock means to incrementally speed up or slow down the clock so that time is gradually synchronized with the NTP or SNTP time server. Adjusting does not cause the large jumps in time that can be experienced with setting the clock. Adjusting does however take time to complete. For instance adjusting the clock by 1 second may take 10 seconds of wall clock time to complete. Note that this 10 second wall clock interval is just an example, the system determines how long the adjustment will actually take to complete. While adjusting of the clock is not as immediate as setting of the clock, it does avoid the problems associated with setting the clock while programs are accessing the clock time.

**\*SAME**
> The threshold does not change if it was previously set.

**\*MAXADJ**
> Adjusting of the clock will be done for all time differences up to the value specified for the **Client maximum adjustment (MAXADJ)** parameter.

**1-7200** Specify the number of seconds between the NTP or SNTP time server and the SNTP client clock to be used as the threshold value. For time differences less than or equal to this value, an adjustment of the clock will be done. Otherwise a setting of the clock will be done.

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## Client activity log (ACTLOG)

Specifies the activities which cause logging for updating the clock to be done. Logging entries are written to a file in directory /QIBM/USERDATA/OS400/TCPIP/NTP for the client.

**\*SAME**
> The activity logging value does not change if it was previously set.

**\*NONE**
> No logging will be done. ACTLOG(\*NONE) is the initial value.

**\*CHANGE**
> Logging will be done only when a change is made on the clock.

**\*POLL**
> Logging will occur every time the NTP or SNTP server sends a valid time value to the SNTP client. In addition, all \*CHANGE activities will be logged.

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## Server autostart (SVRAUTOSTR)

Specifies whether to start the SNTP server automatically when TCP/IP is started by the Start TCP/IP (STRTCP) command or by specifying SERVER(\*AUTOSTART) on the Start TCP/IP Server (STRTCPSVR) command.

**\*SAME**
> The server autostart value does not change if it was previously set.

**\*NO** Do not automatically start the SNTP server. SVRAUTOSTR(\*NO) is the initial value.

**\*YES** Automatically start the SNTP server.

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## Server activity log (SVRACTLOG)

Specifies the activities which cause logging for the SNTP server. Logging entries are written to a file in directory /QIBM/USERDATA/OS400/TCPIP/NTP/SERVER.

**\*SAME**
> The activity logging value does not change if it was previously set.

**\*NONE**
> No logging will be done. SVRACTLOG(\*NONE) is the initial value.

**\*ERROR**
> Logging will be done only when an error status is returned by the server.

**\*ALL** Logging will occur every time a request is made to the SNTP server.

## Synchronization required (SYNCRQD)

Specifies whether the SNTP system client must be synchronized with an external time server before valid time will be served.

**\*SAME**
>The synchronization requirement value does not change if it was previously set.

**\*NO**   No synchronization of the SNTP system client to an external time server is required.

**\*YES**   The system clock must be synchronized by the SNTP client and adjustment of the system clock must be completed before valid time will be served. When the time difference between the time server and the system time is less than twice the MINADJ value or 100 milliseconds, whichever is greater, the clock is considered synchronized.

## Examples

**Example 1: Setting the SNTP Client**

CHGNTPA RMTSYS(AAAA.BBBBB.CCC)

This command sets the SNTP client remote server hostname. AAAA.BBBBB.CCC.

**Example 2: Setting Clock Time Adjustment Thresholds**

CHGNTPA MINADJ(50) MAXADJ(10)

This command sets the client minimum adjustment threshold to 50 milliseconds and the maximum adjustment threshold to 10 minutes. If the time value returned from the NTP or SNTP server system is more than 50 milliseconds and less than 10 minutes different from the local clock, the local clock will be set/adjusted.

**Example 3: Setting the Clock Set/Adjustment threshold**

CHGNTPA ADJTHLD(2)

This command sets the SNTP client set/adjustment threshold value to 2 seconds. For time difference between the NTP or SNTP server and SNTP clock of 2 seconds or less, the clock will be adjusted. For time difference greater than 2 seconds, a set of the clock will be done.

**Example 4: Setting the SNTP Server to Require Synchronized Client**

CHGNTPA SYNCRQD(*YES)

This command sets the SNTP server to require the system clock to be synchronized by the SNTP client. If the SNTP system clock has not been synchronized, an unsynchronized response code will be returned by the SNTP server. An unsynchronized condition can be caused by inability of the SNTP client to contact

the SNTP server, an error condition to prevent the SNTP client from updating the system clock, or the adjustment of the system clock has not been completed.

**Example 5: Setting the SNTP Client using multiple servers**

```
CHGNTPA RMTSYS(AAAA.BBBBB.CCC DDD.EEE.FFF GGG.HHH.III)
```

This command sets the SNTP client clock server to be host names AAAA.BBBBB.CCC, DDD.EEE.FFF, and GGG.HHH.III. If a valid time cannot be obtained from server AAAA.BBBBB.CCC, the SNTP client will attempt to contact server DDD.EEE.FFF followed by GGG.HHH.III.

**Example 6: Setting the Set/Adjustment threshold**

```
CHGNTPA SVRAUTOSTR(*YES)
```

This command sets the SNTP server to start automatically when the command STRTCP is issued.

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## Error messages

*ESCAPE Messages

**CPF0011**
> Error detected by prompt override program.

**TCP15A5**
> Error accessing member &3

**TCP15A6**
> Attribute file keyword &4 missing

**TCP1901**
> Internet address &2 not valid.

**TCP1903**
> Specified host name not valid.

**TCP264D**
> Error occurred processing file.

**TCP8050**
> *IOSYSCFG authority required to use &1.

**TCP9133**
> NTP attributes not changed.

**TCP9155**
> System clock adjustment is not supported.

**TCP9503**
> File &3 in library &2 not available.

**TCP9999**
> Internal system error in program &1.

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# Change Network Interface (FR) (CHGNWIFR)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Network Interface (Frame-Relay Network) (CHGNWIFR) command changes a network interface for a frame-relay network (FR) interface. More information about using this command is in the Communications Configuration book, SC41-5401.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| NWID | Network interface description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource name | *Name*, **\*SAME** | Optional, Positional 2 |
| ONLINE | Online at IPL | **\*SAME**, *YES, *NO | Optional |
| VRYWAIT | Vary on wait | 15-180, **\*SAME**, *NOWAIT | Optional |
| NRZI | NRZI data encoding | **\*SAME**, *YES, *NO | Optional |
| CLOCK | Clocking | **\*SAME**, *MODEM, *LOOP, *INVERT | Optional |
| LINESPEED | Line speed | 56000-2048000, **\*SAME**, 56000, 64000, 128000, 192000, 256000, 320000, 384000, 448000, 512000, 1024000, 1536000, 2048000 | Optional |
| LMIMODE | LMI mode | **\*SAME**, *TE, *FH, *NONE, *ANNEXA | Optional |
| POLLITV | Polling interval | 5-30, **\*SAME** | Optional |
| FULLINQITV | Full inquiry interval | 1-255, **\*SAME** | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |
| CMNRCYLMT | Recovery limits | Single values: **\*SAME**, *SYSVAL<br>Other values: *Element list* | Optional |
| | Element 1: Count limit | 0-99 | |
| | Element 2: Time interval | 0-120 | |

## Network interface description (NWID)

This is a required parameter.

Specifies the name of the network interface description.

*network-interface-description-name*
> Specify the name of a network interface description.

# Resource name (RSRCNAME)

This is a required parameter.

Specifies the resource name identifying the hardware that the description represents.

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified for the TYPE parameter to help determine the resource name. Specify the resource name of the communications port. The resource name consists of the input/output adapter (IOA) resource name and the port number on the IOA. For example, if the resource name of the IOA is LIN01 and the port on the IOA is 1, then the resource name is LIN011.

**\*SAME**
> The value does not change.

*resource-name*
> Specify a resource name.

# Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*SAME**
> The value does not change.

**\*YES**   The network interface is automatically varied on at initial program load (IPL).

**\*NO**   This network interface is not automatically varied on at IPL.

# Vary on wait (VRYWAIT)

Specifies whether the network interface is varied on asynchronously or synchronously. For synchronous vary on, specifies how long the system waits for the vary on to complete.

**\*SAME**
> The value does not change.

**\*NOWAIT**
> The system does not wait for the vary on to complete. The network interface is varied on asynchronously.

*vary-on-wait*
> Specify the time (in seconds) to wait. Valid values range from 15 through 180. The system waits until the network interface is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.
>
> **Notes:**
>
> 1. Specifying a wait time in the network interface description affects system IPL time, if ONLINE(*YES) is used, by the amount of time it takes to synchronously vary on the network interface or reach the wait-time value.
>
> 2. The time required to vary on a network interface is the time it takes to put tasks in place to manage the network interface, to activate the communications I/O processor (IOP) (including downloading the IOP model-unique Licensed Internal Code), and to establish communications

with the data circuit-terminating equipment (DCE). Normal vary-on time ranges from 5 through 45 seconds but can be longer depending on the system, network interface protocol, and other factors.

## NRZI data encoding (NRZI)

Specifies whether non-return-to-zero-inverted (NRZI) data encoding is used for modems that are sensitive to certain bit patterns in the data stream. This ensures that the signal does not stay the same for an extended period of time.

**Note:** All data communications equipment on the line must use the same transmission method.

**\*SAME**
The value does not change.

**\*YES**   NRZI data encoding is used.

**\*NO**   NRZI data encoding is not used.

## Clocking (CLOCK)

Specifies the method in which the clocking function is provided for the network interface.

**\*MODEM**
The modem provides the clocking.

**\*LOOP**
The system inverts the clock from the modem and uses it as the transmit clock on the line.

**\*INVERT**
The transmit clock provided by the modem data circuit-terminating equipment (DCE) is inverted before use. This option can be used when having problems with high speed data transmission and the modem (DCE) does not support looped clocking.

## Line speed (LINESPEED)

Specifies the line speed in bits per second (bps)

**\*SAME**
The value does not change.

**56000**   The line speed is 56000 bps.

**64000**   The line speed is 64000 bps.

**128000** The line speed is 128000 bps.

**192000** The line speed is 192000 bps.

**256000** The line speed is 256000 bps.

**320000** The line speed is 320000 bps.

**384000** The line speed is 384000 bps.

**448000** The line speed is 448000 bps.

**512000** The line speed is 512000 bps.

**1024000**

> The line speed is 1024000 bps.

**1536000**

> The line speed is 1536000 bps.

**2048000**

> The line speed is 2048000 bps.

*line-speed*

> Specify the line speed. Valid values range from 56000 bps through 2048000 bps.

# LMI mode (LMIMODE)

Specifies whether the local management interface (LMI) for this adapter is configured as terminal equipment or a frame handler.

**\*SAME**

> The value does not change.

**\*TE** The local system is configured to interface with a frame relay network as terminal equipment. The frame relay network must be set to operate at ANSI T1.617 Annex D, to be compatible with system link management frames.

**\*FH** The local system is configured to interface with another system as a frame handler. In this configuration, the local system is performing as the frame relay network.

**\*ANNEXA**

> The local system is configured to interface with a frame relay network as terminal equipment. The frame relay network must operate as an ITU (previously CCITT) Q.933 Annex A to be compatible with system link management frames.

**\*NONE**

> The local system is configured to interface with the frame relay network or another system without performing any LMI function.

# Polling interval (POLLITV)

Specifies the rate of the polling cycle. The polling cycle consists of a status inquiry message and a status message exchange. The status message includes the status of the DLCI.

**\*SAME**

> The value does not change.

**10** A polling interval of 10 seconds is used.

*polling-interval*

> Specify the polling interval to be used within a 5 to 30 second range.

# Full inquiry interval (FULLINQITV)

Specifies the number of polling cycles that occur before a full status inquiry is requested.

**\*SAME**
> The value does not change.

**6**    A full inquiry interval of 6 polling cycles is used.

*full-inquiry-interval*
> Specify the number of polling cycles for a full status cycle to be requested. Valid values range from 1 through 255.

## Text 'description' (TEXT)

Specifies text that briefly describes the network interface.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

## Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

**\*SAME**
> The value does not change.

**\*SYSVAL**
> The recovery limits specified in the QCMNRCYLMT system value are used.

**2**    Two recovery attempts are made within the interval specified.

*count-limit*
> Specify the number of recovery attempts to be made. Valid values range from 0 through 99.

**5**    A 15-second time-out period is used.

*time-interval*
> Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

## Examples

```
CHGNWIFR   NWID(THISONE)  ONLINE(*YES)  VRYWAIT(*NOWAIT)
           CLOCK(*MODEM)  POLLINTV(*SAME)
```

This command changes the network interface THISONE so it varies on automatically at initial program load (IPL) with no wait time. The clocking function for the network interface is changed so the modem provides the clocking. The polling interval remains the same as it was prior to this CHGNWIFR command.

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## Error messages

**\*ESCAPE Messages**

**CPF27A7**

    Network interface description &1 not changed due to errors.

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# Change NWS Attributes (CHGNWSA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Network Server Attributes (CHGNWSA) command changes the network server attributes of the system. Many of these attributes can be set on an individual user profile basis using the CHGNWSUSRA command. Many network server commands such as DSPNWSUSR and WRKNWSSTS can specify that information from the network server attributes should be used by specifying *NWSA for a given parameter.

Network server attributes are saved by the Save System (SAVSYS) command. Network server attributes are restored to the system when the operating system is installed.

**Restrictions:**

1. This command is shipped with public *EXCLUDE authority. When this command is shipped, authority is issued only to the security officer. The security officer can grant the use of this command to other users.
2. To make changes to the WNTDMNLST, WNTLCLSVRL parameters, you must have *SECADM special authority.
3. The Windows domain and server names specified in the WNTDMNLST and WNTLCLSVRL parameters must follow the naming conventions of Windows.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| PMTCTL | Prompt control | **\*ALL**, \*WINDOWS, \*WINDOWSNT | Optional, Key, Positional 1 |
| DFTSVRTYPE | Default server type | **\*SAME**, \*WINDOWS, \*WINDOWSNT | Optional |
| WNTDMNLST | Windows server domain list | Single values: **\*SAME**, \*NONE<br>Other values (up to 64 repetitions): *Element list* | Optional |
| | Element 1: Domain | *Character value* | |
| | Element 2: User template | *Character value*, **\*NONE** | |
| | Element 3: Group type | **\*GLOBAL**, \*LOCAL | |
| WNTLCLSVRL | Windows local server list | Single values: **\*SAME**, \*NONE<br>Other values (up to 64 repetitions): *Element list* | Optional |
| | Element 1: Server | *Character value* | |
| | Element 2: User template | *Character value*, **\*NONE** | |

## Prompt control (PMTCTL)

Specifies which network server attributes should be prompted for on the command.

**\*ALL**    All parameters are prompted.

**\*WINDOWS or \*WINDOWSNT**
>   Only those parameters that apply to Windows servers are prompted.
>
>   **Note:** \*WINDOWS should be used in V5R4 and later releases. The \*WINDOWSNT value is supported for compatibility with releases prior to V5R4.

## Default server type (DFTSVRTYPE)

Specifies the default server type for the system. This attribute is used primarily as a default for those i5/OS commands that support multiple network types.

If the default server type is not set, it is defaulted to \*WINDOWS.

**\*SAME**
>   The default server type does not change.

**\*WINDOWS or \*WINDOWSNT**
>   The default server type for the system is set to \*WINDOWS.
>
>   **Note:** \*WINDOWS should be used in V5R4 and later releases. The \*WINDOWSNT value is supported for compatibility with releases prior to V5R4.

## Windows server domain list (WNTDMNLST)

Specifies a default list of Windows domains that will be used by the i5/OS user enrollment support to determine into which Windows domains i5/OS profiles are enrolled.

Each entry in the list will contain a domain, a user account template name, and a group type. The user account template name is the name of a Windows user identity that is to be used when creating new Windows users.

Up to 64 entries can be specified for this parameter. An entry consists of a value from each of the following elements. A domain name must be entered for each entry and must be unique within the list.

If the WNTDMNLST parameter has never been set, it is defaulted to \*NONE.

**Single values**

**\*SAME**
>   The value does not change.

**\*NONE**
>   When \*NONE is specified, the default is to not enroll i5/OS profiles into Windows domains.

**Element 1: Domain**

*'domain-name'*
>   Specify the name of the Windows domain where the i5/OS user enrollment support will enroll i5/OS profiles.

**Element 2: User template**

Specifies the name of a Windows user that can be used as a template when creating new Windows users in the Windows domain.

**Note:** Changing this value will not affect Windows users that are already enrolled in the domain.

**\*NONE**
> No Windows user account template is used when creating a new user identity in the Windows domain.

*'User-account-template-name'*
> Specify the name of a Windows user account to be used when creating new Windows user identities in the domain.

**Element 3: Group type**

Specifies the type of group to be created in the Windows domain. This element is only used when enrolling group profiles.

**\*GLOBAL**
> A global group is created in the Windows domain.

**\*LOCAL**
> A local group is created in the Windows domain.

# Windows local server list (WNTLCLSVRL)

Specifies a default list of Windows servers that will be used by the i5/OS user enrollment support to determine in which local Windows servers to enroll i5/OS profiles. Only those server names associated with locally configured Integrated xSeries Servers can be specified in this list.

Each entry in the list will contain a server name and associated user account template name. The user account template name is the Windows user account to be used when creating new Windows user identities on the server.

Up to 64 entries can be specified for this parameter. An entry consists of a value from each of the following elements. A server name must be entered for each entry and must be unique within the list.

If the WNTLCLSVRL parameter has never been set, it is defaulted to \*NONE.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> When \*NONE is specified, the default is to not enroll i5/OS profiles into local Windows servers.

**Element 1: Server**

*'server-name'*
> Specify the name of a Windows local server where the i5/OS user enrollment support will enroll i5/OS profiles. This server must be a locally configured Integrated xSeries Server.

**Element 2: User template**

Specifies the name of a Windows user that can be used as a template when creating new Windows user identities on the local server.

**\*NONE**

> No Windows user account template is used when creating a new user identity on the Windows server.

**'User-account-template-name'**

> Specify the name of a Windows user account to be used when creating new Windows user identities on the local server.

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# Examples

**Example 1: Setting Network Server Attributes for Windows**

```
CHGNWSA   DFTSVRTYPE(*WINDOWS)
          WNTDMNLST((DMN01 USRTMP1) (DMN02))
          WNTLCLSVRL((LCLSVR1 TMPL1) (LCLSRV2 *NONE))
```

The default server type is set to \*WINDOWS. The default Windows domain list will be set to enroll profiles into domain DMN01 using user account USRTMP1 and into domain DMN02. Any Windows groups that are created in the domain will be created as global groups.

The Windows local server default list will be set to enroll profiles into local server LCLSVR1 using user account template TMPL1 and into local server LCLSRV2.

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# Error messages

**\*ESCAPE Messages**

**CPFA44F**

> Network server attributes not changed. See previous messages.

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# Change NWS Configuration (CHGNWSCFG)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change NWS Configuration (CHGNWSCFG) command changes a network server configuration.

**Restrictions:**

- This command is shipped with public exclude (*EXCLUDE) authority. When this command is shipped, authority is issued only to the security officer. The security officer can grant the use of this command to other users.
- You must have input/output system configuration (*IOSYSCFG) special authority to use this command.
- To make changes to the IPSECRULE, CHAPAUT, INRCHAPAUT, or SPCERTID parameters, you must have security administrator (*SECADM) special authority.
- This command cannot be run if an active network server description is associated with this network server configuration.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| NWSCFG | Network server configuration | *Communications name* | Required, Key, Positional 1 |
| IPSECRULE | IP security rules | Single values: **\*SAME**, *NONE<br>Other values (up to 16 repetitions): *Character value*, *GEN, *REGEN | Optional |
| INZSP | Initialize service processor | **\*SAME**, *MANUAL, *AUTO, *NONE | Optional |
| ENBUNICAST | Enable unicast | **\*SAME**, *YES, *NO | Optional |
| SPNAME | Service processor name | *Character value*, **\*SAME**, *SPINTNETA | Optional |
| SPINTNETA | SP internet address | *Character value*, **\*SAME** | Optional |
| SPCERTID | SP certificate identifier | Single values: **\*SAME**, *NONE<br>Other values: *Element list* | Optional |
| | Element 1: Component | *COMMONNAME, *EMAIL, *ORGUNIT | |
| | Element 2: Compare value | *Character value* | |
| EID | Enclosure identifier | Single values: **\*SAME**, *AUTO<br>Other values: *Element list* | Optional |
| | Element 1: Serial number | *Character value* | |
| | Element 2: Manufacturer type and model | *Character value* | |
| SPNWSCFG | SP configuration name | *Communications name*, **\*SAME** | Optional |
| RMTSYSID | Remote system identifier | Single values: **\*SAME**, *SPNWSCFG<br>Other values: *Element list* | Optional |
| | Element 1: Serial number | *Character value* | |
| | Element 2: Manufacturer type and model | *Character value* | |
| DELIVERY | Delivery method | *Character value*, **\*SAME**, *DYNAMIC, *MANUAL | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| CHAPAUT | Target CHAP authentication | Single values: **\*SAME**, *NONE*<br>Other values: *Element list* | Optional |
| | Element 1: CHAP name | *Character value*, **\*NWSCFG** | |
| | Element 2: CHAP secret | *Character value*, **\*GEN** | |
| INRCHAPAUT | Initiator CHAP authentication | Single values: **\*SAME**, *NONE*<br>Other values: *Element list* | Optional |
| | Element 1: CHAP name | *Character value*, **\*NWSCFG** | |
| | Element 2: CHAP secret | *Character value*, **\*GEN** | |
| BOOTDEVID | Boot device ID | Single values: **\*SAME**, *SINGLE*<br>Other values: *Element list* | Optional |
| | Element 1: Bus | 0-255 | |
| | Element 2: Device | 0-31 | |
| | Element 3: Function | 0-7 | |
| DYNBOOTOPT | Dynamic boot options | Single values: **\*SAME**<br>Other values: *Element list* | Optional |
| | Element 1: Vendor ID | *Character value*, **\*DFT** | |
| | Element 2: Alternate client ID | *Character value*, **\*ADPT** | |
| RMTIFC | Remote (initiator) interfaces | Single values: **\*SAME**<br>Other values (up to 4 repetitions): *Element list* | Optional |
| | Element 1: SCSI interface | *Element list* | |
| | Element 1: Adapter address | *Hexadecimal value*, *NONE* | |
| | Element 2: Internet address | *Character value* | |
| | Element 3: Subnet mask | *Character value* | |
| | Element 4: Gateway address | *Character value*, **\*NONE** | |
| | Element 5: iSCSI qualified name | *Character value*, **\*GEN** | |
| | Element 2: LAN interface | *Element list* | |
| | Element 1: Adapter address | *Hexadecimal value*, *NONE* | |
| | Element 2: Internet address | *Character value* | |
| | Element 3: Subnet mask | *Character value* | |
| | Element 4: Gateway address | *Character value*, **\*NONE** | |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK* | Optional |

## Network server configuration (NWSCFG)

Specifies the name of the network server configuration.

*name*   Specify the name of the network server configuration to be changed.

## IP security rules (IPSECRULE)

Specifies the configuration IP Security (IPSec) rules used between the hosting and remote system.

This parameter is only valid when TYPE(*CNNSEC) is specified in the corresponding **CRTNWSCFG** command.

**Single values**

**\*SAME**
The value does not change.

**\*NONE**
IP Security (IPSec) protocol security settings are not configured.

**Other values (up to 16 repetitions)**

**\*GEN**   Generate a random pre-shared key.

**\*REGEN**
Automatically generate a random pre-shared key every time the system is varied on.

*character-value*
Specify a nontrivial pre-shared key up to 32 characters long.

Valid characters are upper case A through Z, lower case a through z, numbers 0 through 9, and the following special characters:
- Plus sign
- Equal sign
- Percent
- Ampersand
- Left parenthesis
- Right parenthesis
- Comma
- Underline
- Minus sign
- Period
- Colon
- Semicolon

# Initialize service processor (INZSP)

Specifies how the remote system service processor is secured.

This parameter is only valid when TYPE(*SRVPRC) is specified in the corresponding **CRTNWSCFG** command.

**\*SAME**
The value does not change.

**\*MANUAL**

Security parameters are manually configured on remote system service processor. *MANUAL provides the highest security.

To use this option, it is required that the remote system service processor is pre-configured with a user name, password and certificate. Certificate management will be required. This method is appropriate when connecting to the service processor via public networks to protect the password.

**\*AUTO**

Parameters are automatically configured on the remote system service processor.

\*AUTO provides security without requiring pre-configuration of the remote system service processor. The remote system service processor will have certificates automatically regenerated when the certificates are near expiration. This option is appropriate if the interconnecting network is physically secure or is protected by a firewall.

**Note:** An administrator will need to regenerate the certificate using the Initialize NWS Configuration (INZNWSCFG) command when the service processor certificate has expired, or if a new certificate and password are desired at any time before the certificate expires.

**\*NONE**

Provides no security.

Use this only if the interconnecting network is physically secure.

**Note:** Some service processors do not support secure connections. Use \*NONE for these service processors. Additional information can be found at System i integration with BladeCenter and System x at http://www.ibm.com/systems/i/bladecenter/.

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# Enable unicast (ENBUNICAST)

Specifies whether unicast packet distribution is to be used. Unicast is a transmission method where packets are sent directly to the specified **Service processor name (SPNAME)** or **SP internet address (SPINTNETA)** parameter.

When unicast packet distribution is used, the **Service processor name (SPNAME)** or **SP internet address (SPINTNETA)** parameter must be specified.

The system identification for the Enclosure identifier (EID) parameter is automatically retrieved if \*AUTO is specified and the system hardware supports it.

This parameter is only valid when TYPE(\*SRVPRC) is specified in the corresponding **CRTNWSCFG** command.

**\*SAME**
The value does not change.

**\*YES**　　Enable unicast.

**\*NO**　　Disable unicast

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# Service processor name (SPNAME)

Specifies the remote system service processor host name.

**Notes:**
1. This parameter is required when ENBUNICAST(\*YES) is specified.
2. This parameter is ignored when ENBUNICAST(\*NO) is specified.

This parameter is only valid when TYPE(\*SRVPRC) is specified in the corresponding **CRTNWSCFG** command.

The value does not change.

**\*SPINTNETA**

The remote system is identified by the value specified for the **SP internet address (SPINTNETA)** parameter.

*character-value*
Specify the remote system service processor host name.

## SP internet address (SPINTNETA)

Specifies the remote system service processor internet address.

This parameter is only valid when TYPE(*SRVPRC) is specified in the corresponding **CRTNWSCFG** command.

This parameter is only valid when SPNAME(*SPINTNETA) is specified.

**Note:** This parameter is ignored when ENBUNICAST(*NO) is specified.

**\*SAME**
The value does not change.

*character-value*
Specify the internet address of the service processor.

The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.

## SP certificate identifier (SPCERTID)

The SP certificate identifier specifies one of three possible fields that identifies the service processor certificate.

This parameter is specified to provide additional validation that the certificate is from the service processor. The contents of the selected field must exactly match the value of the field that was entered when the certificate was generated or requested from a certificate authority.

This parameter is only valid when TYPE(*SRVPRC) is specified in the corresponding **CRTNWSCFG** command.

This parameter is required when INZSP(*MANUAL) is specified.

**Single values**

**\*SAME**
The value does not change.

**\*NONE**
Service processor certificate is not configured.

**Element 1: Component**

**\*COMMONNAME**

> Selects the certificate common name specified when the certificate was generated or requested from a certificate authority. On the remote supervisor adapter II this correlates to the ″ASM Domain Name″ field used to generate a self-signed certificate or generate a certificate signing request.

**\*EMAIL**

> Selects the certificate e-mail address specified when the certificate was generated or requested from a certificate authority. On the remote supervisor adapter II this correlates to the ″Email Address″ field used to generate a self-signed certificate or generate a certificate signing request.

**\*ORGUNIT**

> Selects the certificate organizational unit specified when the certificate was generated or requested from a certificate authority. On the remote supervisor adapter II this correlates to the ″Organizational Unit″ field used to generate a self-signed certificate or generate a certificate signing request.

**Element 2: Compare value**

*character-value*

> Specify the certificate component compare value. Enter no more than 255 characters of text, enclosed in apostrophes.

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# Enclosure identifier (EID)

Specifies the identifying serial number, type and model of the enclosure containing the service processor.

When specified, they are used to locate the system on the network.

Look for these values on the label of the system.

This parameter is only valid when TYPE(*SRVPRC) is specified in the corresponding **CRTNWSCFG** command.

**Single values**

**\*SAME**

> The value does not change.

**\*AUTO**

> Automatically retrieve the identifier when ENBUNICAST(*YES) is specified.

**Element 1: Serial number**

*character-value*

> Specify the machine serial number.

**Element 2: Manufacturer type and model**

*character-value*

> Specify the machine type and model.
>
> The value is entered in the form ttttmmm where tttt is the machine type and mmm is the machine model number.

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# SP configuration name (SPNWSCFG)

Specifies the name of the service processor network server configuration to be used to manage the remote server.

This parameter is only valid when TYPE(*RMTSYS) is specified in the corresponding **CRTNWSCFG** command.

**\*SAME**
        The value does not change.

*name*    Specify the name of the service processor network server configuration.

# Remote system identifier (RMTSYSID)

Specifies the identifying serial number, type and model of the remote system. When specified, they are used to locate the remote system on the network.

Look for these values on the label of the system.

**Note:** The machine type and model may be omitted if the system serial number is unique on the network.

This parameter is only valid when TYPE(*RMTSYS) is specified in the corresponding **CRTNWSCFG** command.

**Single values**

**\*SAME**
        The value does not change.

**\*SPNWSCFG**
        Use the serial number and type/model specified in the Enclosure identifier (EID) parameter of the service processor (*SRVPRC) network server configuration.

**Element 1: Serial number**

*character-value*
        Specify the machine serial number.

**Element 2: Manufacturer type and model**

*character-value*
        Specify the machine type and model.

        The value is entered in the form ttttmmm where tttt is the machine type and mmm is the machine model number.

# Delivery method (DELIVERY)

Specifies how the parameters necessary to configure the remote system are delivered.

This parameter is only valid when TYPE(*RMTSYS) is specified in the corresponding **CRTNWSCFG** command.

**\*SAME**
>    The value does not change.

**\*DYNAMIC**
>    Parameters are dynamically delivered to the remote system using Dynamic Host Configuration Protocol (DHCP).

**\*MANUAL**
>    Parameters are manually configured on the remote system using the BIOS utilities (System BIOS or Adapter BIOS - CTRL-Q).

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## Target CHAP authentication (CHAPAUT)

Specifies the Challenge Handshake Authentication Protocol (CHAP) for the System i iSCSI target to authenticate the remote system iSCSI initiators.

This parameter is only valid when TYPE(\*RMTSYS) is specified in the corresponding **CRTNWSCFG** command.

**Single values**

**\*SAME**
>    The value does not change.

**\*NONE**
>    CHAP authentication is not enabled.

**Element 1: CHAP name**

**\*NWSCFG**
>    The system will automatically generate a name for CHAP using the Network server configuration name.

*character-value*
>    Specify the name you want to use for the Challenge Handshake Authentication Protocol.

>    Valid characters are upper case A through Z, lower case a through z, numbers 0 through 9, and the following special characters:
>    - Plus sign
>    - Equal sign
>    - Percent
>    - Ampersand
>    - Left parenthesis
>    - Right parenthesis
>    - Comma
>    - Underline
>    - Minus sign
>    - Period
>    - Colon
>    - Semicolon

**Element 2: CHAP secret**

**\*GEN**   The system will automatically generate a random CHAP secret.

*character-value*
> Specify the secret you want to use for the Challenge Handshake Authentication Protocol.
>
> **Note:** Target and initiator CHAP secrets must not be the same.
>
> Valid characters are upper case A through Z, lower case a through z, numbers 0 through 9, and the following special characters:
> - Plus sign
> - Equal sign
> - Percent
> - Ampersand
> - Left parenthesis
> - Right parenthesis
> - Comma
> - Underline
> - Minus sign
> - Period
> - Colon
> - Semicolon

# Initiator CHAP authentication (INRCHAPAUT)

Specifies the Challenge Handshake Authentication Protocol (CHAP) for the remote system iSCSI initiators to authenticate the System i iSCSI target.

This parameter is only valid when TYPE(*RMTSYS) is specified in the corresponding **CRTNWSCFG** command.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> CHAP authentication is not enabled.

**Element 1: CHAP name**

**\*NWSCFG**
> The system will automatically generate a name for CHAP using the Network server configuration name.

*character-value*
> Specify the name you want to use for the Challenge Handshake Authentication Protocol.
>
> Valid characters are upper case A through Z, lower case a through z, numbers 0 through 9, and the following special characters:
> - Plus sign
> - Equal sign
> - Percent
> - Ampersand
> - Left parenthesis

- Right parenthesis
- Comma
- Underline
- Minus sign
- Period
- Colon
- Semicolon

**Element 2: CHAP secret**

**\*GEN** The system will automatically generate a random CHAP secret.

*character-value*

Specify the secret you want to use for the Challenge Handshake Authentication Protocol.

**Note:** Target and initiator CHAP secrets must not be the same.

Valid characters are upper case A through Z, lower case a through z, numbers 0 through 9, and the following special characters:

- Plus sign
- Equal sign
- Percent
- Ampersand
- Left parenthesis
- Right parenthesis
- Comma
- Underline
- Minus sign
- Period
- Colon
- Semicolon

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# Boot device ID (BOOTDEVID)

Specifies the PCI Function Address (Bus/Device/Function) of the iSCSI initiator port in the remote system that will be used to boot from.

**Note:** Remote systems with more than one iSCSI initiator port installed are required to specify which port will be used to boot from.

This parameter is only valid when TYPE(*RMTSYS) is specified in the corresponding **CRTNWSCFG** command.

**Single values**

**\*SAME**

The value does not change.

**\*SINGLE**

The single iSCSI initiator port is used on the remote system

**Element 1: Bus**

**0-255** Specify the bus number of the remote system iSCSI initiator port that will be used to boot.

**Element 2: Device**

**0-31** Specify the device number of the remote system iSCSI initiator port that will be used to boot.

**Element 3: Function**

**0-7** Specify the function number of the remote system iSCSI initiator port that will be used to boot.

## Dynamic boot options (DYNBOOTOPT)

Specifies the internal Dynamic Host Configuration Protocol (DHCP) Server configuration.

**Note:** This is an advanced configuration function.

This parameter is used to configure the internal DHCP Server that is part of the iSCSI target host bus adapter (HBA) firmware. It is used to provide IP address and diskless boot parameters for the remote system iSCSI initiator port.

This parameter is only valid when TYPE(*RMTSYS) is specified in the corresponding **CRTNWSCFG** command.

This parameter is only valid when DELIVERY(*DYNAMIC) is specified.

**Single values**

**\*SAME**
       The value does not change.

**Element 1: Vendor ID**

The client and server are pre-configured to a default vendor ID. Network administrators can configure clients to define their own identifying values to convey hardware, operating system or other identifying information. DHCP option 60 described in the IETF RFC 2132 is used for this function.

**\*DFT** The default vendor ID will be used.

*character-value*
       Vendor ID of the remote system iSCSI initiator port that will be used.

**Element 2: Alternate client ID**

Used by clients to specify their unique identifier to the server. Each client identifier must be unique among all other client identifiers used on the effective DHCP network to which the client is attached (that is, the client local subnet and any remote subnets reachable using DHCP relay). Vendors and system administrators are responsible for choosing client identifiers that meet this requirement for uniqueness. DHCP option 61 described in the IETF RFC 2132 is used for this function.

**\*ADPT**
       The default Client ID consists of the adapter address for the remote system iSCSI initiator port. This value will be used to identify the remote system.

*character-value*
       Specify the Client ID of the remote system iSCSI initiator port that will be used to boot.

# Remote (initiator) interfaces (RMTIFC)

Specifies the remote system iSCSI initiator host bus adapter (HBA) configuration. Each iSCSI initiator port has two functions to support a SCSI and a LAN or TCP Offload Engine (TOE) interface.

This parameter is only valid when TYPE(*RMTSYS) is specified in the corresponding **CRTNWSCFG** command.

**Note:** A minimum of one SCSI interface and one LAN interface is required though they may reside on different initiator ports in the remote system.

**Single values**

**\*SAME**
The value does not change.

**You can specify up to 4 repetitions for this parameter.**

**Element 1: SCSI interface**


Specifies the SCSI interface.

**\*NONE**
No SCSI interface is configured for this initiator port.

**Element 1: Adapter address**

*hexadecimal-value*
Specify the 12-character hexadecimal adapter address for the initiator port.

**Element 2: Internet address**

*character-value*
Specify the internet address for the initiator port.

The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.

**Element 3: Subnet mask**

*character-value*
Specify the subnet mask for the initiator port.

The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.

**Element 4: Gateway address**

**\*NONE**
No gateway address is configured for this initiator port.

*character-value*
Specify the gateway address for the initiator port.

The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.

**Element 5: iSCSI qualified name**

**\*GEN**  The system will automatically generate the iSCSI qualified name.

*character-value*
> Specify the iSCSI qualified name for the initiator port.
>
> The following characters are allowed in iSCSI qualified names:
> - Alphabetical characters A through Z converted to lower case (refer to RFC 3722)
> - Alphabetical characters a through z
> - Digits 0 through 9
> - Period (.)
> - Dash (-)
> - colon (:)

**Element 2: LAN interface**

> Specifies the LAN interface.
>
> **\*NONE**
> > No LAN interface is configured for this initiator port.
>
> **Element 1: Adapter address**
>
> *hexadecimal-value*
> > Specify the 12-character hexadecimal adapter address for the initiator port.
>
> **Element 2: Internet address**
>
> *character-value*
> > Specify the internet address for the initiator port.
> >
> > The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.
>
> **Element 3: Subnet mask**
>
> *character-value*
> > Specify the subnet mask for the initiator port.
> >
> > The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.
>
> **Element 4: Gateway address**
>
> **\*NONE**
> > No gateway address is configured for this initiator port.
>
> *character-value*
> > Specify the gateway address for the initiator port.
> >
> > The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.

# Text 'description' (TEXT)

Specifies text that briefly describes the network server configuration.

**\*SAME**
> The value does not change.

Specifies text that briefly describes the network server configuration.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

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## Examples

**Example 1: Change Service Processor Address**

```
CHGNWSCFG NWSCFG(CAT4SP)
          SPINTNETA('1.5.6.7')
```

This command changes the IP address for the service processor.

**Example 2: Change description**

```
CHGNWSCFG NWSCFG(MYSEC)
          TEXT('My Connection security')
```

This command changes the description for the network server configuraiton.

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## Error messages

**\*ESCAPE Messages**

**CPF2105**
> Object &1 in &2 type *&3 not found.

**CPF2114**
> Cannot allocate object &1 in &2 type *&3.

**CPF90A8**
> *SECADM special authority required to do requested operation.

**CPF96CA**
> Network server configuration &1 not changed.

**CPFA1B8**
> *IOSYSCFG authority required to use &1.

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# Change Network Server Desc (CHGNWSD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Network Server Description (CHGNWSD) command changes a network server description. Parameters that can be changed include server software parameters and network protocol descriptions.

More information about using this command is in the Communications Configuration book, SC41-5401.

More information about using network server descriptions **CRTNWSD** command can be found in the System i integration category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/

**Restrictions:**

- You must have input/output system configuration (*IOSYSCFG) special authority to use this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| NWSD | Network server description | *Name* | Required, Key, Positional 1 |
| RSRCNAME | Resource name | *Name*, ***SAME**, *NONE, *AUTO | Optional |
| STGPTH | Storage path | Single values: ***SAME**<br>Other values (up to 4 repetitions): *Element list* | Optional |
| | Element 1: Network server host adapter | *Name*, *NONE | |
| | Element 2: IP security rules | *Element list* | |
| | Element 1: Remote interface 1 rule | 1-16, *DFTSECRULE, *NONE | |
| | Element 2: Remote interface 2 rule | 1-16, *DFTSECRULE, *NONE | |
| | Element 3: Remote interface 3 rule | 1-16, *DFTSECRULE, *NONE | |
| | Element 4: Remote interface 4 rule | 1-16, *DFTSECRULE, *NONE | |
| DFTSECRULE | Default IP security rule | 1-16, ***SAME**, *NONE | Optional |
| MLTPTHGRP | Multi-path group | Single values: ***SAME**, *NONE<br>Other values (up to 4 repetitions): 1-4 | Optional |
| DFTSTGPTH | Default storage path | 1-4, ***SAME**, *MLTPTHGRP | Optional |
| RMVMEDPTH | Removable media path | 1-4, ***SAME** | Optional |
| ACTTMR | Activation timer | 30-1800, ***SAME** | Optional |
| ONLINE | Online at IPL | ***SAME**, *YES, *NO | Optional |
| VRYWAIT | Vary on wait | 1-15, ***SAME**, *NOWAIT | Optional |
| SHUTDTIMO | Shutdown timeout | 2-45, ***SAME**, *TYPE | Optional |
| PARTITION | Partition | *Character value*, ***SAME**, *NONE | Optional |

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| Keyword | Description | Choices | Notes |
|---|---|---|---|
| PTNNBR | Partition number | 1-65535, *SAME, *NONE | Optional |
| PRPDMNUSR | Propagate domain users | *SAME, *YES, *NO | Optional |
| CODEPAGE | Code page | Integer, *SAME, *LNGVER | Optional |
| MSGQ | Server message queue | Single values: *SAME, *JOBLOG, *NONE<br>Other values: Qualified object name | Optional |
| | Qualifier 1: Server message queue | Name | |
| | Qualifier 2: Library | Name, *LIBL, *CURLIB | |
| EVTLOG | Event log | Single values: *SAME, *ALL, *NONE<br>Other values (up to 3 repetitions): *SYS, *SEC, *APP | Optional |
| CMNMSGQ | Communications message queue | Single values: *SAME, *SYSOPR<br>Other values: Qualified object name | Optional |
| | Qualifier 1: Communications message queue | Name | |
| | Qualifier 2: Library | Name, *LIBL, *CURLIB | |
| CFGFILE | Configuration file | Single values: *SAME, *NONE<br>Other values: Qualified object name | Optional |
| | Qualifier 1: Configuration file | Name | |
| | Qualifier 2: Library | Name, *LIBL, *CURLIB | |
| POOL | Pool identifier | *SAME, *BASE, *SHRPOOL1, *SHRPOOL2, *SHRPOOL3, *SHRPOOL4, *SHRPOOL5, *SHRPOOL6, *SHRPOOL7, *SHRPOOL8, *SHRPOOL9, *SHRPOOL10, *SHRPOOL11, *SHRPOOL12, *SHRPOOL13, *SHRPOOL14, *SHRPOOL15, *SHRPOOL16, *SHRPOOL17, *SHRPOOL18, *SHRPOOL19, *SHRPOOL20, *SHRPOOL21, *SHRPOOL22, *SHRPOOL23, *SHRPOOL24, *SHRPOOL25, *SHRPOOL26, *SHRPOOL27, *SHRPOOL28, *SHRPOOL29, *SHRPOOL30, *SHRPOOL31, *SHRPOOL32, *SHRPOOL33, *SHRPOOL34, *SHRPOOL35, *SHRPOOL36, *SHRPOOL37, *SHRPOOL38, *SHRPOOL39, *SHRPOOL40, *SHRPOOL41, *SHRPOOL42, *SHRPOOL43, *SHRPOOL44, *SHRPOOL45, *SHRPOOL46, *SHRPOOL47, *SHRPOOL48, *SHRPOOL49, *SHRPOOL50, *SHRPOOL51, *SHRPOOL52, *SHRPOOL53, *SHRPOOL54, *SHRPOOL55, *SHRPOOL56, *SHRPOOL57, *SHRPOOL58, *SHRPOOL59, *SHRPOOL60 | Optional |
| TCPPORTCFG | TCP/IP port configuration | Single values: *SAME, *NONE<br>Other values (up to 9 repetitions): Element list | Optional |
| | Element 1: Port | 1, 2, 3, 4, *INTERNAL, *VRTETHPTP, *VRTETH0, *VRTETH1, *VRTETH2, *VRTETH3, *VRTETH4, *VRTETH5, *VRTETH6, *VRTETH7, *VRTETH8, *VRTETH9 | |
| | Element 2: Internet address | Character value | |
| | Element 3: Subnet mask | Character value | |
| | Element 4: Maximum transmission unit | Integer, 1500 | |
| | Element 5: Gateway address | Character value, *NONE | |
| TCPRTE | TCP/IP route configuration | Single values: *SAME, *NONE<br>Other values (up to 24 repetitions): Element list | Optional |
| | Element 1: Route destination | Character value, *DFTROUTE | |
| | Element 2: Subnet mask | Character value, *NONE, *HOST | |
| | Element 3: Next hop | Character value | |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **TCPHOSTNAM** | TCP/IP local host name | *Character value*, **\*SAME**, *NWSD | Optional |
| **TCPDMNNAME** | TCP/IP local domain name | *Character value*, **\*SAME**, *SYS | Optional |
| **TCPNAMSVR** | TCP/IP name server system | Single values: **\*SAME**, *SYS, *NONE<br>Other values (up to 3 repetitions): *Character value* | Optional |
| **VRTETHPTH** | Virtual Ethernet path | Single values: **\*SAME**<br>Other values (up to 5 repetitions): *Element list* | Optional |
| | Element 1: Port number | *VRTETHPTP, *VRTETH0, *VRTETH1, *VRTETH2, *VRTETH3, *VRTETH4, *VRTETH5, *VRTETH6, *VRTETH7, *VRTETH8, *VRTETH9 | |
| | Element 2: Network server host adapter | *Name* | |
| | Element 3: IP security rules | *Element list* | |
| | Element 1: Remote interface 1 rule | 1-16, *DFTSECRULE, *NONE | |
| | Element 2: Remote interface 2 rule | 1-16, *DFTSECRULE, *NONE | |
| | Element 3: Remote interface 3 rule | 1-16, *DFTSECRULE, *NONE | |
| | Element 4: Remote interface 4 rule | 1-16, *DFTSECRULE, *NONE | |
| **RSTDDEVRSC** | Restricted device resources | Single values: **\*SAME**, *NONE, *ALL<br>Other values (up to 10 repetitions): *Name*, *ALLTAPE, *ALLOPT | Optional |
| **NWSCFG** | Network server configuration | Single values: **\*SAME**<br>Other values: *Element list* | Optional |
| | Element 1: Remote system name | *Name*, *DFT | |
| | Element 2: Connection security name | *Name*, *DFT | |
| **VRTETHCTLP** | Virtual Ethernet control port | 1024-65535, **\*SAME** | Optional |
| **SYNCTIME** | Synchronize date and time | **\*SAME**, *TYPE, *YES, *NO, *NONE | Optional |
| **DSBUSRPRF** | Disable user profiles | **\*SAME**, *AUTO, *NO | Optional |
| **IPLSRC** | IPL source | **\*SAME**, *NWSSTG, *PANEL, *STMF, A, B, D | Optional |
| **IPLSTMF** | IPL stream file | *Path name*, **\*SAME**, *NONE | Optional |
| **IPLPARM** | IPL parameters | *Character value*, **\*SAME**, *NONE | Optional |
| **PWRCTL** | Power control | **\*SAME**, *YES, *NO | Optional |
| **SRVOPT** | Serviceability options | *Character value*, **\*SAME**, *NONE | Optional |
| **TEXT** | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

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# Network server description (NWSD)

Specifies the network server description to be changed.

This is a required parameter.

*name*    Specify the name of a network server description.

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# Resource name (RSRCNAME)

Specifies the resource name that identifies the hardware that the description represents.

**Notes:**

1. Use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified for the TYPE parameter to help determine the resource name. Specify the resource name of the input/output processor (IOP) or the input/output adapter (IOA) for the file server. More information about determining the resource name can be found in the IBM Systems Hardware Information Center.

2. This parameter can be changed only while the network server description is varied off.

**<u>*SAME</u>**
> The value does not change.

**\*NONE**
> A hardware resource is not associated with the network server description.
> 1. This value is only valid when **Server connection** specified *GUEST or *ISCSI for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.
> 2. *NONE is the only valid value when *ISCSI is specified for **Server connection** on the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.
> 3. *NONE is not valid when **Server connection** specified *GUEST and **Server operating system** specified *OPSYS for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.
> 4. *NONE is only valid value when **Server connection** specified *GUEST for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command and the hardware is prior to POWER 5.

**\*AUTO**
> A hardware resource will be determined based on the partition. This value is only valid when **Server connection** specified *GUEST for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

*name*    Specify a resource name.

# Storage path (STGPTH)

Specifies the storage paths the storage spaces can use. This information consists of two parts including the **Network server host adapter** description and the **IP security rules** for this path. You must enter at least one storage path. The first storage path in this parameter will be storage path one. You can enter up to four values for this parameter.

**Note:** This parameter is only valid when **Server connection** specified *ISCSI for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**Single values**

**<u>*SAME</u>**
> The value does not change.

**Element 1: Network server host adapter**

*name*    Specify the name of the network server host adapter (NWSH) device description.

The network server host adapter name must be unique for each **Storage path (STGPTH)** parameter on this NWSD.

**\*NONE**
>   This storage path is not configured by this network server description.

**Element 2: IP security rules**

Specify any relative entry of the IP security rule (IPSECRULE) parameter, defined in NWS Configuration (NWSCFG) of type *CNNSEC, that will be used for each remote interface's security.

>   **Element 1: Remote interface 1 rule**
>
>   **\*DFTSECRULE**
>>   Remote interface 1 will use IP security rule specified on the **Default IP security rule (DFTSECRULE)** parameter.
>
>   **\*NONE**
>>   Remote interface 1 will not use IP security rule.
>
>   *1-16*   Remote interface 1 will use IP security rule specified.
>
>   **Element 2: Remote interface 2 rule**
>
>   **\*DFTSECRULE**
>>   Remote interface 2 will use IP security rule specified on the DFTSECRULE parameter.
>
>   **\*NONE**
>>   Remote interface 2 will not use IP security rule.
>
>   *1-16*   Remote interface 2 will use IP security rule specified.
>
>   **Element 3: Remote interface 3 rule**
>
>   **\*DFTSECRULE**
>>   Remote interface 3 will use IP security rule specified on the DFTSECRULE parameter.
>
>   **\*NONE**
>>   Remote interface 3 will not use IP security rule.
>
>   *1-16*   Remote interface 3 will use IP security rule specified.
>
>   **Element 4: Remote interface 4 rule**
>
>   **\*DFTSECRULE**
>>   Remote interface 4 will use IP security rule specified on the DFTSECRULE parameter.
>
>   **\*NONE**
>>   Remote interface 4 will not use IP security rule.
>
>   *1-16*   Remote interface 4 will use IP security rule specified.

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# Default IP security rule (DFTSECRULE)

Specify any defined entry of the **IP security rules (IPSECRULE)** parameter, defined in **Network server configuration (NWSCFG)** of type connection security (*CNNSEC), that will be used for storage and virtual Ethernet connections that are configured to use the default security rule.

**Note:** This parameter is only valid when **Server connection** specified *ISCSI for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*SAME**
> The value does not change.

**\*NONE**
> Remote interfaces will not use IP security rules.

*1-16*   Remote interfaces will use IP security rule specified.

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# Multi-path group (MLTPTHGRP)

Specify storage paths as defined in the **Storage path (STGPTH)** parameter.
1. See the **Storage path (STGPTH)** parameter to determine what storage paths are valid.
2. This parameter is only valid when **Server connection** specified *ISCSI for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No multi-path group defined.

**Other values (up to 4 repetitions)**

*1-4*   Specify at least one relative storage path.

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# Default storage path (DFTSTGPTH)

Specify a storage path as defined in the **Storage path (STGPTH)** parameter or specify the multi-path group as defined in the **Multi-path group (MLTPTHGRP)** parameter.
1. See the **Storage path (STGPTH)** parameter to determine what storage paths are valid.
2. This parameter is only valid when **Server connection** specified *ISCSI for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*SAME**
> The value does not change.

*1-4*   Default storage path will be storage path 1, 2, 3 or 4.

**\*MLTPTHGRP**
> Default storage path will be the multi-path group storage path.

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# Removable media path (RMVMEDPTH)

Specify a storage path as defined in the **Storage path (STGPTH)** parameter.

1. See the **Storage path (STGPTH)** parameter to determine what storage paths are valid.

2. This parameter is only valid when **Server connection** specified *ISCSI for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*SAME**
> The value does not change.

*1-4*   Removable media will use storage path 1, 2, 3 or 4.

# Activation timer (ACTTMR)

Specifies the amount of time (in seconds) the system will wait for the connection to be established to the remote server service processor and to power on the remote server.

**Note:** This parameter is only valid when **Server connection** specified *ISCSI for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*SAME**
> The value does not change.

*integer*
> Specify, in seconds, a value ranging from 30 through 1800.

# Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**Notes:**

1. This parameter is ignored when **Server connection** specified *IXSVR or *ISCSI for the **Network server type (TYPE)** parameter. To have the integrated server vary on, use the CHGTCPIFC command and set the AUTOSTART parameter to *YES for the private LAN line description for the server or a startup program could be called to vary on the servers after IPL processing has completed.

2. When **Server connection** specified *GUEST for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command, it is recommended that *NO is configured. A startup program should then be called to vary on the servers after IPL processing has completed.

**\*SAME**
> The value does not change.

**\*YES**   This server is automatically varied on at IPL.

**\*NO**   This server is not automatically varied on at IPL.

# Vary on wait (VRYWAIT)

Specifies whether the network server description is varied on asynchronously or synchronously. For synchronous vary on, specifies how long the operating system waits for the vary on to complete.

**Note:** Vary on of a network server description resets the IOP when TYPE is *WINDOWSNT or *IXSVR.

**\*SAME**

The value does not change.

**\*NOWAIT**

The operating system does not wait for the vary on to complete. The network server description is varied on asynchronously.

*1-15* Specify the time (in minutes) to wait. The operating system waits until the network server description is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

# Shutdown timeout (SHUTDTIMO)

Specifies the shutdown timeout value in minutes. This is used to limit the amount of time that the integrated server operating system is allowed to shutdown before the network server description is varied off.

**\*SAME**

The value does not change.

**\*TYPE** The shutdown time-out value is based on the network server description type.

**Note:** The shutdown timeout value is 31 when **Server connection** specified *GUEST and **Server operating system** specified *OPSYS for the **Network server type (TYPE)** parameter. Shutdown timeout value is 15 for all other NWSDs.

*2-45* Specify the number of minutes to wait. i5/OS waits until the integrated server operating system has shutdown successfully, or until the specified time passes before varying the network server description off.

**Note:** When **Server connection** specified *GUEST and **Server operating system** specified *OPSYS for the **Network server type (TYPE)** parameter the range is 31 to 45 minutes.

# Partition (PARTITION)

Specifies the name of the logical partition to be used by this integrated server. Up to 48 characters may be specified.

**Note:** When **Server connection** specified *GUEST for the **Network server type (TYPE)** parameter either the **Partition (PARTITION)** or **Partition number (PTNNBR)** parameter can be specified but both parameters cannot be specified. When **Server connection** specified *GUEST for the **Network server type (TYPE)** parameter and RSRCNAME is specified, the **Partition (PARTITION)** and **Partition number (PTNNBR)** parameter can be set to *NONE.

**\*SAME**

The value does not change.

**\*NONE**

> A partition name is not used by this integrated server.

*name*   Specify the name of the partition to be used by this integrated server. The partition name PRIMARY cannot be specified.

## Partition number (PTNNBR)

Specifies the number of the logical partition to be used by this integrated server.

**Notes:**

1. When **Server connection** specified \*GUEST for the **Network server type (TYPE)** parameter either the **Partition (PARTITION)** or **Partition number (PTNNBR)** parameter can be specified but both parameters cannot be specified.

2. When **Server connection** specified \*GUEST for the **Network server type (TYPE)** parameter and RSRCNAME is specified, the **Partition (PARTITION)** and **Partition number (PTNNBR)** parameter can be set to \*NONE.

**\*SAME**

> The value does not change.

**\*NONE**

> A partition number is not used by this integrated server.

*number*

> Specify the number of the partition to be used by this integrated server.

## Propagate domain users (PRPDMNUSR)

Specifies whether domain user enrollment should be allowed or not for this network server description.

**Note:** This parameter is ignored when **Server connection** specified \*GUEST or **Server operating system** specified \*LINUX32 or \*LINUX64 for **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*SAME**

> The value does not change.

**\*YES**   Propagation of domain user enrollment is allowed for this network server description.

**\*NO**   Propagation of domain user enrollment is not allowed for this network server description.

## Code page (CODEPAGE)

Specifies the ASCII code page representing the character set to be used by this integrated server. Only certain code pages can be used for a given country or region code.

**Notes:**

1. This parameter can be changed only while the network server description is varied off.

2. This parameter is ignored when **Server connection** specified *GUEST or **Server operating system** specified *LINUX32 or *LINUX64 for **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*SAME**
> The value does not change.

**\*LNGVER**
> Specifies to use the default code page corresponding to the language version (LNGVER) selected.

*integer-number*
> Specify the ASCII code page which represents the character set used by the integrated server. The code pages values that can be used with each country or region code are:
>
> | | |
> |------|------|
> | **437** | United States |
> | **850** | Multilingual |
> | **852** | Latin 2 (Czechoslovakia, Hungary, Poland, countries of the former Yugoslavia) |
> | **857** | Turkish |
> | **860** | Portuguese |
> | **861** | Iceland |
> | **862** | Hebrew-speaking |
> | **863** | Canada (French-speaking) |
> | **864** | Arabic-speaking |
> | **865** | Nordic |
> | **866** | Russian |
> | **932** | Japanese |
> | **934** | Korean |
> | **938** | Chinese |
> | **942** | Japanese SAA |
> | **944** | Korean SAA |
> | **948** | Chinese SAA |
> | **950** | Traditional Chinese (DBCS) |
> | **1381** | Simplified Chinese (DBCS) |

# Server message queue (MSGQ)

Specifies the message queue to receive integrated server messages.

For details on the type of messages that are sent to this message queue, see the appropriate documentation that is associated with the type of integrated server.

**Note:** When a value other than *NONE is specified, all integrated server activity will be logged to either the monitor job log or the specified message queue. You should take the appropriate steps to secure this information on i5/OS.

One method of restricting access to the integrated server information on i5/OS is to create a message queue to contain the server activity. This message queue should be created with AUT(*EXCLUDE) and then any users that are to have access to the integrated server activity can be granted explicit authority to the message queue using the GRTOBJAUT command. Specify this message queue for this parameter.

**Single values**

**\*SAME**
The value does not change.

**\*JOBLOG**
Messages are placed on the joblog of the monitor job.

**\*NONE**
Messages are not placed on any message queue.

**Qualifier 1: Server message queue**

*name*   Specify the name of the message queue to receive messages issued by the integrated server.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*name*   Specify the name of the library to be searched.

# Event log (EVTLOG)

Specifies whether or not messages from the event logs are received from the server.

**Notes:**

1. Event log messages are placed in the message queue that is specified for the **Server message queue (MSGQ)** parameter. The MSGQ value cannot be *NONE if a value other than *NONE is specified for this parameter. See the MSGQ parameter description for more information.

2. This parameter is not valid when **Server connection** specified *GUEST or **Server operating system** specified *LINUX32 or *LINUX64 for **Network server type (TYPE)** parameter.

**Single values**

**\*SAME**
The value does not change.

**\*ALL**   All the event log messages are received.

**\*NONE**
No event log messages are received.

**Other values (up to 3 repetitions)**

**Note:** Each value can only be specified once.

**\*SYS**   The system event log messages are received.

**\*SEC**   The security event log messages are received.

**\*APP**     The application event log messages are received.

## Communications message queue (CMNMSGQ)

Specifies the name of a message queue to receive network server host adapter communications status messages.

**Note:** This parameter is only valid when **Server connection** specified \*ISCSI for the **Network server type (TYPE)** parameter.

**Single values**

**\*SAME**
>The value does not change.

**\*SYSOPR**
>Causes network server host adapter communications status messages to be placed in the system operator message queue.

**Qualifier 1: Communications message queue**

*name*     Specify the name of a message queue to receive network server host adapter communications status messages.

**Qualifier 2: Library**

**\*LIBL**     All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
>The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*name*     Specify the name of the library to be searched.

## Configuration file (CFGFILE)

Specifies the source file containing configuration data to be used in activating or further defining the integrated server.

**Note:** This parameter is not valid when **Server connection** specified \*GUEST for **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**Single values**

**\*SAME**
>The value does not change.

**\*NONE**
>No configuration file is specified.

**Qualifier 1: Configuration file**

*name*     Specify the name of the source file containing the configuration data members for the server. At the time the server is activated, all members in the file are processed. The file must exist on the system by the time the server is activated.

**Qualifier 2: Library**

*LIBL  All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
>    The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*name*  Specify the name of the library to be searched.

## Pool identifier (POOL)

Specifies the shared data storage pool this integrated server should use.

**Note:** This parameter is not valid when **Server connection** specified *IXSVR or *WINDOWSNT for **Network server type (TYPE)** parameter.

**\*SAME**
>    The value does not change.

**\*BASE**
>    The base pool is to be used by this integrated server.

**\*SHRPOOLnn**
>    Specifies the shared pool to be used by this integrated server. There are sixty general-purpose shared pools, identified by special values *SHRPOOL1 to *SHRPOOL60.

## TCP/IP port configuration (TCPPORTCFG)

Specifies the TCP/IP configuration values that are specific to a port on the integrated server.

This information consists of five parts including the identification of the integrated server port, the internet address, the subnet mask, MTU and the default gateway assigned to the port.

**Note:** *NONE cannot be specified when **Server connection** specified *IXSVR or *ISCSI for the **Network server type (TYPE)** parameter.

**Single values**

**\*SAME**
>    The value does not change.

**\*NONE**
>    There is no TCP/IP port configuration.

**Other values (up to 5 repetitions)**

**Element 1: Port**

**Note:** Each value can only be specified once.

**1**      Integrated server port number 1 is configured.

**2**      Integrated server port number 2 is configured.

**3**      Integrated server port number 3 is configured.

**4**     Integrated server port number 4 is configured.

**\*INTERNAL**
>     The integrated server internal token ring port is configured.
>
>     **Note:** \*INTERNAL is not valid when **Server connection** specified \*ISCSI or \*GUEST for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*VRTETHPTP**
>     The integrated server virtual Ethernet point to point port is configured.

**\*VRTETHn**
>     Virtual Ethernet port **'n'** is configured, where **'n'** is a number from 0 to 9.

### Element 2: Internet address

*character-value*
>     Specify the internet address associated with the integrated server port.
>
>     The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.
>
>     An internet address that has a binary value of all ones or all binary zeros for the network identifier (ID) portion or the host ID portion of the internet address is not valid.
>
>     **Note:** The internet address selected must be unique across all network server descriptions and the i5/OS TCP/IP configuration.

### Element 3: Subnet mask

*character-value*
>     Specify the subnet mask associated with the integrated server port.
>
>     The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.

### Element 4: Maximum transmission unit

**1500**     The maximum transmission unit (MTU) value is 1500 bytes.

*integer*
>     Specifies the MTU value for the interface.

### Element 5: Gateway address

**\*NONE**
>     There is no gateway address.

*character-value*
>     Specify the gateway address associated with the integrated server port.
>
>     The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.

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# TCP/IP route configuration (TCPRTE)

Specifies routes to remote destination systems or networks to the Transmission Control Protocol/Internet Protocol (TCP/IP) configuration for the integrated server. A route specification has three elements, the route destination, the subnet mask, and the next hop internet address. A maximum of 24 route specifications can be specified.

**Note:** This parameter will be ignored when **Server connection** specified *IXSVR or *ISCSI for the **Network server type (TYPE)** parameter.

Two values uniquely define a route. They are the route destination field and the subnet mask. For *DFTROUTE values, the next hop element uniquely defines the route.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> There is no routing specification needed for the integrated server. *NONE must be specified when TCPPORTCFG(*NONE) is specified. *NONE may be specified if there is no need for route specifications.

**Element 1: Route destination**

Specifies the remote network or host that is being added. The user must specify all four bytes that make up an internet address though some of the bytes may be equal to 0. For example, a route to all the hosts on the 9.5.11 subnet is identified by entering 9.5.11.0 for the route destination. Used in combination with a subnet mask, the route destination will identify a route to a network or system.

**\*DFTROUTE**
> A TCP/IP default route is being added. A default route entry is used by the system to route data that is being sent to an undefined network or system. Multiple *DFTROUTE entries may be specified. The *DFTROUTE entries are used in the order specified. If a particular next hop gateway on a *DFTROUTE entry is not available, then the subsequent *DFTROUTE entry's next hop gateway specified will be used. This will continue until a *DFTROUTE entry's gateway is found that is active or the list of next hop gateway values is exhausted.

*character-value*
> Specify the route destination being added. The route destination can be specified in the form, *nnn.0.0.0* for Class A, *nnn.nnn.0.0* for Class B, and *nnn.nnn.nnn.0* for Class C, or *nnn.nnn.nnn.nnn* for any combination thereof, where *nnn* is a decimal number ranging from 0 through 255.

> **Note:** Any combination thereof means that you may specify a route, such as 9.5.0.0 to the hosts on the 9.5 subnet even though all 9.5.x.x addresses are class A network addresses.

> Exceptions:
> - The first byte (octet) must be greater than 0 and less than 255
> - The last byte (octet) may not equal 255.
> - The last byte (octet) may not equal 0 if *HOST is specified for the SUBNETMASK value.
> - Routes to a broadcast address are not allowed.

**Element 2: Subnet mask**

A subnet mask value must be specified if *DFTROUTE or a route destination is entered for the route destination element. Subnet mask specifies a bit mask that identifies to TCP/IP which bits of the value specified for the route destination compose the network and subnet portions of the internet address. The subnet is identified by combining the route destination internet address and the subnet mask.

**\*NONE**
> There is no subnet mask. If *DFTROUTE is specified in the route destination element, then *NONE must be specified. *NONE is valid only for the *DFTROUTE route destination value.

**\*HOST**
> The internet address value specified in the route destination field is a host address. The subnetmask value is calculated to be 255.255.255.255.

*character-value*
> Specify the mask of the subnet field. The internet address is in the form, *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255. For example, a destination route's internet address value of 129.35.11.0 is a Class B subnet. The network ID part of its address is 129.35. The upper 2 bytes must designate 255 in the subnet mask, for example, the subnet mask must appear like 255.255.x.x, where x is determined by the user. The portion of the subnet mask which is associated with the network portion of a particular class of address must equal 255.

**Element 3: Next hop**

The next hop value specifies the internet address of the next system (gateway) on the route. A route cannot be added unless the internet address specified by the next hop element is directly reachable through a network associated with one of the integrated server ports.

See the *Fastpath for TCP/IP* book for general information about internet addresses.

*character-value*
> Specify the internet address of the next system on the route in the form, *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255 except that the host ID portion and the network ID portion of the internet address may not be all 0 bits or all 1 bits. An internet address that has all binary ones or all binary zeros for the network ID portion or the host ID portion of the internet address is not valid.

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# TCP/IP local host name (TCPHOSTNAM)

Specifies the short form of the host name to be associated with the integrated server.

The host name can be a text string having 1 through 63 characters.

The following characters are allowed in host names:
- Alphabetical characters A through Z
- Digits 0 through 9
- Minus sign (-)
- Period (.)
- Underscore (_)

**\*SAME**
> The value does not change.

**\*NWSD**
> Specifies that the host name for the integrated server is the same as the name of the network server description. \*NWSD must be specified if \*NONE is specified for the **TCP/IP port configuration (TCPPORTCFG)** parameter.

*name*  Specify a host name to be associated with the integrated server.

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# TCP/IP local domain name (TCPDMNNAME)

Specifies the local domain name associated with the integrated server.

A domain name can be a text string having 1 to 255 characters. Domain names consist of one or more labels separated by periods. Each label can contain up to 63 characters. The following characters are allowed in domain names:

- Alphabetical characters A through Z
- Digits 0 through 9
- Minus sign (-)
- Underscore (_)
- Period (.). Periods are only allowed when they separate labels of domain style name (refer to RFC 1034).

Uppercase and lowercase characters are allowed, but no significance attached to the case. The case is maintained as entered. The first and last character of the host name must be an alphabetic character or a digit.

**Note:** *SYS must be specified if TCPPORTCFG(*NONE) is specified. Also, *SYS must be specified if only an *INTERNAL port is specified on the TCPPORTCFG parameter.

***SAME**
> The value does not change.

***SYS**   Specifies that the local domain name for the integrated server should be the same value as is configured for i5/OS.

*character-value*
> Specify a TCP domain name to be associated with the integrated server.

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# TCP/IP name server system (TCPNAMSVR)

Specifies the internet address of the name server system that is used by the integrated server. Typically, this is the same value as it is for i5/OS.

**Note:** *SYS must be specified if TCPPORTCFG(*NONE) is specified.

**Single values**

***SAME**
> The value does not change.

***SYS**   The name server systems used by the integrated server should be the same as for i5/OS.

***NONE**
> There is no name server to be used by the integrated server.

**Other values (up to 3 repetitions)**

*character-value*
> Specify an internet address for the name server system to be used by the integrated server. Up to three remote name server systems can be specified. The name server systems are used in the order they are specified.
>
> The value is specified in the form nnn.nnn.nnn.nnn , where nnn is a decimal number ranging from 0 through 255.

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# Virtual Ethernet path (VRTETHPTH)

Specifies the virtual Ethernet paths the Ethernet line descriptions can use. This information consists of three parts including the virtual Ethernet port, the **Network server host adapter** description and the **IP security rules** for this path. You can enter up to five values for this parameter. You must enter at least one virtual Ethernet path which is the path to be used by the *VRTETHPTP line description.

**Note:** This parameter is only valid when **Server connection** specified *ISCSI for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**Single values**

**\*SAME**
     The value does not change.

**Element 1: Port number**

**\*VRTETHPTP**
     The integrated server virtual Ethernet point to point port is configured.

**\*VRTETHn**
     Virtual Ethernet port 'n' is configured, where 'n' is a number from 0 to 9.

**Element 2: Network server host adapter**

*name*     Specify the name of an existing network server host adapter (NWSH) description. The network server host adapter name does not need to be unique for each VRTETHPTH parameter on this NWSD.

**Element 3: IP security rules**

Specify any relative entry of the IP security rule (IPSECRULE) parameter, defined in NWS Configuration (NWSCFG) of type *CNNSEC, that will be used for each remote port's security.

     **Element 1: Remote interface 1 rule**

     **\*DFTSECRULE**
          Remote interface 1 will use IP security rule specified on the **Default IP security rule (DFTSECRULE)** parameter.

     **\*NONE**
          Remote interface 1 will not use IP security rule.

     *1-16*     Remote interface 1 will use IP security rule specified.

     **Element 2: Remote interface 2 rule**

     **\*DFTSECRULE**
          Remote interface 2 will use IP security rule specified on the DFTSECRULE parameter.

     **\*NONE**
          Remote interface 2 will not use IP security rule.

     *1-16*     Remote interface 2 will use IP security rule specified.

     **Element 3: Remote interface 3 rule**

     **\*DFTSECRULE**
          Remote interface 3 will use IP security rule specified on the DFTSECRULE parameter.

     **\*NONE**
          Remote interface 3 will not use IP security rule.

**Element 4: Remote interface 4 rule**

**\*DFTSECRULE**
Remote interface 4 will use IP security rule specified on the DFTSECRULE parameter.

**\*NONE**
Remote interface 4 will not use IP security rule.

*1-16*     Remote interface 4 will use IP security rule specified.

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# Restricted device resources (RSTDDEVRSC)

Specifies the tape and optical device resource names that are restricted and cannot be used by the integrated server.

The resource is used when the integrated server is active and a request is issued from a client that is running an application. The device resource cannot be used by the client application and i5/OS based application at the same time. If the device resource is intended to be used by an application, it will need to be available when the application is ready to use it.

**Notes:**
1. Only tape and optical device resources can be restricted.
2. If other device resources are specified that are not valid or are not detected, they will not allow the network server description to vary on.
3. This parameter can be changed only while the network server description is varied off.

**Single values**

**\*SAME**
The value does not change.

**\*NONE**
No device resources are restricted from the integrated server. Therefore, any tape or optical device resources that exist on the system can be used.

**\*ALL**     All tape and optical device resources are restricted from being used by the integrated server.

**Other values (up to 10 repetitions)**

**\*ALLOPT**
All optical device resources are restricted from being used by the integrated server.

**Note:** This value can only be specified once.

**\*ALLTAPE**
All tape resources are restricted from being used by the integrated server.

**Note:** This value can only be specified once.

*name*     Specify the resource name of a restricted device that cannot be used by the integrated server. Up to 10 restricted device resource names can be specified.

<div align="right"></div>

# Network server configuration (NWSCFG)

Specifies the network server configuration descriptions to use with this NWSD. This information consists of two parts including the **Remote system name** and **Connection security name**

**Note:** This parameter is only valid when **Server connection** specified *ISCSI for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**Single values**

**\*SAME**
> The value does not change.

**Element 1: Remote system name**

**\*DFT** Use the system generated default remote system network server configuration name of 'nwsdnameRM' where nwsdname is the name of this network server description.

*name* Specify the name of an existing remote system network server configuration description.

**Element 2: Connection security name**

**\*DFT** Use the system generated default connection security network server configuration name of 'nwsdnameCN' where nwsdname is the name of this network server description.

*name* Specify the name of an existing connection security network server configuration description.

# Virtual Ethernet control port (VRTETHCTLP)

Specifies the TCP port to use for virtual Ethernet control.

This port listens through the local area network (LAN) interface configured for any network server host adapter (NWSH) device associated with the network server description (NWSD) object on the **Virtual Ethernet path (VRTETHPTH)** parameter.

**Note:** This parameter is only valid when **Server connection** specified *ISCSI for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*SAME**
> The value does not change.

*integer*
> Specifies the port number identifying the port that is to be used for virtual Ethernet control. Valid values range from 1024 through 65,535. Default value is 8800.

# Synchronize date and time (SYNCTIME)

Specifies whether i5/OS should synchronize the integrated server date and time with i5/OS date and time.

The QTIMZON system value must be set to the correct value for time synchronization to work correctly.

**Note:** This parameter is not valid when *GUEST is specified for the **Network server type (TYPE)** parameter.

**\*SAME**
> The value does not change.

**\*TYPE** i5/OS will perform synchronization based on the network server description type. If **Server connection** specified \*IXSVR or \*ISCSI or \*WINDOWSNT for the **Network server type (TYPE)** parameter, synchronization will be done as if SYNCTIME(\*YES) was specified.

**\*YES** i5/OS will synchronize integrated server date and time with i5/OS date and time.

> The following occurs when **Server connection** specified \*IXSVR or \*ISCSI for the **Network server type (TYPE)** parameter:
> - If the network server description is varied on, this reset will occur immediately and at least every 30 minutes thereafter.
> - If the network server description is varied off, this reset will occur when the network server description is varied on and at least every 30 minutes thereafter.

**\*NO** i5/OS only synchronizes the integrated server date and time with i5/OS date and time once when the network server description is varied on.

**\*NONE**
> i5/OS will never synchronize the integrated server date and time with the i5/OS date and time when the network server description is varied on.

## Disable user profiles (DSBUSRPRF)

Specifies whether to disable the integrated servers user profiles if the corresponding i5/OS user profiles are disabled.

**Note:** This parameter is not valid when **Server connection** specified \*GUEST or **Server operating system** specified \*LINUX32 or \*LINUX64 for **Network server type(TYPE)** parameter.

**\*SAME**
> The value does not change.

**\*AUTO**
> Integrated server user profiles are disabled if corresponding i5/OS user profiles are disabled.

**\*NO** Integrated server user profiles are not disabled if corresponding i5/OS user profiles are disabled.

## IPL source (IPLSRC)

Specifies the source of the load image that the partition is started from.

**Note:** This parameter is only valid when **Server connection** specified \*GUEST for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*SAME**
> The value does not change.

**\*NWSSTG**
> The partition is started using the load image in the first network server storage space attached to this network server description.

**\*STMF**
> The partition is started using the load image in the stream file specified by the IPL stream file (IPLSTMF) parameter.

**Note:** This value is not valid when **Server operating system** specified *OPSYS for **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*PANEL**
> The partition is started from the source indicated on the operator's panel.

**A**      The partition is started from the A-source.

**B**      The partition is started from the B-source.

**D**      The partition is started from the D-source.

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## IPL stream file (IPLSTMF)

Specifies the path of the stream file containing the image that the partition should be loaded from.

**Note:** This parameter is only valid when **Server connection** specified *GUEST for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command, and *STMF is specified for the **IPL source (IPLSRC)** parameter.

**\*SAME**
> The value does not change.

**\*NONE**
> A stream file is not specified.

*path-name*
> Specify the path of the stream file containing the load image. Up to 5000 characters may be specified.

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## IPL parameters (IPLPARM)

Specifies a string of characters that will be passed to the load image at IPL time. It consists of commands or configuration information for the guest operating system.

**Note:** This parameter is only valid when **Server connection** specified *GUEST for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*SAME**
> The value does not change.

**\*NONE**
> IPL parameters are not passed to the load image.

**Note:** *NONE is only valid value when **Server operating system** specified *OPSYS for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

*character-value*
> Specify a string of up to 256 characters containing the IPL parameters to be passed to the load image.

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## Power control (PWRCTL)

Specifies whether the integrated server partition will be powered down when the network server description is varied offline or powered up when the network server description is varied online.

**Note:** This parameter is only valid when **Server connection** specified *GUEST for the **Network server type (TYPE)** parameter in the corresponding **CRTNWSD** command.

**\*SAME**
> The value does not change.

**\*YES** The integrated server partition will be powered down when the network server description is varied offline or powered up when the network server description is varied online.

**\*NO** The integrated server partition will not be powered down when the network server description is varied offline and the partition will not be powered up when the network server description is varied online.

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## Serviceability options (SRVOPT)

Specifies serviceability options. This parameter allows serviceability options to be provided and is intended to be used under the direction of a service provider.

**\*SAME**
> The value does not change.

**\*NONE**
> No serviceability options provided.

*character-value*
> Specify a value as directed by your service provider.

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## Text 'description' (TEXT)

Specifies the text that briefly describes the network server description.

**\*SAME**
> The value does not change.

**\*BLANK**
> Text is not specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

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## Examples

**Example 1: Changing the TCP/IP Route Configuration**

```
CHGNWSD   NWSD(REMODEL2)  TCPRTE((*DFTROUTE *NONE '9.5.5.1'))
```

This command changes a network server description named REMODEL2. The TCP/IP default route next hop address is changed to 9.5.5.1.

**Example 2: Changing the Restricted Device Resources**

```
CHGNWSD   NWSD(WNTSVR4)  RSTDDEVRSC(OPT02 *ALLTAPE)
```

This command changes a network server description named WNTSVR4. Device resource OPT02 and all tape resources (*ALLTAPE) are changed to have their access restricted from the network server description.

**Example 3: Changing the Storage Path, Multi-path Group, Network Server Configuration and Shutdown TCP Port**

```
CHGNWSD NWSD(WINISCSI) STGPTH((NWSH3) (NWSH4 (5 3 8 9)))
        MLTPTHGRP(1 2)
        NWSCFG(YOURREMOTE YOURSECURITY)
        VRTETHCTLP(8950)
```

This command changes a network server description named WINISCSI. Storage paths one and two are changed to use network server host adapters NWSH3 and NWSH4 and associated IP security rules. Multi-path group was changed to use storage paths 1 and 2. Network server description was changed to use YOURREMOTE for Remote system name and YOURSECURITY for Connection security name, and Virtual Ethernet control port was changed to 8950.

**Example 4: Changing the Pool Identifier and Disable User Profiles**

```
CHGNWSD NWSD(WINISCSI) POOL(*SHRPOOL55) DSBUSRPRF(*NO)
```

This command changes a network server description named WINISCSI. Shared storage pool 55 will be used and Disable of user profiles will not be done.

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## Error messages

**\*ESCAPE Messages**

**CPF26AD**
>    Network server description &1 not changed.

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# Change NWS Storage Space (CHGNWSSTG)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Network Server Storage Space (CHGNWSSTG) command changes a storage space used by a network server. The network storage space must be linked to a network server description before it can be used. For more information see the Add Network Server Storage Link (ADDNWSSTGL) command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| NWSSTG | Network server storage space | *Name* | Required, Key, Positional 1 |
| NWSSIZE | Size | *Integer*, **\*SAME** | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

## Network server storage space (NWSSTG)

Specifies the name of the network server storage space to be changed.

## Size (NWSSIZE)

Specifies the new size for the network server storage space. The specified size must be larger than the current size of the network server storage space.

**\*SAME**
>	The size will not be changed.

*1-1024000*
>	Specify the new size for the network server storage space, in megabytes.
>	- The range for FORMAT(*NTFS) is from 2 to 1024000 megabytes.
>	- The range for FORMAT types *FAT, *FAT32, and *OPEN is from 1 to 1024000 megabytes.
>	- The range for FORMAT(*NTFSQR) is from 500 to 1024000 megabytes.

## Text 'description' (TEXT)

Specifies text describing the storage space.

**\*SAME**
>	The text will not be changed.

**697**

**\*BLANK**
>   Text is not specified.

*'description'*
>   Specify no more than 50 characters of text, enclosed in apostrophes.

## Examples

```
CHGNWSSTG   NWSSTG(STGSPACE3)   NWSSIZE(200)
```

This command will increase the network server storage space STGSPACE3 to a size of 200 megabytes. If the current maximum size of STGSPACE3 is greater than 200 megabytes, the command will fail.

## Error messages

**\*ESCAPE Messages**

**CPFA489**
>   Storage space &2 not changed.

**CPFA48A**
>   Incorrect NWSSIZE value specified for storage space &2.

# Change NWS User Attributes (CHGNWSUSRA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Network Server User Attributes (CHGNWSUSRA) command is used to change network server attributes for an i5/OS user or group profile that operate in a networking environment. This command can be used to do the following:

1. Set network server attributes for a specific user or group profile.
2. For Windows networks, the network server attributes can be set so that a user or group profile will be enrolled into one or more Windows domains or local servers. When enrolling into a Windows local server, the server must be associated with a locally attached Integrated xSeries Server. Where the profile is enrolled depends on the values specified by the WNTDMNLST and WNTLCLSVRL parameters.

   When an i5/OS user is enrolled, a matching Windows user identity is created in the Windows domain or on the Windows local server.

   When an i5/OS group profile is enrolled into a Windows domain or local server, a matching Windows group is created in the domain or local server. All i5/OS user profiles that are defined in the group are enrolled into the domain or local server and added to the Windows groups that are currently defined by the user account template.

Network server user attributes are saved by the Save System (SAVSYS) and Save Security Data (SAVSECDTA) commands. Network server user attributes are restored to the system when the user profile is restored. The Restore User Profiles (RSTUSRPRF) command can be used to restore user profiles and the network server user attributes associated with them.

**Restrictions:**

1. Only a user with *OBJMGT and *USE authorities to the user profile being changed, can specify this command.
2. To make changes to the WNTDMNLST, or WNTLCLSVRL parameters, a user must have *SECADM special authority.
3. The Windows domain and server names specified in the WNTDMNLST and WNTLCLSVRL parameters must follow the naming conventions of Windows.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| USRPRF | User profile | *Simple name*, **\*CURRENT** | Optional, Key, Positional 1 |
| PRFTYPE | Profile type | **\*USER**, *GROUP | Optional, Key, Positional 2 |
| PMTCTL | Prompt control | **\*ALL**, *WINDOWS, *WINDOWSNT | Optional, Key, Positional 3 |
| PRPGRPMBR | Propagate group members | **\*SAME**, *NONE, *ALL, *MBRONLY | Optional |
| DFTSVRTYPE | Default server type | **\*SAME**, *WINDOWS, *NWSA, *WINDOWSNT | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| WNTDMNLST | Windows server domain list | Single values: **\*SAME**, \*NWSA, \*NONE<br>Other values (up to 64 repetitions): *Element list* | Optional |
| | Element 1: Domain | *Character value* | |
| | Element 2: User template | *Character value*, **\*NONE** | |
| | Element 3: Group type | **\*GLOBAL**, \*LOCAL | |
| WNTLCLSVRL | Windows local server list | Single values: **\*SAME**, \*NWSA, \*NONE<br>Other values (up to 64 repetitions): *Element list* | Optional |
| | Element 1: Server | *Character value* | |
| | Element 2: User template | *Character value*, **\*NONE** | |

## User profile (USRPRF)

Specifies the name of an i5/OS user profile whose network server attributes are to be set.

The following IBM-supplied objects are not valid on this parameter:

| | | |
|---|---|---|
| QAUTPRF | QNFSANON | QYCMCIMOM |
| QCOLSRV | QRJE | QEJBSVR |
| QDBSHR | QSNADS | QSRVAGT |
| QDBSHRDO | QSPL | QANZAGENT |
| QDFTOWN | QSPLJOB | QIBMHELP |
| QDOC | QSYS | |
| QDSNX | QTCP | |
| QEJB | QTFTP | |
| QFNC | QTSTRQS | |
| QGATE | QCLUMGT | |
| QLPAUTO | QTCM | |
| QLPINSTALL | QIPP | |
| QMSF | QPM400 | |
| QNETSPLF | QNTP | |
| QYPSJSVR | QCLUSTER | |
| | QMGTC | |

The following profile names are not valid on this parameter when enrolling to a Windows domain or server.

GUEST
GUESTS
REPLICATOR
USERS

Note that QAUTPRF and QNFSANON were not disallowed in versions earlier than V4R1. Also, profiles QPRJOWN, QSRV, QSRVBAS, QSVSM, QTMPLPD, and QUMB were disallowed in pre-V4R1 versions, but are now legal to enroll. The change was made in order to keep in sync with the list of objects that i5/OS security uses for some commands.

**\*CURRENT**
> The user profile attributes for the current user profile are changed.

*user-name*
> Specify the name of an i5/OS user or group profile.

## Profile type (PRFTYPE)

Specifies whether the user or group attributes for a profile are to be changed.

**<u>*USER</u>**
> The user profile attributes are changed.

**\*GROUP**
> The group profile attributes are changed.

## Prompt control (PMTCTL)

Specifies which network server attributes should be prompted for on the command.

**<u>*ALL</u>**   All parameters are prompted.

**\*WINDOWS or \*WINDOWSNT**
> Only those parameters that apply to Windows domains and servers are prompted.
>
> **Note:** *WINDOWS should be used in V5R4 and later releases. The *WINDOWSNT value is supported for compatibility with releases prior to V5R4.

## Propagate group members (PRPGRPMBR)

Specifies how an i5/OS group and its users are to be enrolled. There are two different ways that an i5/OS group and its users can be enrolled.

1. The i5/OS group is enrolled in the network. All of the members of the group are also enrolled in the network and added to the newly created group.
2. Only the members of the i5/OS group are enrolled in the network. The group itself is not enrolled in the network.

**<u>*SAME</u>**
> The PRPGRPMBR value does not change. If the PRPGRPMBR parameter has never been set, it is defaulted to *ALL.

**\*ALL**   The i5/OS group and all members of the group are enrolled. Any user profiles added to this group at a later time are also enrolled into the network.

**\*MBRONLY**
> Only the members of the group are enrolled. The group itself is not enrolled. Any user profiles added to this group at a later time are also enrolled into the network.

## Default server type (DFTSVRTYPE)

Specifies the default server type for this user. This attribute is used primarily as a default for those i5/OS commands that support multiple network types.

**<u>*SAME</u>**
> The default server type does not change.

**\*NWSA**

The default server type from the system network server attributes is used.

**\*WINDOWS or \*WINDOWSNT**

The default server type for the user is set to \*WINDOWS.

**Note:** \*WINDOWS should be used in V5R4 and later releases. The \*WINDOWSNT value is supported for compatibility with releases prior to V5R4.

# Windows server domain list (WNTDMNLST)

Specifies a list of Windows domains that will be used by the i5/OS user enrollment support to determine into which Windows domains this i5/OS profile is enrolled.

Each entry in the list will contain a domain, a user account template name, and a group type. The user account template name is the name of a Windows user identity that is to be used when creating new Windows users.

Up to 64 entries can be specified for this parameter. An entry consists of a value from each of the following elements. A domain name must be entered for each entry and must be unique within the list.

If the WNTDMNLST parameter has never been set, it is defaulted to \*NONE.

**Single values**

**\*SAME**

The Windows domain list entries do not change.

**\*NWSA**

When \*NWSA is specified, the Windows domain list from the system network server attributes is used.

**\*NONE**

When \*NONE is specified, this profile will not be enrolled into any Windows domains.

**Element 1: Domain**

*'domain-name'*

Specify the name of the Windows domain where the i5/OS user enrollment support will enroll this i5/OS profile.

**Element 2: User template**

Specifies the name of a Windows user that can be used as a template when creating new Windows users in the Windows domain.

**Note:** Changing this value will not affect Windows users that are already enrolled in the domain.

**\*NONE**

No Windows user account template is used when creating a new user identity in the Windows domain.

*'user-account-template-name'*

Specifies the name of a Windows user account to be used when creating new Windows user identities in the domain.

**Element 3: Group type**

Specifies the type of group to be created in the Windows domain. This element is ignored when PRFTYPE(*USER) is specified.

**\*GLOBAL**
> A global group is created in the Windows domain.

**\*LOCAL**
> A local group is created in the Windows domain.

## Windows local server list (WNTLCLSVRL)

Specifies a list of Windows local servers that will be used by the i5/OS user enrollment support to determine into which Windows local server the i5/OS profile is enrolled. Only those server names associated with locally configured Integrated xSeries Servers can be specified in this list.

Each entry in the list will contain a server name and associated user account template name. The user account template name is the Windows user account to be used when creating new Windows user identities on the server.

Up to 64 entries can be specified for this parameter. An entry consists of a value from each of the following elements. A server name must be entered for each entry and must be unique within the list.

If the WNTLCLSVRL parameter has never been set, it is defaulted to *NONE.

**Single values**

**\*SAME**
> The value does not change.

**\*NWSA**
> When *NWSA is specified, the Windows local server list from the system network server attributes is used.

**\*NONE**
> When *NONE is specified, this profile will not be enrolled into any Windows local servers.

**Element 1: Server**

*'server-name'*
> Specify the name of a Windows local server where the i5/OS user enrollment support will enroll this i5/OS profile. This server must be a locally configured Integrated xSeries Server.

**Element 2: User template**

Specifies the name of a Windows user that can be used as a template when creating new Windows users on the local server.

**Note:** Changing this value will not affect Windows users that are already enrolled on the server.

**\*NONE**
> No Windows user account template is used when creating a new user identity on the Windows local server.

*'user-account-template-name'*
> Specifies the name of a Windows user account to be used when creating new Windows user identities on the local server.

## Examples

**Example 1: Enrolling a user into a Windows network**

```
CHGNWSUSRA   USRPRF(BOB)  DFTSVRTYPE(*WINDOWS)
             WNTDMNLST((DMN01 USRTMP1) (DMN02 *NONE))
             WNTLCLSVRL((LCLSVR1 TMPL1) (LCLSRV2 *NONE))
```

The above command will change the network server user attributes for user profile BOB. BOB's default server type is set to *WINDOWS.

The i5/OS user enrollment support will enroll user BOB into domain DMN01 using user account template USRTMP1 and also into domain DMN02.

The i5/OS user enrollment support will also enroll user BOB into local server LCLSVR1 using user account template TMPL1 and also into local server LCLSRV2.

## Error messages

**\*ESCAPE Messages**

**CPFA450**

Network server user attributes for user profile &1 not changed. See previous messages.

# Change Object Auditing (CHGOBJAUD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Object Auditing (CHGOBJAUD) command allows users with *AUDIT special authority to set up or change auditing on an object. Users with *AUDIT special authority can turn auditing on or off for an object regardless of whether they have authority to the object. The system value QAUDCTL controls turning auditing on and off. The auditing attribute of an object can be displayed with the Display Object Description (DSPOBJD) command.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| **OBJ** | Object | *Qualified object name* | Required, Positional 1 |
| | Qualifier 1: Object | *Generic name, name*, *ALL | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *USRLIBL, *CURLIB, *ALL, *ALLUSR, *ALLAVL, *ALLUSRAVL | |
| **OBJTYPE** | Object type | *ALL, *ALRTBL, *AUTHLR, *AUTL, *BNDDIR, *CFGL, *CHTFMT, *CLD, *CLS, *CMD, *CNNL, *COSD, *CRG, *CRQD, *CSI, *CSPMAP, *CSPTBL, *CTLD, *DEVD, *DSTMF, *DTAARA, *DTADCT, *DTAQ, *EDTD, *EXITRG, *FCT, *FILE, *FNTRSC, *FNTTBL, *FORMDF, *FTR, *GSS, *IGCDCT, *IGCTBL, *IGCSRT, *IMGCLG, *IPXD, *JOBD, *JOBQ, *JOBSCD, *JRN, *JRNRCV, *LIB, *LIND, *LOCALE, *M36, *M36CFG, *MEDDFN, *MENU, *MGTCOL, *MODD, *MODULE, *MSGF, *MSGQ, *NODGRP, *NODL, *NTBD, *NWID, *NWSCFG, *NWSD, *OUTQ, *OVL, *PAGDFN, *PAGSEG, *PDFMAP, *PDG, *PGM, *PNLGRP, *PRDAVL, *PRDDFN, *PRDLOD, *PSFCFG, *QMFORM, *QMQRY, *QRYDFN, *RCT, *S36, *SBSD, *SCHIDX, *SPADCT, *SQLPKG, *SQLUDT, *SRVPGM, *SSND, *SVRSTG, *TBL, *TIMZON, *USRIDX, *USRPRF, *USRQ, *USRSPC, *VLDL, *WSCST | Required, Positional 2 |
| **ASPDEV** | ASP device | *Name*, *\**, *SYSBAS | Optional |
| **OBJAUD** | Object auditing value | *NONE, *USRPRF, *CHANGE, *ALL | Required, Positional 3 |

## Object (OBJ)

Specifies the objects for which auditing values are to be changed.

This is a required parameter.

**Qualifier 1: Object**

**\*ALL**   All objects that have the specified object type are changed.

**705**

*generic-name*
> Specify the generic name of the objects for which auditing values are to be changed.
>
> A generic name is a character string of one or more characters followed by an asterisk (*); for example ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic (prefix) name, the system assumes it to be the complete object name.

*name*    Specify the name of the object for which auditing values are to be changed. When multiple libraries are searched, multiple objects can be changed only if *ALL, *ALLUSR, *ALLAVL, or *ALLUSRAVL is specified for the library qualifier.

**Qualifier 2: Library**

**<u>*LIBL</u>**   All libraries in the library list for the current thread are searched until the first match is found.

***CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched. If the **ASP device (ASPDEV)** parameter is specified when this value is used, ASPDEV(*) is the only valid value.

***USRLIBL**
> If a current library entry exists in the library list for the current thread, the current library and the libraries in the user portion of the library list are searched. If there is no current library entry, only the libraries in the user portion of the library list are searched. If the **ASP device (ASPDEV)** parameter is specified when this value is used, ASPDEV(*) is the only valid value.

***ALL**   All the libraries in the auxiliary storage pools (ASPs) specified for the **ASP device (ASPDEV)** parameter are searched.

***ALLUSR**
> All user libraries in the auxiliary storage pools (ASPs) defined by the **ASP device (ASPDEV)** parameter are searched.
>
> User libraries are all libraries with names that do not begin with the letter Q except for the following:

```
#CGULIB     #DSULIB     #SEULIB
#COBLIB     #RPGLIB
#DFULIB     #SDALIB
```

> Although the following libraries with names that begin with the letter Q are provided by IBM, they typically contain user data that changes frequently. Therefore, these libraries are also considered user libraries:

```
QDSNX       QRCLxxxxx   QUSRDIRDB   QUSRVI
QGPL        QSRVAGT     QUSRIJS     QUSRVxRxMx
QGPL38      QSYS2       QUSRINFSKR
QMGTC       QSYS2xxxxx  QUSRNOTES
QMGTC2      QS36F       QUSROND
QMPGDATA    QUSER38     QUSRPOSGS
QMQMDATA    QUSRADSM    QUSRPOSSA
QMQMPROC    QUSRBRM     QUSRPYMSVR
QPFRDATA    QUSRDIRCF   QUSRRDARS
QRCL        QUSRDIRCL   QUSRSYS
```

1. 'xxxxx' is the number of a primary auxiliary storage pool (ASP).
2. A different library name, in the format QUSRVxRxMx, can be created by the user for each previous release supported by IBM to contain any user commands to be compiled in a CL

program for the previous release. For the QUSRVxRxMx user library, VxRxMx is the version, release, and modification level of a previous release that IBM continues to support.

**\*ALLAVL**
        All libraries in all available ASPs are searched.

**\*ALLUSRAVL**
        All user libraries in all available ASPs are searched. Refer to \*ALLUSR for a definition of user libraries.

*name*    Specify the name of the library to be searched.

# Object type (OBJTYPE)

Specifies the object type of the objects to be changed. For more information, refer to the OBJTYPE parameter description in "Commonly used parameters: Expanded descriptions" in CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

This is a required parameter.

**\*ALL**    All object types are changed that have the specified object name.

*object-type*
        Specify the object type of the objects for which auditing values are to be changed.

# ASP device (ASPDEV)

Specifies the auxiliary storage pool (ASP) device name where the library that contains the object (OBJ parameter) is located. If the object's library resides in an ASP that is not part of the library name space associated with the job, this parameter must be specified to ensure the correct object is used as the target of this command's operation.

**\***        The ASPs that are currently part of the job's library name space will be searched to locate the object. This includes the system ASP (ASP number 1), all defined basic user ASPs (ASP numbers 2-32), and, if the job has an ASP group, all independent ASPs in the ASP group.

**\*SYSBAS**
        The system ASP and all basic user ASPs will be searched to locate the object. No independent ASPs will be searched, even if the job has an ASP group.

*name*    Specify the device name of the independent ASP to be searched to locate the object. The independent ASP must have been activated (by varying on the ASP device) and have a status of AVAILABLE. The system ASP and basic user ASPs will not be searched.

# Object auditing value (OBJAUD)

Specifies the object auditing value to associate with the object.

This is a required parameter.

**\*NONE**
        Using or changing this object does not cause an audit entry to be sent to the security journal.

**\*USRPRF**

> The user profile of the user accessing this object is used to determine if an audit record is be sent for this access. The OBJAUD keyword of the CHGUSRAUD command is used to turn auditing on for a specific user.

**\*CHANGE**

> All change accesses to this object by all users are logged.

**\*ALL**   All change or read accesses to this object by all users are logged.

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## Examples

```
CHGOBJAUD   OBJ(PAYROLL/PAYFILE)   OBJTYPE(*FILE)
            OBJAUD(*CHANGE)
```

This command changes the object auditing value of the PAYFILE object in the PAYROLL library that has an object type \*FILE. The auditing value of the PAYFILE file is changed so that changes to the file by any user is logged to the auditing journal QAUDJRN in QSYS.

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## Error messages

**\*ESCAPE Messages**

**CPF2208**

> Object &1 in library &3 type \*&2 not found.

**CPF22B0**

> Not authorized to change the auditing value.

**CPF22CB**

> Auditing value not changed for some objects.

**CPF22FE**

> Audit value may not have been changed for object &1 in &3 type \*&2.

**CPF9801**

> Object &2 in library &3 not found.

**CPF9803**

> Cannot allocate object &2 in library &3.

**CPF980B**

> Object &1 in library &2 not available.

**CPF9810**

> Library &1 not found.

**CPF9814**

> Device &1 not found.

**CPF9873**

> ASP status is preventing access to object.

**CPF98A1**

> Cannot find object to match specified name.

# Change Object Description (CHGOBJD)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Object Description (CHGOBJD) command can change the text description of an object or reset the days used count to 0 (zero) for the specified objects.

If the object being changed is currently journaled, an entry is written to the journal recording the change. Use the Display Object Description (DSPOBJD) command to display journal information for the object.

**Note:** For additional information regarding journaling, see the Journal management topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Restrictions:**

1. For file objects, you must have object operational (*OBJOPR) and object management (*OBJMGT) authorities for the object to be changed.

2. For non-file objects, you must have object management (*OBJMGT) authority for the object to be changed.

3. You must have execute (*EXECUTE) authority for the library where the object is located.

**Note:** If you do not specify at least one of the **Text 'description' (TEXT)** or **Days used count (USECOUNT)** parameters, completion message CPC2105 is sent to indicate that the object was not changed.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| OBJ | Object | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Object | *Generic name, name*, *ALL | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *USRLIBL, *CURLIB, *ALL, *ALLUSR | |
| OBJTYPE | Object type | *ALL, *ALRTBL, *AUTL, *BNDDIR, *CFGL, *CHTFMT, *CLD, *CLS, *CMD, *CNNL, *COSD, *CRG, *CRQD, *CSI, *CSPMAP, *CSPTBL, *CTLD, *DEVD, *DTAARA, *DTADCT, *DTAQ, *EDTD, *EXITRG, *FCT, *FILE, *FNTRSC, *FNTTBL, *FORMDF, *FTR, *GSS, *IGCDCT, *IGCSRT, *IGCTBL, *IMGCLG, *IPXD, *JOBD, *JOBQ, *JOBSCD, *JRN, *JRNRCV, *LIB, *LIND, *LOCALE, *MEDDFN, *MENU, *MGTCOL, *MODD, *MODULE, *MSGF, *MSGQ, *M36, *M36CFG, *NODGRP, *NODL, *NTBD, *NWID, *NWSCFG, *NWSD, *OUTQ, *OVL, *PAGDFN, *PAGSEG, *PDFMAP, *PDG, *PGM, *PNLGRP, *PRDAVL, *PRDDFN, *PRDLOD, *PSFCFG, *QMFORM, *QMQRY, *QRYDFN, *RCT, *SBSD, *SCHIDX, *SPADCT, *SQLPKG, *SQLUDT, *SRVPGM, *SSND, *SVRSTG, *S36, *TBL, *TIMZON, *USRIDX, *USRPRF, *USRQ, *USRSPC, *VLDL, *WSCST | Required, Key, Positional 2 |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional, Positional 3 |
| USECOUNT | Days used count | **\*NORESET**, *RESET | Optional |

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# Object (OBJ)

Specifies the object whose description is to be changed. If qualifier 2 is not specified, *LIBL is searched to find the specified object. A library name can be specified for qualifier 2 to ensure that the correct object is changed.

**Note:** To change the object description for objects of type *DEVD, you should first use the Allocate Object (ALCOBJ) command to obtain an *EXCLRD lock state on the device description. If this is not done, a CPF2114 message is sent, which indicates that the device description is locked. The ALCOBJ command does not have to be used if you are already signed on the display device for which the description is to be changed.

This is a required parameter.

**Qualifier 1: Object**

**\*ALL** All objects in the libraries identified in the library qualifier that are of the types specified for the **Object type (OBJTYPE)** parameter are to be changed.

*generic-name*
Specify the generic name of the objects to be changed. A generic name is specified as a character string that contains one or more characters followed by an asterisk (*). A generic name specifies all objects that have names with the same prefix as the generic object name for which you have the proper authority.

*name* Specify the name of the objects to be changed.

**Qualifier 2: Library**

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*USRLIBL**
If a current library entry exists in the library list for the current thread, the current library and the libraries in the user portion of the library list are searched. If there is no current library entry, only the libraries in the user portion of the library list are searched.

**\*CURLIB**
The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

**\*ALL** All the libraries in the thread's library name space, including QSYS, are searched.

**\*ALLUSR**
All user libraries are searched. All libraries with names that do not begin with the letter Q are searched except for the following:

```
#CGULIB    #DSULIB    #SEULIB
#COBLIB    #RPGLIB
#DFULIB    #SDALIB
```

Although the following Qxxx libraries are provided by IBM, they typically contain user data that changes frequently. Therefore, these libraries are considered user libraries and are also searched:

```
QDSNX      QRCLxxxxx    QUSRDIRDB    QUSRVI
QGPL       QSRVAGT      QUSRIJS      QUSRVxRxMx
QGPL38     QSYS2        QUSRINFSKR
```

```
QMGTC      QSYS2xxxxx   QUSRNOTES
QMGTC2     QS36F        QUSROND
QMPGDATA   QUSER38      QUSRPOSGS
QMQMDATA   QUSRADSM     QUSRPOSSA
QMQMPROC   QUSRBRM      QUSRPYMSVR
QPFRDATA   QUSRDIRCF    QUSRRDARS
QRCL       QUSRDIRCL    QUSRSYS
```

1. 'xxxxx' is the number of a primary auxiliary storage pool (ASP).

2. A different library name, in the format QUSRVxRxMx, can be created by the user for each previous release supported by IBM to contain any user commands to be compiled in a CL program for the previous release. For the QUSRVxRxMx user library, VxRxMx is the version, release, and modification level of a previous release that IBM continues to support.

*name* Specify the name of the library to be searched.

# Object type (OBJTYPE)

Specifies the object type of the objects to be changed.

To see a complete list of object types when prompting this command, position the cursor on the field for this parameter and press F4 (Prompt). For a description of the object types, see "Object types" in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

This is a required parameter.

*object-type*
Specify the type of objects to be changed.

**\*ALL** All types of objects that have the name and library specified for the **Object (OBJ)** parameter and for which you have authority are to be changed.

# Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
The text does not change.

**\*BLANK**
The text is set to blanks.

*'description'*
Specify no more than 50 characters, enclosed in apostrophes.

# Days used count (USECOUNT)

Specifies whether the days used count for the objects is to be reset. For more details on usage information, see "Objects and libraries" in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**\*NORESET**

The days used count for the objects is not to be reset.

**\*RESET**

The days used count for the objects is to be reset to zero (0). The reset date is to be updated to the current system date.

Object usage information is not updated for all object types. If usage information is not updated for the specified object type and \*RESET was specified, the days used count is not updated and an error message is not sent. Use the Display Object Description (DSPOBJD) command for the object being changed to determine if usage data is collected for the object.

**Note:** For database files, the days used count and reset date are updated for all members in the file.

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## Examples

```
CHGOBJD  OBJ(LIB1/DA1)  OBJTYPE(*DTAARA)
         TEXT('NEW TEXT FOR DA1')
```

This command changes the text description of the data area named DA1 located in the library LIB1 to the value specified by the TEXT parameter.

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## Error messages

**\*ESCAPE Messages**

**CPF2105**

Object &1 in &2 type *&3 not found.

**CPF2110**

Library &1 not found.

**CPF2113**

Cannot allocate library &1.

**CPF2114**

Cannot allocate object &1 in &2 type *&3.

**CPF2123**

No objects of specified name or type exist in library &2.

**CPF2150**

Object information function failed.

**CPF2151**

Operation failed for &2 in &1 type *&3.

**CPF2176**

Library &1 damaged.

**CPF2182**

Not authorized to library &1.

**CPF2189**

Not authorized to object &1 in &2 type *&3.

**CPF2195**

Text value must be *SAME.

**CPF2196**

Library value cannot be a special value.

**CPF2198**

Days used count field not reset to 0 for some objects.

**CPF2451**

Message queue &1 is allocated to another job.

**CPF36F7**

Message queue QSYSOPR is allocated to another job.

**CPF7003**

Entry not journaled to journal &1. Reason code &3.

**CPF7304**

File &1 in &2 not changed.

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# Change Object Owner (CHGOBJOWN)

The Change Object Owner (CHGOBJOWN) command transfers object ownership from one user to another. The authorities that other users have to the object are not changed.

The owner of an object always has all the authorities applicable to the object unless they are explicitly revoked. The owner of an object has the authority to grant any authorities to any user for that object. Owners can also grant to themselves authorities that were previously revoked. Owners may, for example, remove some of their specific authorities as a precautionary measure, and then, when the need arises, grant those same authorities to themselves again.

A user with *ALLOBJ special authority has complete authority for all objects and can transfer the ownership of any object. All users have add and delete authorities for their own user profiles; that is, users can add objects to or delete objects (that they created) from their own user profiles by transferring the ownership of the object.

**Restrictions:**

- To transfer ownership, any user (including the object's present owner) must have:
  - Object existence (*OBJEXIST) authority for the object (except authorization list)
  - Object operational (*OBJOPR) and *OBJEXIST authorities if the object is a file, library, or subsystem description
  - All object (*ALLOBJ) special authority or ownership if the object is an authorization list
  - Add (*ADD) authority for the new owner's user profile
  - Delete (*DLT) authority for the present owner's user profile
  - All object (*ALLOBJ) and security administrator (*SECADM) special authorities to change the object owner of a program or an SQL (Structured Query Language) package that adopts its owner's authority.
  - Use (*USE) authority to the auxiliary storage pool device if one is specified.
- For display stations, if this command is not run from the device whose ownership is to be changed or whose message queue's ownership is to be changed, this command should be preceded by the Allocate Object (ALCOBJ) command and followed by the Deallocate Object (DLCOBJ) command.
- Object type *DOC or *FLR cannot be specified; the user must use DLO (document interchange) support.
- Changing the ownership of an object that has an authority holder associated with it also changes the ownership of the authority holder.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **OBJ** | Object | *Qualified object name* | Required, Positional 1 |
| | Qualifier 1: Object | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| OBJTYPE | Object type | *ALRTBL, *AUTL, *BNDDIR, *CFGL, *CHTFMT, *CLD, *CLS, *CMD, *CNNL, *COSD, *CRG, *CRQD, *CSI, *CSPMAP, *CSPTBL, *CTLD, *DEVD, *DTAARA, *DTADCT, *DTAQ, *EDTD, *FCT, *FILE, *FNTRSC, *FNTTBL, *FORMDF, *FTR, *GSS, *IGCDCT, *IGCSRT, *IMGCLG, *IPXD, *JOBD, *JOBQ, *JRN, *JRNRCV, *LIB, *LIND, *LOCALE, *M36, *M36CFG, *MEDDFN, *MENU, *MGTCOL, *MODD, *MODULE, *MSGF, *MSGQ, *NODGRP, *NODL, *NTBD, *NWID, *NWSCFG, *NWSD, *OUTQ, *OVL, *PAGDFN, *PAGSEG, *PDFMAP, *PDG, *PGM, *PNLGRP, *PRDAVL, *PRDDFN, *PRDLOD, *PSFCFG, *QMFORM, *QMQRY, *QRYDFN, *RCT, *S36, *SBSD, *SCHIDX, *SPADCT, *SQLPKG, *SQLUDT, *SRVPGM, *SSND, *SVRSTG, *TBL, *TIMZON, *USRIDX, *USRPRF, *USRQ, *USRSPC, *VLDL, *WSCST | Required, Positional 2 |
| ASPDEV | ASP device | *Name*, *\**, *SYSBAS | Optional |
| NEWOWN | New owner | *Name* | Required, Positional 3 |
| CUROWNAUT | Current owner authority | <u>*REVOKE</u>, *SAME | Optional |

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# Object (OBJ)

Specifies the object that is to be assigned to a new owner.

This is a required parameter.

**Note:** A library name can be specified to ensure that the correct object changes ownership.

**Qualifier 1: Object**

*name*    Specify the name of the object whose ownership is to be changed.

**Qualifier 2: Library**

<u>*LIBL</u>    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
   The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is used.

*name*    Specify the name of the library to be searched.

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# Object type (OBJTYPE)

Specifies the object type of the object whose ownership is to be changed.

For more information, refer to the OBJTYPE parameter description in "Commonly used parameters: Expanded descriptions" in CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

This is a required parameter.

*object-type*
> Specify the object type of the object for which ownership is to be changed.

## ASP device (ASPDEV)

Specifies the auxiliary storage pool (ASP) device name where the library that contains the object (OBJ parameter) is located. If the object's library resides in an ASP that is not part of the library name space associated with the job, this parameter must be specified to ensure the correct object is used as the target of this command's operation.

**\***
> The ASPs that are currently part of the job's library name space will be searched to locate the object. This includes the system ASP (ASP number 1), all defined basic user ASPs (ASP numbers 2-32), and, if the job has an ASP group, all independent ASPs in the ASP group.

**\*SYSBAS**
> The system ASP and all basic user ASPs will be searched to locate the object. No independent ASPs will be searched, even if the job has an ASP group.

*name*
> Specify the device name of the independent ASP to be searched to locate the object. The independent ASP must have been activated (by varying on the ASP device) and have a status of AVAILABLE. The system ASP and basic user ASPs will not be searched.

## New owner (NEWOWN)

Specifies the user profile of the new owner for the object. The user profile must exist when this command is run.

This is a required parameter.

*name*
> Specify the name of the user profile.

## Current owner authority (CUROWNAUT)

Specifies whether the authorities for the current owner are revoked when ownership is changed.

**\*REVOKE**
> The authority of the current owner is revoked when the object ownership is changed to the new owner.

**\*SAME**
> The current owner's authority is retained as a private authority to the object.

## Examples

```
CHGOBJOWN   OBJ(USERLIB/PROGRAM1)  OBJTYPE(*PGM)  NEWOWN(ANN)
```

This command assigns ownership of the program named PROGRAM1, located in the user library named USERLIB, to the user named ANN. The authority is revoked from the current owner.

## Error messages

**\*ESCAPE Messages**

**CPF0609**

Not allowed to use specified user profile.

**CPF22BD**

Ownership may not have been changed for object &1 in &3 type \*&2.

**CPF22BE**

Function not done for user profile &1.

**CPF22DA**

Operation on file &1 in &2 not allowed.

**CPF220A**

New owner &1 does not have a uid.

**CPF220C**

Owner and primary group cannot be the same.

**CPF2204**

User profile &1 not found.

**CPF2207**

Not authorized to use object &1 in library &3 type \*&2.

**CPF2208**

Object &1 in library &3 type \*&2 not found.

**CPF2209**

Library &1 not found.

**CPF2210**

Operation not allowed for object type \*&1.

**CPF2211**

Not able to allocate object &1 in &3 type \*&2.

**CPF2213**

Not able to allocate user profile &1.

**CPF2216**

Not authorized to use library &1.

**CPF2217**

Not authorized to user profile &1.

**CPF2222**

Storage limit is greater than specified for user profile &1.

**CPF2226**

Function not done for user profile &1.

**CPF2230**

Not authorized to object &1 in library &3.

**CPF2231**

Not authorized to change ownership for program &1.

**CPF2232**

Not authorized to user profile &1.

**CPF2233**

No delete authority to user profile &1.

**CPF2298**

Authority not revoked for object &2 in &3 from user &1.

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# Change Object Primary Group (CHGOBJPGP)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Object Primary Group (CHGOBJPGP) command changes the object's primary group from one user to another. The owner's and other users' private authorities to the object do not change.

**Restrictions:**

- To change the primary group, you must have the following:
  - Object existence (*OBJEXIST) authority for the object
  - Object operational (*OBJOPR) and *OBJEXIST authorities if the object is a file, library, or subsystem description
  - All object (*ALLOBJ) special authority, or ownership, if the object is an authorization list
  - Object management (*OBJMGT) authority for the object, if revoking the authority for the old primary group
  - *OBJMGT authority for the object and the authorities to be given, if a value other than *PRIVATE is specified for the PGPAUT parameter
  - Use (*USE) authority to the auxiliary storage pool device if one is specified.
- Object type *DOC or *FLR cannot be specified; the user must use DLO support
- The new primary group user cannot be the owner of the object
- The new primary group user must have a group ID number (**gid**)

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **OBJ** | Object | *Qualified object name* | Required, Positional 1 |
| | Qualifier 1: Object | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **OBJTYPE** | Object type | *ALRTBL, *AUTL, *BNDDIR, *CFGL, *CHTFMT, *CLD, *CLS, *CMD, *CNNL, *COSD, *CRG, *CRQD, *CSI, *CSPMAP, *CSPTBL, *CTLD, *DEVD, *DTAARA, *DTADCT, *DTAQ, *EDTD, *FCT, *FILE, *FNTRSC, *FNTTBL, *FORMDF, *FTR, *GSS, *IGCDCT, *IMGCLG, *IPXD, *JOBD, *JOBQ, *JRN, *JRNRCV, *LIB, *LIND, *LOCALE, *M36, *M36CFG, *MEDDFN, *MENU, *MGTCOL, *MODD, *MODULE, *MSGF, *MSGQ, *NODGRP, *NODL, *NTBD, *NWID, *NWSCFG, *NWSD, *ORTBL, *OUTQ, *OVL, *PAGDFN, *PAGSEG, *PDFMAP, *PDG, *PGM, *PNLGRP, *PRDAVL, *PRDDFN, *PRDLOD, *PSFCFG, *QMFORM, *QMQRY, *QRYDFN, *RCT, *S36, *SBSD, *SCHIDX, *SPADCT, *SQLPKG, *SQLUDT, *SRVPGM, *SSND, *SVRSTG, *TBL, *TIMZON, *USRIDX, *USRPRF, *USRQ, *USRSPC, *VLDL, *WSCST | Required, Positional 2 |
| **ASPDEV** | ASP device | *Name*, **\***, *SYSBAS | Optional |
| **NEWPGP** | New primary group | *Name*, *NONE | Required, Positional 3 |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| PGPAUT | New primary group authority | **\*OLDPGP**, \*PRIVATE, \*ALL, \*CHANGE, \*USE, \*EXCLUDE | Optional |
| RVKOLDAUT | Revoke old authority | **\*YES**, \*NO | Optional |

## Object (OBJ)

Specifies the object that is to have its primary group changed.

This is a required parameter.

**Note:** A library name can be specified to ensure that the correct object has its primary group changed.

*name*    Specify the name of the object that is to have its primary group changed to another user.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is used.

*name*    Specify the name of the library to be searched.

## Object type (OBJTYPE)

Specifies the object type of the object whose primary group is to be changed. For more information, refer to the OBJTYPE parameter description in "Commonly used parameters: Expanded descriptions" in CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

This is a required parameter.

*object-type*
> Specify the object type of the object to be changed.

## ASP device (ASPDEV)

Specifies the auxiliary storage pool (ASP) device name where the library that contains the object (OBJ parameter) is located. If the object's library resides in an ASP that is not part of the library name space associated with the job, this parameter must be specified to ensure the correct object is used as the target of this command's operation.

\*         The ASPs that are currently part of the job's library name space will be searched to locate the object. This includes the system ASP (ASP number 1), all defined basic user ASPs (ASP numbers 2-32), and, if the job has an ASP group, all independent ASPs in the ASP group.

**\*SYSBAS**
> The system ASP and all basic user ASPs will be searched to locate the object. No independent ASPs will be searched, even if the job has an ASP group.

*name*     Specify the device name of the independent ASP to be searched to locate the object. The independent ASP must have been activated (by varying on the ASP device) and have a status of AVAILABLE. The system ASP and basic user ASPs will not be searched.

## New primary group (NEWPGP)

Specifies the user who is to be the new primary group for the object. The user profile must already exist when this command is run, and must have a group identifier (or **gid**) assigned to it.

This is a required parameter.

**\*NONE**
>The object does not have a primary group.

*name*     Specify the name of the user profile who is to be the new primary group for the object.

## New primary group authority (PGPAUT)

Specifies what authority the new primary group has to the object.

**\*OLDPGP**
>The new primary group has whatever authority the old primary group had to the object.

**\*PRIVATE**
>The new primary group has whatever private authority it had to the object. If the new primary group does not have a private authority to the object, it becomes the primary group but does not have any authority to the object.

**\*ALL**     The user can perform all operations except those limited to the owner or controlled by authorization list management authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user can also change ownership of the object.

**\*CHANGE**
>The new primary group is given change authority to the object.

**\*USE**     The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. \*USE authority provides object operational authority, read authority, and execute authority.

**\*EXCLUDE**
>The user cannot access the object.

## Revoke old authority (RVKOLDAUT)

Specifies whether the authorities for the current primary group are revoked when the primary group is changed to the user specified for the **New primary group (NEWPGP)** parameter.

**\*YES**     The authorities for the current primary group are revoked when the primary group is changed to the other user.

**\*NO**     The authorities for the current primary group become a private authority when the primary group is changed to the other user.

## Examples

```
CHGOBJPGP   OBJ(USERLIB/PROGRAM1)   OBJTYPE(*PGM)   NEWPGP(ANN)
            PGPAUT(*CHANGE)
```

This command changes the primary group for the program named PROGRAM1, located in the user library USERLIB, to the group named ANN. The new primary group has *CHANGE authority to the object. The authority is revoked from the current primary group.

## Error messages

*ESCAPE Messages

**CPF22BE**

Function not done for user profile &1.

**CPF22DA**

Operation on file &1 in &2 not allowed.

**CPF220B**

New primary group &1 does not have a gid.

**CPF220C**

Owner and primary group cannot be the same.

**CPF220D**

Primary group may not be changed for object &1 in &3 type &2.

**CPF2204**

User profile &1 not found.

**CPF2207**

Not authorized to use object &1 in library &3 type *&2.

**CPF2208**

Object &1 in library &3 type *&2 not found.

**CPF2209**

Library &1 not found.

**CPF221D**

Primary group may not have been changed for object &1 in &3 type *&2.

**CPF2210**

Operation not allowed for object type *&1.

**CPF2211**

Not able to allocate object &1 in &3 type *&2.

**CPF2213**

Not able to allocate user profile &1.

**CPF2216**

Not authorized to use library &1.

**CPF2217**

   Not authorized to user profile &1.

**CPF2222**

   Storage limit is greater than specified for user profile &1.

**CPF2226**

   Function not done for user profile &1.

**CPF2230**

   Not authorized to object &1 in library &3.

**CPF2232**

   Not authorized to user profile &1.

**CPF2233**

   No delete authority to user profile &1.

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# Change Optical Attributes (CHGOPTA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Optical Attributes (CHGOPTA) command changes the optical configuration that affects all jobs using the optical file system.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| CPYATR | Copy attributes | **\*SAME**, \*YES, \*NO | Optional, Positional 1 |
| HLDFATR | Held file attribute | **\*SAME**, \*YES, \*NO | Optional |
| ALWVRNT | Allow variant characters | **\*SAME**, \*YES, \*NO | Optional |
| EXTMEDFMT | Support extended media formats | **\*SAME**, \*YES, \*NO | Optional |

## Copy attributes (CPYATR)

Specifies whether to copy the file attributes of the source file when copying or moving files between the QDLS and the QOPT file systems using the HFS copy or move stream file APIs.

**Note:** This parameter is ignored when copying or moving files within the optical file system and is not valid for LAN-attached optical libraries.

**\*SAME**
> The CPYATR value does not change if it was previously set. Otherwise, \*YES is used.

**\*YES** The file attributes, including any user-defined extended attributes, are copied. This is the default value when the operating system is shipped.

**\*NO** The file attributes are not copied. The file that is copied or moved is created with default file attributes, even if the file already exists and replace was specified on the QHFCPYSF request.

```
--------------- Performance Tip ---------------
-                                             -
- This value should be set to *NO when        -
- applications do not require the file         -
- attributes to be maintained when copying     -
- between the QOPT and QDLS file systems.      -
- Using this option improves the performance   -
- of move and copy operations and reduces the  -
- optical storage requirements when writing    -
- to an optical disk.                          -
-                                             -
-----------------------------------------------
```

# Held file attribute (HLDFATR)

Specifies whether held optical file support is enabled or disabled for the /QOPT file system. When held optical file support is disabled it is up to the user to ensure that correct recovery procedures are followed when there is a close file error condition. Refer to the Optical Support, SC41-4310 book for a further explanation of held optical files.

***SAME**
> The HLDFATR value does not change if it was previously set. Otherwise, *YES is used.

***YES**  Held optical file support is enabled for the optical file system.

***NO**  Held optical file support is disabled for the optical file system.

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# Allow variant characters (ALWVRNT)

Indicates whether or not variant characters can be specified for path names when accessing files on optical volumes in Universal Disk Format (UDF) through the Hierarchical File System (HFS) interfaces. This parameter does not affect access to optical volumes formatted in High Performance Optical File System (HPOFS) or ISO9660 formats. It also has no affect on integrated file system interfaces for all optical media formats.

***SAME**
> The ALWVRNT value does not change if it was previously set. Otherwise, *NO is used.

***YES**  Indicates that variant characters are allowed for path names when accessing UDF volumes through HFS. Refer to the Optical Support, SC41-4310 book for a further explanation of which characters are allowed. When this value is specified there is no guarantee that path names will interchange correctly if accessed from another operating system. There is also no guarantee that path names will be consistent between the HFS and integrated file system interfaces.

***NO**  Indicates that variant characters are not allowed for path names when accessing UDF volumes through HFS. Path names through the HFS interfaces are restricted to the following invariant characters: A-Z 0-9 + = % & ( ) , _ - . : ;. Use this value to better enable correct interchange of path names if the media is accessed from another operating system. This will also improve path name consistency between the HFS and integrated file system interfaces.

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# Support extended media formats (EXTMEDFMT)

Indicates which media format to use when a media is added to an optical device. Some media have an extended format. For instance, a UDF-Bridge Disk has ISO9660 as the basic format and Universal Disk Format (UDF) as the extended format. This parameter will let the user choose which format is to be used when a media is added to a device.

***SAME**
> The EXTMEDFMT value does not change if it was previously set. Otherwise, *NO is used.

***YES**  Extended format support is enabled for the optical file system.

***NO**  Basic format support is enabled for the optical file system.

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## Examples

```
CHGOPTA   CPYATR(*NO)
```

This command changes the optical cross-file system copy attribute value so file attributes are not copied when files are copied or moved between the QDLS and QOPT file systems in either direction using the HFS copy or move stream file APIs.

## Error messages

None

# Change Optical Volume (CHGOPTVOL)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Optical Volume (CHGOPTVOL) command changes the volume-full threshold, the authorization list, or the description of an optical volume. If TYPE(*BACKUP) was specified when the volume was initialized, the volume-full threshold cannot be changed.

**Restrictions:**

1. To use this command the user must have *CHANGE authority to the volume being changed.
2. If this command is being used to change the volume's authorization list, the user must have *AUTLMGT authority to the authorization list currently securing the volume.

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## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| VOL | Volume identifier | *Character value* | Required, Key, Positional 1 |
| THRESHOLD | Volume full threshold | 1-100, **\*SAME** | Optional, Positional 2 |
| AUTL | Authorization list | *Name*, **\*SAME**, *NONE | Optional, Positional 3 |
| TEXT | Text 'description' | *Character value*, *BLANK, **\*SAME** | Optional |

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## Volume identifier (VOL)

Specifies the volume identifier of the optical volume to be changed.

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## Volume full threshold (THRESHOLD)

Specifies the volume-full-threshold percentage.

**\*SAME**
> The value does not change.

*volume-full-threshold*
> Specify the threshold percentage. Valid values range from 1 through 100.

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# Authorization list (AUTL)

The authorization list used to verify access to the optical volume on this IBM system i5. This value is not stored on the volume and will not be maintained when the optical disk is moved between systems.

For volumes in media library devices the authorization list can be maintained for this IBM system i5 when the optical disk is removed from the device. This can be done by specifying VOLOPT(*KEEP) on the Remove Optical Cartridge (RMVOPTCTG) CL command. The authorization list can then be restored by specifying AUTL(*PRV) on the Add Optical Cartridge (ADDOPTCTG) CL command.

If the volume is in a stand-alone optical device such as a CD-ROM or DVD device, the authorization list will secure the volume for the duration that the optical disk is in the device. The authorization list cannot be maintained when the optical disk is removed from the device. If the optical disk is ejected from the device then inserted again, the authorization list will be reset to the default which is QOPTSEC.

***SAME**
> The value does not change.

***NONE**
> No authorization list is used to secure the optical volume.

*authorization-list-name*
> Specify the name of the authorization list used to secure the optical volume.

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# Text 'description' (TEXT)

Specifies the text that briefly describes the optical volume.

***SAME**
> The value does not change.

***BLANK**
> Text is not specified.

*'description'*
> Specify a maximum of 50 characters enclosed in apostrophes to describe the optical volume.

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# Examples

```
CHGOPTVOL   VOL(VOL01)   THRESHOLD(99)
```

This command changes the volume-full-threshold for the optical volume VOL01 to 99 percent.

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# Error messages

***ESCAPE Messages**

**OPT1305**
> Optical volume &1 is read only.

**OPT1315**

Optical volume &1 is write protected.

**OPT1320**

Optical volume &1 in use.

**OPT1325**

Optical volume format not recognized.

**OPT1330**

Optical volume not found or not useable.

**OPT1331**

Optical volume &1 not found.

**OPT1340**

Optical volume &1 not initialized.

**OPT1341**

THRESHOLD or TEXT can not be specified.

**OPT1345**

No free space available on media.

**OPT1350**

Write operation failed to optical volume &1.

**OPT1360**

Media directory corrupted on optical volume &1.

**OPT1460**

Optical volume &1 is not in an optical device.

**OPT1463**

Operation not completed, optical volume is not a primary volume.

**OPT1485**

Initialize or rename of optical volume failed.

**OPT1530**

&1 does not represent a valid optical device.

**OPT1555**

Optical device &1 in use.

**OPT1605**

Media or device error occurred.

**OPT1790**

Operation not allowed or conflicts with another request.

**OPT1805**

Error accessing optical volume index file.

**OPT1810**

Error accessing optical directory index file.

**OPT1815**

Internal program error occurred.

**OPT1820**

Internal error occurred on optical device &1.

**OPT1821**

Error occurred on optical device &1.

**OPT1825**

Optical indexes are incorrect for optical device &1.

**OPT1860**

Request to optical device &1 failed.

**OPT1861**

No device description configured for resource &1.

**OPT1862**

No active device description for resource &1.

**OPT1863**

Optical libraries need to be reclaimed.

**OPT1872**

Optical request timed out or was cancelled.

**OPT2301**

Internal system object in use.

**OPT2410**

Authorization list &1 for volume &2 was not found.

**OPT2420**

Not authorized to optical volume &2.

**OPT7740**

User not authorized to object &2 in library &3 type &4.

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# Change OSPF Attributes (CHGOSPFA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change OSPF Attributes command (CHGOSPFA) allows you to change the OSPF (Open Shortest Path First) global information, such as the router identifier or the comparison type.

**Restrictions:**

- You must have input/output system configuration (*IOSYSCFG) special authority to run this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| ROUTER | Router identifier | *Character value*, **\*SAME**, *DFT | Optional, Positional 1 |
| CMPTYPE | Comparison type | **\*SAME**, *TYPE1, *TYPE2 | Optional |
| BDYRTG | Boundary routing | **\*SAME**, *NO, *YES | Optional |
| AUTOSTART | Autostart server | **\*SAME**, *NO, *YES | Optional |
| SUBAGTMON | Subagent monitor | **\*SAME**, *YES, *NO | Optional |

## Router identifier (ROUTER)

Specifies the unique identifier that an OSPF network will recognize as participating of the routing domain. The router identifier must be represented in dotted-decimal format.

**\*SAME**

> The router identifier for the system that was previously set does not change; otherwise, *DFT is used.

*character-value*

> Specifies a dotted-decimal value as router identifier. The router identifier must be specified as an IPv4 internet address in the form *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255.

**\*DFT** OMPROUTED will take the system name/domain name to obtain the the router identifier.

## Comparison type (CMPTYPE)

Specifies how the OMPROUTED server should treat the external metrics or costs.

**\*SAME**

> The comparison type value that was previously set does not change; otherwise, *TYPE2 is used.

**\*TYPE2**

> The Type 2 external cost is greater than any internal link cost in the Autonomous System. Type 2 external cost avoids the need to convert the external metrics to the internal link cost.

**\*TYPE1**

> The Type 1 external metric is similar to the link cost.

# Boundary routing (BDYRTG)

Specifies whether or not autonomous system boundary routing capability is enabled. If enabled, this capability allows the OMPROUTED server to import routes learned from other methods, like RIP or statically configured, into the OSPF domain.

**\*SAME**

> The boundary routine option value that was previously set does not change; otherwise, \*NO is used.

**\*NO**  Boundary routing capability is disable.

**\*YES**  Boundary routing capability is enable.

# Autostart server (AUTOSTART)

Specifies whether to start the OMPROUTED server automatically when TCP/IP is started by running the Start TCP/IP (STRTCP) command, or the Start TCP/IP Server (STRTCPSVR) command with SERVER(\*AUTOSTART) specified. When OMPROUTED is started by running the STRTCPSVR command with SERVER(\*OMPROUTED), this parameter is ignored; the OMPROUTED server is started regardless of the value of this parameter.

**\*SAME**

> The autostart value that was previously set does not change; otherwise, \*YES is used.

**\*YES**  Automatically start the OMPROUTED server.

**\*NO**  Do not automatically start the OMPROUTED server.

# Subagent monitor (SUBAGTMON)

Specifies whether or not to enable the OSPF SNMP (Simple Network Manager Protocol) subagent to collect IPv4 OSPF state and configuration information from the OMPROUTED server.

**\*SAME**

> The subagent monitor value that was previously set does not change; otherwise, \*YES is used.

**\*YES**  The subagent monitor is enabled.

**\*NO**  The subagent monitor is disable.

## Examples

```
CHGOSPFA ROUTER('1.1.1.1')
```

This command changes the OSPF router for the system that will be identified in the OSPF routing domain.

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## Error messages

**_*ESCAPE Messages_**

**TCP8050**
> *IOSYSCFG authority required to use &1.

**TCP6522**
> OSPF attributes have not been changed successfully because of reason code &1

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# Change OSPF Area (CHGOSPFARA)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change OSPF Area (CHGOSPFARA) command can change the attributes of an existing OSPF area in the routing domain. An OSPF area is a collection of subnetted networks in which the OSPF interfaces are attached. Each OSPF area has an unique 32-bit identifier. The main purpose of an OSPF area is to reduce the routing traffic and be hidden to other areas, thereby reducing the size of the Link-State database.

This command can change the attributes of OSPF areas in either the IPv4 or IPv6 routing domains.

**Restrictions:**

- You must have input/output system configuration (*IOSYSCFG) special authority to run this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| AREA | Area identifier | *Character value* | Required, Key, Positional 1 |
| AUTHTYPE | Authentication type | **\*SAME**, *NONE, *MD5, *PASSWORD | Optional |
| STUB | Stub area | **\*SAME**, *NO, *YES | Optional |
| STUBCOST | Stub cost | 1-65535, **\*SAME** | Optional |
| IMPORT | Import | **\*SAME**, *NO, *YES | Optional |
| IPVERSION | IP version | **\*SAME**, *IPV4, *IPV6 | Optional |

## Area identifier (AREA)

Specifies the OSPF area identifier to be changed.

This is a required parameter.

*character-value*
> Specify the internet address for the OSPF area in the form *a.a.a.a* where *a* is a decimal number between 1 and 255.

## Authentication type (AUTHTYPE)

Specifies the default security schema to be used in this area. This parameter is only valid for OSPF IPv4.

**\*SAME**
> Current security schema type is used.

**\*NONE**
>    No authentication is necessary to pass packets.

**\*MD5**   MD5 cryptographic authentication is used.

**\*PASSWORD**
>    Simple password authentication is used.

## Stub area (STUB)

Specifies whether or not this area is a stub area. A stub area is a small OSPF area that will not import autonomous system external link advertisements.

**\*SAME**
>    Current stub area option is used.

**\*NO**   This area is not a stub area.

**\*YES**   The area is a stub area. The area will not receive any autonomous system external link advertisements, reducing the size of your database and decreasing memory usage for routers in the stub area. You cannot configure virtual links through a stub area. You cannot configure a router within the stub area as an autonomous system boundary router.

## Stub cost (STUBCOST)

Specifies the cost of the default summary_LSA that the system should advertise into the area, if the area has been configured as a stub area and the system is participating as a area border router.

**\*SAME**
>    Current stub cost is used.

*1-65535*
>    Specify the stub default cost value. A value of 1 is the lowest stub cost value.

## Import (IMPORT)

Specifies whether this stub area will import either a routing summary (IPv4) or prefixes from (IPv6) a neighbor area.

**\*SAME**
>    Current import option is used.

**\*NO**   Specifies this area will not import routing information.

**\*YES**   Specifies this area will import routing information.

## IP version (IPVERSION)

Specifies whether the area is part of the IPv4 or IPv6 routing domain.

**\*SAME**
> The current IP version is used.

**\*IPV4**  This area will be part of an OSPF IPv4 routing domain.

**\*IPV6**  This area will be part of an OSPF IPv6 routing domain.

## Examples

**Example 1:Changing an OSPF IPv4 Area**

```
CHGOSPFARA   AREA('1.1.1.1')  AUTHTYPE(*PASSWORD)
```

This command changes the OSPF IPv4 area with area identifier 1.1.1.1 to use password authentication.

**Example 2:Changing an OSPF IPv6 Area**

```
CHGOSPFARA   AREA('67.67.67.67')  STUB(*YES)  IPVERSION(*IPV6)
```

This command changes the OSPF IPv6 area with area identifier 67.67.67.67 to be a stub area.

## Error messages

**\*ESCAPE Messages**

**TCP8050**
> \*IOSYSCFG authority required to use &1.

**TCP6517**
> OSPF Area &1 has not been changed in the configuration file. Fails with reason code &2.

**TCP9999**
> Internal system error in program &1.

# Change OSPF Interface (CHGOSPFIFC)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change OSPF Interface (CHGOSPFIFC) command changes the attributes of an existing OSPF interfaces that the OMPROUTED server is using to support the OSPF (Open Shortest Path First) routing protocol implementation.

Both IPv4 and IPv6 OSPF interfaces can be changed.

**Restrictions:**

- You must have input/output system configuration (*IOSYSCFG) special authority to run this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| IFC | Interface identifier | *Character value*, *PPPCNNPRF | Required, Key, Positional 1 |
| PPPCNNPRF | Connection profile | *Character value*, **\*SAME**, *NONE | Optional, Key |
| AREA | Area identifier | *Character value*, **\*SAME**, *BACKBONE | Optional |
| RETMSITV | Retransmission interval | 1-65535, **\*SAME** | Optional |
| TMSDLY | Transmission delay | 1-65535, **\*SAME** | Optional |
| RTRPTY | Router priority | 1-255, **\*SAME** | Optional |
| ITVHELLO | Interval for hello | 1-255, **\*SAME** | Optional |
| DBEXCHTIMO | Database exchange timeout | 2-65535, **\*SAME** | Optional |
| INACTTIMO | Inactive router timeout | 2-65535, **\*SAME** | Optional |
| COST | Cost | 1-65535, **\*SAME** | Optional |
| IFCUSG | Interface usage | **\*SAME**, *PRIMARY, *BACKUP | Optional |
| SUBNET | Subnet | **\*SAME**, *NO, *YES | Optional |
| AUTHTYPE | Authentication type | **\*SAME**, *AREA, *NONE, *MD5, *PASSWORD | Optional |
| AUTHVAL | Authentication values | *Element list* | Optional |
| | Element 1: Authentication key identifier | 1-255, **\*SAME** | |
| | Element 2: Authentication key | *Character value*, **\*SAME** | |
| DMDCCT | Demand circuit | **\*SAME**, *NO, *YES | Optional |
| SUPHELLO | Suppression of hello | **\*SAME**, *DISABLE, *ALLOW, *REQUEST | Optional |
| PTPPOLLITV | Point-to-point poll interval | 0-65535, **\*SAME** | Optional |
| NBCLNK | Nonbroadcast link | **\*SAME**, *DFT, *NO, *YES | Optional |
| NBCPOLLITV | Nonbroadcast interval | 1-65535, **\*SAME** | Optional |
| NGHRTRL | Neighbor router list | Values (up to 10 repetitions): *Element list* | Optional |
| | Element 1: Internet address | *Character value*, **\*SAME** | |
| | Element 2: Eligible | **\*SAME**, *NO, *YES | |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| INSTANCE | Instance | *Integer*, **\*SAME** | Optional |

## Interface identifier (IFC)

Specifies the internet address of a configured OSPF logical interface in the system. The interface identifier can be an IPv4 or IPv6 address.

**\*PPPCNNPRF**

> The point-to-point connection profile specified for the **Connection profile (PPPCNNPRF)** parameter is used to send and receive OSPF routing traffic over a point-to- point link.

*character-value*

> Specify the internet address or alias name of the OSPF interface to change. An IPv4 internet address is specified in the form *nnn.nnn.nnn.nnn* where *nnn* is a decimal number between 0 and 255. An IPv6 internet address is specified in the form *n:n:n:n:n:n:n:n* where *n* is a hexadecimal number in the range from 0 through X'ffff'. The value "::" indicates that one or more groups of 16 bits are zero.

## Connection profile (PPPCNNPRF)

Specifies the profile created for PP connection to a host at the remote end. This profile will be used later when the PP link is active. This parameter is only valid for OSPF IPv4.

**\*SAME**

> The current connection profile is used.

**\*NONE**

> This interface will not work over a point-to-point link.

*character-value*

> Specify the connection profile to be used. This profile must have been configured previuosly using Remote Access Services.

## Area identifier (AREA)

Specifies the OSPF area to which this interface attaches. You can specify the backbone area (internet address 0.0.0.0) or any area previously defined by running the Add OSPF Area (ADDOSPFARA) command.

**\*SAME**

> The current attached area is used.

**\*BACKBONE**

> The backbone area is used which is the same as specifying '0.0.0.0'.

*character-value*

> Specify the internet address for the OSPF are to use.

## Retransmission interval (RETMSITV)

Specifies the frequency of retransmitting link-state update packets, link-state request packets, and database description packets.

**Note:** If this parameter is set too low, needless retransmissions will occur that could affect performance and interfere with neighbor adjacency establishment. It should be set to a higher value for a slower machine.

**\*SAME**
　　　　Current retransmission interval is used.

*1-65535*
　　　　Specify the number of seconds to use for the retransmission interval value.

## Transmission delay (TMSDLY)

Specifies the estimated number of seconds that it takes to transmit link-state information over the interface.

**\*SAME**
　　　　Current transmission delay is used.

*1-65535*
　　　　Specify the number of seconds to use for the transmission delay value.

## Router priority (RTRPTY)

Specifies the value for a broadcast and non-broadcast multi-access networks in order to elect a designated router. The router with the highest priority value will be elected.

**\*SAME**
　　　　Current router priority is used.

*1-255*　　Specify the router priority value to use.

## Interval for hello (ITVHELLO)

Specifies the number of seconds between OSPF hello packets to be sent out on this interface. This value must be the same for all routers attached to a common network.

**\*SAME**
　　　　Current interval for hello is used.

*1-65535*
　　　　Specify the number of seconds to use for the hello interval value.

# Database exchange timeout (DBEXCHTIMO)

Specifies the length of time that the database exchange process cannot exceed. If the interval elapses, the procedure will be restarted. This value must be larger than the interval for hello.

**\*SAME**

Current database exchange process timeout value is used.

**2-65535**

Specify the number of seconds to use for the database exchange process timeout value.

# Inactive router timeout (INACTTIMO)

Specifies the length of time after not having received OSPF hello packets that an OSPF neighbor is declared to be down.

**\*SAME**

Current inactive router timeout is used.

**2-65535**

Specify the number of seconds to use for the inactive router timeout value.

# Cost (COST)

Specifies the cost of sending a data packet on the interface, expressed in the link state metric. This is advertised as the link cost for this interface in the router-LSA. The cost of an interface must be greater than zero.

**\*SAME**

Current cost is used.

**2-65535**

Specify the cost value to be used.

# Interface usage (IFCUSG)

Specifies whether this interface is designated as a primary or backup by OSPF. When there is more than one local interface defined on the same IPv4 subnet, IPv6 subnet, or link, OSPF sends all routing traffic on the designated primary interface.

**\*SAME**

Current interface usage is used.

**\*BACKUP**

This OSPF interface is defined as a backup interface. If the primary interface is not specified, OSPF chooses one of the backup interfaces to carry out routing traffic.

**\*PRIMARY**

This OSPF interface is defined as the primary interface. OSPF sends all routing traffic over this interface.

## Subnet (SUBNET)

Specifies, for Point-to-Point links, if this interface can have a connection to a network/subnet or host. This parameter only applies to IPv4.

**\*SAME**
> Current subnet option is used.

**\*NO** This interface cannot have a connection to a network/subnet or host. Implements option 1 of section 12.4.1.1 of RFC 2328. It assumes that neighbor router's IP address is known.

**\*YES** This interface can have a connection to a network/subnet or host. Implements option 2 of section 12.4.1.1 of RFC 2328 if a subnet has been assigned to the point-point link.

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## Authentication type (AUTHTYPE)

Specifies the security schema used on the network where this interface is attached. If this parameter is not specified the security schema will taken from the area's security schema. This parameter is ignored for OSPF IPv6 interfaces.

**\*SAME**
> Current authentication type is used.

**\*AREA**
> Use the security schema defined in the OSPF area to which this interface is attached.

**\*NONE**
> No authentication is necessary to pass packets.

**\*MD5** MD5 cryptographic authentication is used.

**\*PASSWORD**
> Simple password authentication is used.

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## Authentication values (AUTHVAL)

Specifies the combination of parameters needed for cryptographic authentication.

**Element 1: Authentication key identifier**

**\*SAME**
> Current authentication key identifier is used.

**0-255** Specify the constant value to use as the key identifier. This value is only meaningful when the authentication type \*MD5 is specified and is used with other routers that require identification of an authentication type.

**Element 2: Authentication key**

**\*SAME**
> Current authentication key identifier is used.

*character-value*
> Specify the authentication key for this interface. This value must be the same in all routers that are attached to a common network. This value depends on the authentication type used for this interface. This parameter is ignored for OSPF IPv6.

For *NONE authentication type, this parameter element is not required and is ignored if specified.

For authentication type *PASSWORD, this parameter element must specify a password for OSPF routers that are attached to this subnet. Valid values are any character string up to 8 characters in length coded within single quotation marks, or any hexadecimal string up to 8 bytes (16 hexadecimal characters) long beginning with X followed by the hexadecimal value enclosed in single quotation marks.

For authentication type *MD5, this parameter must specify the 16-byte MD5 authentication key for OSPF routers attached to this subnet. The standard method is with a 16-byte hexadecimal string beginning with X followed by the hexadecimal value enclosed in single quotation marks.

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## Demand circuit (DMDCCT)

Specifies whether link state advertisements (LSAs) are periodically refreshed or not over this interface.

Only LSAs with real changes will be advertised. This parameter is ignored by IPv6 interfaces.

**\*SAME**
> Current demand circuit option is used.

**\*NO**   Link state advertisements are periodically refreshed.

**\*YES**  Link state advertisements are not periodically refreshed.

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## Suppression of hello (SUPHELLO)

Specifies whether to allow suppression of hello packets. This support is only used for point-to-point-interface and point-to-multipoint interfaces types that are on demand circuits. This parameter only applies to IPv4.

**\*SAME**
> Current suppression for hello option is used.

**\*ALLOW**
> If both sides specify this option, hello suppression is disabled.

**\*DISABLE**
> If either or both sides specify this option, hello suppression is disabled.

**\*REQUEST**
> If both sides specify this option, hello suppression is enabled.

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## Point-to-point poll interval (PTPPOLLITV)

Specifies the interval time that OMPROUTED will try to re-establish a relationship with a neighboring router that has failed but the interface is still active. This parameter is used only if the interface is Point-to-Point type and suppression for hello has been enabled. This parameter is ignored for OSPF IPv6 interfaces.

**\*SAME**
> Current point-to-point poll interval is used.

*0-65535*
> Specify the number of seconds to use for the point-to-point poll interval value.

## Nonbroadcast link (NBCLNK)

Specifies if the router is connected to a non-broadcast or multi-access (NBMA) network.

**\*SAME**
> Current non-broadcast link option is used.

**\*DFT**   Determined by the interface type.

**\*NO**   Router is not connected to a NBMA network.

**\*YES**   The interface is connected to a non-broadcast network. This option can help to discover its neighbors.

## Nonbroadcast interval (NBCPOLLITV)

Specifies the time interval for hello packets to be sent from this interface to neighbors that are inactive. It is only valid if \*YES is specified for the **Nonbroadcast link (NBCLNK)** parameter.

**\*SAME**
> Current nonbroadcast poll interval is used.

*1-65535*
> Specify the number of seconds to be used for the non-broadcast poll interval value.

## Neighbor router list (NGHRTRL)

Specifies the list of routers eligible to be treated as neighbors for this system over this interface.

Up to 10 neighboring routers can be defined.

**Note:** It is not necessary or recommended to define neighbors on nonbroadcast media. If you do define neighbors on these media, OMPROUTED will be able to communicate OSPF information only with those neighbors that are defined (it will not form adjacencies with any additional neighbors).

**Element 1: Internet address**

Specifies the neighboring router's internet address.

**\*SAME**
> Current neighboring router's internet address is used.

*character-value*
> Specify the internet address of the router to be eligible to be a neighbor router. An IPv4 internet address is specified in the form *nnn.nnn.nnn.nnn* where *nnn* is a decimal number between 0 and 255. An IPv6 internet address is specified in the form *n:n:n:n:n:n:n:n* where *n* is a hexadecimal number in the range from 0 through X'ffff'. The value ″::″ indicates that one or more groups of 16 bits are zero.

**Element 2: Eligible**

Specifies whether or not the neighbor router may be eligible to be a designated router.

**\*SAME**
Current eligible value is used.

**\*NO** The router cannot be a designated router.

**\*YES** The router can be elected as a designated router.

## Instance (INSTANCE)

Specifies the IPv6 protocol instance number for this interface. This value should be the same as the instance value of other IPv6 OSPF hosts or routers that OMPROUTED communicates with on the link. This value will be set in all the outgoing IPv6 OSPF packets. All the incoming OSPF packets whose instance value does not match with the instance value set for this interface will be ignored. This characteristic permits multiples instance of IPv6 OSPF to be run on this link. OMPROUTED supports only one instance per link, however if this parameter is configured it will be used to interact with routers that can support multiples IPv6 OSPF instances on a link.

**\*SAME**
The instance value is not changed.

**0-255** Specify the instance value to be used.

## Examples

**Example 1:Changing an OSPF IPv4 Interface**
```
CHGOSPFIFC   IFC('9.67.107.7')  ITVHELLO(15)
```

This command changes an existing OSPF IPv4 interface that has an internet address of 9.67.107.7. The hello interval is changed to 15 seconds.

**Example 2:Changing an OSPF IPv6 Interface**
```
CHGOSPFIFC   IFC('1000::5678:9abc:def')  COST(3)
```

This command changes an OSPF IPv6 interface. The cost value is changed to 3.

## Error messages

**\*ESCAPE Messages**

**TCP8050**
*IOSYSCFG authority required to use &1.

**TCP6525**
Internet address &1 not valid

**TCP1902**

Internet address &1 not valid.

**TCP1908**

Internet address &1 not valid.

**TCP6527**

OSPF interface &1 has not been changed in the configuration file. Fails with reason code &2.

**TCP9999**

Internal system error in program &1.

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# Change OSPF Virtual Link (CHGOSPFLNK)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change OSPF Virtual Link (CHGOSPFLNK) command can change current values of an existing virtual link.

IPv4 and IPv6 OSPF virtual links can be changed. The **Link transmission area (LNKTMSARA)** parameter value will determine whether the virtual link is an IPv4 or IPv6 OSPF virtual link.

**Restrictions:**

- You must have input/output system configuration (*IOSYSCFG) special authority to run this command.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| NGHRTR | Neighbor router | *Character value* | Required, Key, Positional 1 |
| LNKTMSARA | Link transmission area | *Character value* | Required, Key, Positional 2 |
| RETMSITV | Retransmission interval | 1-65535, **\*SAME** | Optional |
| TMSDLY | Transmission delay | 1-65535, **\*SAME** | Optional |
| ITVHELLO | Interval for hello | 1-255, **\*SAME** | Optional |
| DBEXCHTIMO | Database exchange timeout | 2-65535, **\*SAME** | Optional |
| INACTTIMO | Inactive router timeout | 2-65535, **\*SAME** | Optional |
| AUTHTYPE | Authentication type | **\*SAME**, *BACKBONE, *NONE, *MD5, *PASSWORD | Optional |
| AUTHVAL | Authentication values | *Element list* | Optional |
| | Element 1: Authentication key identifier | 1-255, **\*SAME** | |
| | Element 2: Authentication key | *Character value*, **\*SAME** | |

## Neighbor router (NGHRTR)

Specifies the router identifier of the neighbor (other endpoint).

This is a required parameter.

*character-value*
Specify the internet address of the router in the form *a.a.a.a* where *a* is a decimal number between 1 and 255.

# Link transmission area (LNKTMSARA)

Specifies a non-backbone, non-stub area through which the virtual link is configured. Virtual links can be configured between any two area border routers that have an interface to a common non-backbone and non-stub area. Virtual links must be configured in each of the link's two endpoints.

This is a required parameter.

*character-value*
> Specify the internet address of the area in the form *a.a.a.a* where *a* is a decimal number between 1 and 255.

# Retransmission interval (RETMSITV)

Specifies the frequency (in seconds) of retransmitting link-state update packets, link-state request packets, and database description packets.

**Note:** If this parameter is set too low, needless retransmissions will occur that could affect performance and interfere with neighbor adjacency establishment. It should be set to a higher value for a slower machine.

**\*SAME**
> Current retransmission interval value is used.

*1-65535*
> Specify the number of seconds to use for the retransmission interval value.

# Transmission delay (TMSDLY)

Specifies the estimated number of seconds that it takes to transmit link-state information over the virtual link. Each link-state advertisement has a finite lifetime of 1 hour. As each link-state advertisement is sent out from this virtual link, it will be aged by this configured transmission delay.

**\*SAME**
> Current transmission delay is used.

*1-65535*
> Specify the number of seconds to use for the transmission delay value.

# Interval for hello (ITVHELLO)

Specifies the number of seconds between OSPF hello packets being sent out from this virtual link. The interval for hello should be set higher than the same value used on the intervening OSPF interfaces.

**\*SAME**
> Current interval for hello is used.

*1-65535*
> Specify the number of seconds to use for the hello interval value.

## Database exchange timeout (DBEXCHTIMO)

Specifies the length of time that the database exchange process cannot exceed. If the interval elapses, the procedure will be restarted. This value must be larger than the interval for hello.

**\*SAME**
> Current database exchange process timeout value is used.

*2-65535*
> Specify the number of seconds to use for the database exchange process timeout value.

## Inactive router timeout (INACTTIMO)

Specifies the interval, in seconds, after not having received an OSPF hello that the neighbor is declared to be down. This value must be larger than the interval for hello. The inactive router timeout should be set higher than the same value used on the intervening OSPF interfaces.

**\*SAME**
> Current inactive router interval value is used.

*2-65535*
> Specify the number of seconds to use for the inactive router timeout value.

## Authentication type (AUTHTYPE)

Specifies the security scheme to be used over the virtual link. This parameter is ignored for OSPF IPv6 virtual links.

**\*SAME**
> Current authentication type is used.

**\*BACKBONE**
> Use the security schema defined in the OSPF backbone area.

**\*NONE**
> No authentication is needed to pass OSPF packets.

**\*MD5**  MD5 cryptographic authentication is used.

**\*PASSWORD**
> Simple password authentication is used.

## Authentication values (AUTHVAL)

Specifies the combination of parameters needed for cryptographic authentication.

**Element 1: Authentication key identifier**

**\*SAME**
> Current authentication key identifier is used.

*0-255*      Specify the constant value to use as the key identifier. This value is only meaningful when the
             authentication type *MD5 is specified and is used with other routers that require identification of
             an authentication type.

**Element 2: Authentication key**

**\*SAME**
             Current authentication key identifier is used.

*character-value*
             Specify the authentication key for this virtual link. This value must be the same in all routers that
             are attached to a common network. This value depends on the authentication type used for this
             interface. This parameter is ignored for OSPF IPv6.

             For *NONE authentication type, this parameter element is not required and is ignored if
             specified.

             For authentication type *PASSWORD, this parameter element must specify a password for OSPF
             routers that are attached to this subnet. Valid values are any character string up to 8 characters in
             length coded within single quotation marks, or any hexadecimal string up to 8 bytes (16
             hexadecimal characters) long beginning with X followed by the hexadecimal value enclosed in
             single quotation marks.

             For authentication type *MD5, this parameter must specify the 16-byte MD5 authentication key
             for OSPF routers attached to this subnet. The standard method is with a 16-byte hexadecimal
             string beginning with X followed by the hexadecimal value enclosed in single quotation marks.

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# Examples

**Example 1:Changing an OSPF IPv4 Virtual Link**

```
CHGOSPFLNK   NGHRTR('2.2.2.2')   LNKTMSARA('3.3.3.3')
             TMSDLY(200)
```

This command changes the transmission delay to 200 seconds for neighbor router 2.2.2.2 with link
transmission area 3.3.3.3. For changing any attribute of an OSPF virtual link, you need to specify the
router identifier over which the link has been established and the area identifier of the link transmission
area. The system must be a area border router. The link transmission area should have been configured
for IPv4 previously.

**Example 2:Changing parameter values to an OSPF IPv6 virtual link**

```
CHGOSPFLNK   NGHRTR('62.62.62.62')   LNKTMSARA('63.63.63.63')
             ITVHELLO(50)
```

This command changes the interval for hello to 50 seconds for neighbor router 62.62.62.62 with link
transmission area 63.63.63.63. For changing any attribute of an OSPF virtual link, you need to specify the
router identifier over which the link has been established and the area identifier of the link transmission
area. The system must be a area border router. The link transmission area should have been configured
for IPv6 previously.

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# Error messages

**\*ESCAPE Messages**

**TCP8050**

    \*IOSYSCFG authority required to use &1.

**TCP6533**

    OSPF virtual link &1 has not changed from configuration file. Fails with reason code &2.

**TCP9999**

    Internal system error in program &1.

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# Change OSPF Range (CHGOSPFRNG)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** Yes

The Change OSPF Range (CHGOSPFRNG) command changes a range for an OSPF area that was previous configured using the Add OSPF Range (ADDOSPFRNG) command. OSPF areas can be defined in terms of address ranges. External to the area, a single route is advertised for each address range. Ranges can be defined to control which routes are advertised external to an area. When OSPF is configured not to advertise the range, no inter-area routes are advertised for routes that fall within the range. Ranges cannot be used for areas that serve as transit areas for virtual links. This command can also be used to change the advertise option of an existing range.

**Restrictions:**

- You must have input/output system configuration (*IOSYSCFG) special authority to run this command.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| AREA | Area identifier | *Character value* | Required, Key, Positional 1 |
| IPADRRNG | IP address range | *Character value*, **\*SAME** | Optional, Key |
| ADVERTISE | Advertise | **\*SAME**, *YES, *NO | Optional |

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## Area identifier (AREA)

Specifies the area identifier for which the range is to be changed. The area must have been defined by running the Add OSPF Area (ADDOSPFARA) command.

This is a required parameter.

*character-value*
> Specify the internet address for the OSPF area in the form *a.a.a.a* where *a* is a decimal number between 1 and 255.

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## IP address range (IPADRRNG)

Specifies the common subnet portion of internet addresses in this range.

**\*SAME**
> Current IP address range is used.

*character-value*

An IPv4 internet address is specified in the form *nnn.nnn.nnn.nnn* where *nnn* is a decimal number between 0 and 255.

An IPv6 internet address is specified in the form *n:n:n:n:n:n:n:n* where *n* is a hexadecimal number in the range from 0 through X′ffff′. The value ″::″ indicates that one or more groups of 16 bits are zero.

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## Advertise (ADVERTISE)

Specifies whether this range will be advertised to other areas or not.

**\*SAME**
Current advertise value is used.

**\*YES**   This range will be advertised to other areas.

**\*NO**   This range will not be advertised to other areas.

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## Examples

**Example 1:Changing the Advertise Option in a Range for an OSPF IPv4 Area**
```
CHGOSPFRNG   AREA('1.1.1.1')  IPADRRNG('128.185.0.0')
             ADVERTISE(*NO)
```

This command changes the advertise option to \*NO in order to not advertise the range to other areas.

**Example 2:Changing the Advertise Option in a Range for an OSPF IPv6 Area**
```
CHGOSPFRNG   AREA('67.67.67.67')  IPADRRNG('2001:0db8:1:2::')
             ADVERTISE(*NO)
```

This command changes the advertise option to \*NO in order to not advertise the range to other areas.

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## Error messages

**\*ESCAPE Messages**

**TCP8050**
\*IOSYSCFG authority required to use &1.

**TCP6525**
Internet address &1 not valid

**TCP1902**
Internet address &1 not valid.

**TCP1908**
Internet address &1 not valid.

**TCP652D**

OSPF range &1 has not changed in configuration file. Fails with reason code &2.

**TCP9999**

Internal system error in program &1.

# Change Output Queue (CHGOUTQ)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Output Queue (CHGOUTQ) command allows the user to change the attributes of the specified output queue. The following attributes of the output queue can be changed while the writer is active to the output queue:

- Authority to display data from this output queue
- Operator's authority to control this output queue
- The order of spooled files on this output queue
- Object authority required to control this output queue
- The data queue of the output queue

The following attributes can be changed only while a writer is not active to the specified output queue:

- Number of separator pages per job
- The maximum spooled file size to print
- The remote system to send files to for remote writers
- The printer queue on the remote system to send files to
- The number of writers to auto-start to the output queue
- The message queue used by remote writers
- The connection type of the remote system
- The type of the remote system
- The class for files sent to a VM/MVS/VSE system
- The forms control buffer for files sent to a VM/MVS/VSE system
- The transform option used with connection type TCP/IP
- The manufacturer type and model used with the transform
- The WSCST object used with the transform
- The internet address used with connection type TCP/IP
- The image configuration

If the output queue contains spooled files, the user cannot change the SEQ parameter for the queue. Other CHGOUTQ parameters such as DSPDTA, JOBSEP, and OPRCTL can normally be changed if the output queue contains spooled files. If the user attempts to change the SEQ parameter when the output queue contains spooled files, none of the specified parameters are changed.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| OUTQ | Output queue | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Output queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| MAXPAGES | Maximum spooled file size | Single values: **\*SAME**, \*NONE<br>Other values (up to 5 repetitions): *Element list* | Optional |
| | Element 1: Number of pages | *Integer* | |
| | Element 2: Starting time | *Time* | |
| | Element 3: Ending time | *Time* | |
| SEQ | Order of files on queue | **\*SAME**, \*JOBNBR, \*FIFO | Optional |
| RMTSYS | Remote system | *Character value*, **\*SAME**, \*INTNETADR, \*NONE,<br>\*PASTHR, \*NWSA | Optional |
| RMTPRTQ | Remote printer queue | *Character value*, **\*SAME**, \*USER, \*SYSTEM | Optional |
| AUTOSTRWTR | Writers to autostart | 1-10, **\*SAME**, \*NONE | Optional |
| MSGQ | Queue for writer messages | Single values: **\*SAME**<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Queue for writer messages | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| CNNTYPE | Connection type | *Character value*, **\*SAME**, \*SNA, \*IP, \*IPX, \*USRDFN | Optional |
| DESTTYPE | Destination type | *Character value*, **\*SAME**, \*OS400, \*OS400V2, \*PSF2, \*S390,<br>\*NETWARE3, \*NDS, \*OTHER | Optional |
| TRANSFORM | Host print transform | **\*SAME**, \*YES, \*NO | Optional |
| USRDTATFM | User data transform | Single values: **\*SAME**, \*NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: User data transform | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| MFRTYPMDL | Manufacturer type and model | *Character value*, **\*SAME**, \*WSCST | Optional |
| WSCST | Workstation customizing object | Single values: **\*SAME**, \*NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Workstation customizing object | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| IMGCFG | Image configuration | *Character value*, **\*SAME**, \*NONE | Optional |
| INTNETADR | Internet address | *Character value*, **\*SAME** | Optional |
| CLASS | VM/MVS class | **\*SAME**, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R,<br>S, T, U, V, W, X, Y, Z, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 | Optional |
| FCB | Forms Control Buffer | *Character value*, \*NONE, \*USRDTA, \*PRTF, **\*SAME** | Optional |
| DESTOPT | Destination options | *Character value*, **\*SAME**, \*NONE, \*USRDFNTXT,<br>\*NOWAIT | Optional |
| SEPPAGE | Print separator page | **\*SAME**, \*YES, \*NO | Optional |
| USRDFNOPT | User defined option | Single values: **\*SAME**, \*NONE<br>Other values (up to 4 repetitions): *Character value* | Optional |
| USRDFNOBJ | User defined object | Single values: **\*SAME**, \*NONE<br>Other values: *Element list* | Optional |
| | Element 1: Object | *Qualified object name* | |
| | Qualifier 1: Object | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| | Element 2: Object type | \*DTAARA, \*DTAQ, \*FILE, \*PSFCFG, \*USRIDX, \*USRQ,<br>\*USRSPC | |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| USRDRVPGM | User driver program | Single values: **\*SAME**, \*NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: User driver program | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| SPLFASP | Spooled file ASP | **\*SAME**, \*SYSTEM, \*OUTQASP | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, \*BLANK | Optional |
| DSPDTA | Display any file | **\*SAME**, \*NO, \*YES, \*OWNER | Optional, Positional 2 |
| JOBSEP | Job separators | 0-9, **\*SAME**, \*MSG | Optional, Positional 3 |
| OPRCTL | Operator controlled | **\*SAME**, \*YES, \*NO | Optional, Positional 4 |
| DTAQ | Data queue | Single values: **\*SAME**, \*NONE<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Data queue | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, \*CURLIB | |
| AUTCHK | Authority to check | **\*SAME**, \*OWNER, \*DTAAUT | Optional |

## Output queue (OUTQ)

Specifies the output queue that is to have its attributes changed.

This is a required parameter.

**Qualifier 1: Output queue**

*name*  Specify the name of the output queue to be changed.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name*  Specify the name of the library in which the output queue is located.

## Maximum spooled file size (MAXPAGES)

Specifies the maximum spooled file size in pages that will be allowed to print between a starting and ending time. If a spooled file exceeds the page limit it will be deferred (DFR status) until the ending time expires. For files where the exact number of pages is not known, the estimated number of pages is used. (You can use the Work with Spooled File Attributes (WRKSPLFA) command to find out the estimated number of pages.) The time must be specified in hhmmss format, on a 24 hour clock.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> There is no limit on the size of spooled files allowed to print from this output queue.

**Other values (up to 5 repetitions)**

**Element 1: Number of pages**

*integer*
> Specify the largest spooled file, in pages, that is allowed to print.

**Element 2: Starting time**

*time*    Specify the time of day that the maximum spooled file size limit is to start.

**Element 3: Ending time**

*time*    Specify the time of day that the maximum spooled file size limit is to end.

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## Order of files on queue (SEQ)

Specifies the order of the spooled files on the output queue.

**\*SAME**
> The sequence of spooled files placed on the queue does not change.

**\*JOBNBR**
> The queue entries for spooled files are sorted in priority sequence using the job number (actually, the date and time that the job entered the system is used) of the job that created the spooled file.
>
> If *JOBNBR is specified on the SEQ parameter, spooled files of a job with the same output priority and status are grouped together.
>
> Also if *JOBNBR is specified on the SEQ parameter, the first job always has its spooled files produced first for jobs of equal priority.

**\*FIFO**    The queue is first-in first-out within priority for each file. That means, new spooled files are placed on the queue after all other entries of the same priority. The following changes place a queue entry after all others of equal priority on the queue.

- A change of output priority with the Change Job (CHGJOB) command
- A change in status from held (HLD), saved (SAV), closed (CLO), or open (OPN) to available (RDY)
- A change in status from available (RDY) to not available (HLD, SAV, CLO, OPN)
- A spooled file added to the queue if the file is opened
- Using the Change Spooled File Attributes (CHGSPLFA) command to move a spooled file to an output queue which has SEQ(*FIFO) specified

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## Remote system (RMTSYS)

Specifies the remote system to which files are sent when a remote writer is started (using the STRRMTWTR command) to the output queue. This is referred to as the "address" by SNADS, and the "host" by TCP/IP.

**\*SAME**

> The value does not change.

**\*NONE**

> The output queue is used only for local printing. The STRRMTWTR command cannot be used when this output queue is specified on the OUTQ parameter.

**\*NWSA**

> The RMTPRTQ parameter is used to identify the system when a remote writer is started to the output queue. This value is valid only when \*NDS has been specified on the DESTTYPE parameter.

**\*PASTHR**

> The system from which a user passed through (using the STRPASTHR command) is used when sending spooled files created by the user job. If a spooled file was not created by a job that had passed through from another system, the spooled file will be held (HLD status).

**\*INTNETADR**

> The INTNETADR parameter is used to identify the system when a remote writer is started to the output queue.
>
> If you have a host table or a domain name server on your TCP/IP network, you can use the remote-system-name instead of this parameter.
>
> **Note:** This value is valid only when \*IP has been specified for the CNNTYPE parameter.

*name*    Specify a name for the remote system. Only the first 8 characters will be used when the connection type (CNNTYPE parameter) is specified as \*SNA. If the name of the remote system needs to be lower case, the name must be enclosed in apostrophes. If you do not use apostrophes, the operating system changes the name to upper case.

## Remote printer queue (RMTPRTQ)

Specifies the printer queue on the remote system (RMTSYS parameter) to which the remote writer sends spooled files.

**\*SAME**

> The value does not change.

**\*USER**

> The user profile that created the spooled file determines the user ID on the remote system. The file is spooled on the user's default output queue.
>
> **Note:** This value is valid only when the connection type (CNNTYPE parameter) is specified as \*SNA or \*USRDFN.

**\*SYSTEM**

> The default system printer on the remote system will be used to determine the printer queue. For a remote IBM System i, the output queue associated with the printer device specified in the QPRTDEV system value is used as the printer queue.
>
> **Note:** This value is valid only when the connection type (CNNTYPE parameter) is specified as \*SNA or \*USRDFN and the destination type (DESTTYPE) is \*OS400 or \*S390.

*name*    Specify the name for the printer queue on the remote system. For a remote IBM System i, this is the name of an output queue that the spooled file is created on.

> If the name of the remote system needs to be lower case, the name must be enclosed in apostrophes. If you do not use apostrophes, the operating system changes the name to upper case.

For a destination system that is not an IBM System i, this name is system-dependent, and can be either the actual name of the device or the name of a printer queue.

This output queue is usually specified as library name/output queue name. If a library name qualifier is not specified, *LIBL is used as the default.

## Writers to autostart (AUTOSTRWTR)

Specifies the number of writers that will be started automatically by the system to this output queue. If the remote system is specified as a value other than *NONE, the value of this parameter determines the number of remote writers started to this output queue. If the remote system is specified as *NONE and this is a system created printer default output queue, the value of this parameter will determine if a single printer writer is started to the output queue when the Start Printer Writer (STRPRTWTR) command is run with DEV(*ALL).

For system created printer default output queues, this parameter can be specified as *NONE or 1. For user created output queues with the remote system (RMTSYS parameter) specified as *NONE, this parameter will be ignored.

**\*SAME**
> The value does not change.

**\*NONE**
> No writers are auto-started by the system to this output queue.

*1-10*   Specify the number of writers to be auto-started to this output queue.

## Queue for writer messages (MSGQ)

Specifies the qualified name of the message queue to which messages are sent when created by the remote writer started to this output queue.

**Single values**

**\*SAME**
> The value does not change.

**Qualifier 1: Queue for writer messages**

*name*   Specify the name of the message queue to which messages created by the remote writer are sent.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name*   Specify the name of the library to be searched.

# Connection type (CNNTYPE)

Specifies the type of connection with the remote system.

**\*SAME**

    The value does not change.

**\*SNA**    The spooled files will be sent using SNADS. This is similar to the Send Network Spooled Files (SNDNETSPLF) command and requires that SNADS be configured.

**\*IP**    The spooled files will be sent using TCP/IP. This is similar to the Send TCP/IP Spooled File (SNDTCPSPLF) command and requires that the TCP/IP product be installed.

**\*IPX**    The spooled files are sent using IPX.

    **Note:** The operating system no longer supports IPX, this value will be ignored.

**\*USRDFN**

    The spooled files are sent using a user-defined connection.

# Destination type (DESTTYPE)

Specifies the type of the remote system (RMTSYS parameter). This parameter, along with the type of data contained in the spooled file (DEVTYPE parameter on the CRTPRTF command), is used by a remote writer to determine the format used to send the spooled file. The spooled file will be held by the remote writer if the type of data in the spooled file is not supported by the system.

**\*SAME**

    The value does not change.

**\*OS400**

    The spooled files are to be sent to another IBM System i, when the connection type (CNNTYPE) has been specified as \*SNA. This value can be specified for all releases which support TCP/IP (V2R3 and later) when CNNTYPE is \*IP or when CNNTYPE is \*USRDFN.

    **Note:** This value should be specified when possible, to allow the greatest flexibility when selecting values for other parameters.

**\*OS400V2**

    The spooled files are to be sent to a system running i5/OS (OS/400) V2R3 or earlier. This value is valid only when CNNTYPE is \*SNA.

**\*S390**    The spooled files are to be sent to a System z. This value is only valid when CNNTYPE is \*SNA or \*USRDFN.

**\*PSF2**    The spooled files are to be sent to a personal computer running the PSF\*/2 product.

    **Note:** This value is valid only when the CNNTYPE is \*IP or \*USRDFN.

**\*NDS**    The spooled files are to be sent to NETWARE4. This value is valid only when the CNNTYPE is \*USRDFN.

**\*OTHER**

    The spooled files are to be sent to a system not matching any of the other special values. This includes systems running i5/OS (OS/400) V1R3 or earlier, as well as System/36 and System/38 systems.

    **Note:** This value is not valid when CNNTYPE(\*IPX) is specified.

# Transform SCS to ASCII (TRANSFORM)

Specifies whether to make use of the host print transform function to transform a spooled file of device type *SCS into ASCII data when the file is sent to a remote printer queue.

**Note:** This parameter is not valid when the CNNTYPE is specified as *SNA or *NONE.

**\*SAME**
> The value does not change.

**\*YES** The SCS data streams are transformed.

**\*NO** The SCS data streams are not transformed.

# Data transform program (USRDTATFM)

Specifies the user-defined data program that is used to transform the spooled file data.

**Note:** This parameter is valid only when RMTSYS is not *NONE.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No user-defined data transform program name is specified.

**Qualifier 1: User data transform**

*name*  Specify the name of the user-defined data transform program.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name*  Specify the name of the library to be searched.

# Manufacturer type and model (MFRTYPMDL)

Specifies the manufacturer, type, and model for a printer using the host print transform function or a user data transform program.

If *WSCSTxxx is specified for MFRTYPMDL, a workstation customizing object must be specified.

This parameter is only prompted when TRANSFORM(*YES) is specified or when a user data transform program is used.

**\*SAME**
> The value does not change.

**\*WSCST**
>The value of the WSCST parameter is used.

*manufacturer-type-model*
>Specify the manufacturer, type, and model for a printer using the host print transform function or a user data transform program.

## Manufacturer Type and Model Table

```
*IBM2380      IBM 2380 Personal Printer Series II
              IBM 2380 Plus Printer
*IBM2381      IBM 2381 Personal Printer Series II
              IBM 2381 Plus Printer
*IBM2390      IBM 2390 Personal Printer Series II
              IBM 2390 Plus Printer
*IBM2391      IBM 2391 Personal Printer Series II
              IBM 2391 Plus Printer
*IBM3112      IBM 3112 Page Printer
*IBM3116      IBM 3116 Page Printer
*IBM3130      IBM 3130 Advanced Function Printer
*IBM3812      IBM 3812 Pageprinter
*IBM3816      IBM 3816 Pageprinter
*IBM3912HP    IBM 3912 Page Printer (HP Mode)
*IBM3916HP    IBM 3916 Page Printer (HP Mode)
*IBM39302     IBM 39302 IBM 3930-02S Page Printer
              IBM 39302 IBM 3930-02D Page Printer
*IBM39303     IBM 39303 IBM 3930-03S Page Printer
              IBM 39303 IBM 3930-03D Page Printer
*IBM4019      IBM 4019 LaserPrinter
              IBM 4019E LaserPrinter E
*IBM4019HP    IBM 4019 LaserPrinter (HP Mode)
              IBM 4019E LaserPrinter E (HP Mode)
*IBM4029      IBM 4029-010 LaserPrinter 5E
              IBM 4029-020 LaserPrinter 6
              IBM 4029-030 LaserPrinter 10
              IBM 4029-040 LaserPrinter 10L
*IBM4029HP    IBM 4029-010 LaserPrinter 5E (HP Mode)
              IBM 4029-020 LaserPrinter 6 (HP Mode)
              IBM 4029-030 LaserPrinter 10 (HP Mode)
              IBM 4029-040 LaserPrinter 10L
              (HP Mode)
*IBM4037      IBM 4037 5E Printer
*IBM4039HP    IBM 4039 LaserPrinter 10D (HP Mode)
              IBM 4039 LaserPrinter 10D Plus
              (HP Mode)
              IBM 4039 LaserPrinter 10R (HP Mode)
              IBM 4039 LaserPrinter 10R Plus
              (HP Mode)
              IBM 4039 LaserPrinter 12R (HP Mode)
              IBM 4039 LaserPrinter 12R Plus
              (HP Mode)
              IBM 4039 LaserPrinter 12L (HP Mode)
              IBM 4039 LaserPrinter 12L Plus
              (HP Mode)
              IBM 4039 LaserPrinter 16L (HP Mode)
              IBM 4039 LaserPrinter 16L Plus
              (HP Mode)
*IBM4070      IBM 4070 IJ (IBM Mode)
*IBM4070EP    IBM 4070 IJ (Epson Mode)
*IBM4072      IBM 4072 ExecJet
*IBM4076      IBM 4076 ExecJet II Printer (HP Mode)
*IBM42011     IBM 4201-1 Proprinter
*IBM42012     IBM 4201-2 Proprinter II
*IBM42013     IBM 4201-3 Proprinter III
*IBM42021     IBM 4202-1 Proprinter XL
*IBM42022     IBM 4202-2 Proprinter II XL
*IBM42023     IBM 4202-3 Proprinter III XL
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*IBM42071        IBM 4207-1 Proprinter X24
*IBM42072        IBM 4207-2 Proprinter X24E
*IBM42081        IBM 4208-1 Proprinter XL24
*IBM42082        IBM 4208-2 Proprinter XL24E
*IBM4212         IBM 4212 Proprinter 24P
*IBM4216         IBM 4216-10 Personal Pageprinter
*IBM4226         IBM 4226-302 Printer
*IBM4230         IBM 4230-4S3 Printer (IBM Mode)
                 IBM 4230-4I3 Printer (IBM Mode)
*IBM4232         IBM 4232-302 Printer (IBM Mode)
*IBM4244ASF      IBM 4244 Printer (single tractor feed
                 and ASF)
*IBM4244DUAL     IBM 4244 Printer (dual tractor feeds)
*IBM4244MAN      IBM 4244 Printer (single form feed or
                 manual selection)
*IBM4247ASF      IBM 4247 Printer (single tractor feed
                 and ASF)
*IBM4247DUAL     IBM 4247 Printer (dual tractor feeds)
*IBM4247MAN      IBM 4247 Printer (single form feed or
                 manual selection)
*IBM4308         IBM Infoprint Color 8
*IBM4312         IBM Network Printer 12
*IBM4317         IBM Network Printer 17
*IBM4320         IBM Infoprint 20
*IBM4322         IBM Infoprint 21
*IBM4324         IBM Network Printer 24
*IBM4332         IBM Infoprint 32
*IBM4340         IBM Infoprint 40
*IBM47121        IBM 4712-1 Transaction Printer
*IBM47122        IBM 4712-2 Transaction Printer
*IBM47221        IBM 4722-1 Document Printer
*IBM47222        IBM 4722-2 Document Printer
*IBM4770         IBM 4770 InkJet Transaction Printer
*IBM4912         IBM Infoprint 12
*IBM5152         IBM 5152 Graphics Printer
*IBM5201         IBM 5201-2 Quietwriter
*IBM5202         IBM 5202-1 Quietwriter III
*IBM5204         IBM 5204-1 Quickwriter
*IBM5216         IBM 5216 Wheelprinter
*IBM5575         IBM 5579-H02 Printer
                 IBM 5579-K02 Printer
                 IBM 5577-T02 Printer
                 IBM 5579-S02 Printer
                 IBM 5577-K02 Printer
                 IBM 5577-J02 Printer
                 IBM 5577-G02 Printer
                 IBM 5577-H02 Printer
                 IBM 5577-F02 Printer
                 IBM 5577-B02 Printer
                 IBM 5575-H02 Printer
                 IBM 5575-F02 Printer (with SBCS
                 Cartridge)
                 IBM 5575-B02 Printer (with SBCS
                 Cartridge)
                 IBM 5573-K02 Printer
                 IBM 5573-J02 Printer
                 IBM 5573-H02 Printer
                 IBM 5573-G02 Printer
                 IBM 5572-B02 Printer
                 IBM 5417-011 Printer
                 IBM 5407-011 Printer
                 IBM 5327-011 Printer
                 IBM 4208-502 Printer
*IBM6400         IBM 6400 Printers (IBM Mode)
*IBM6400EP       IBM 6400 Printers (Epson Mode)
*IBM6404         IBM 6404 Printers (IBM Mode)
*IBM6404EP       IBM 6404 Printers (Epson Mode)
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*IBM6408        IBM 6408-A00 Printer (IBM Mode)
                IBM 6408-CTA Printer (IBM Mode)
*IBM6408EP      IBM 6408-A00 Printer (Epson Mode)
                IBM 6408-CTA Printer (Epson Mode)
*IBM6412        IBM 6412-A00 Printer (IBM Mode)
                IBM 6412-CTA Printer (IBM Mode)
*IBM6412EP      IBM 6412-A00 Printer (Epson Mode)
                IBM 6412-CTA Printer (Epson Mode)
*IBMPAGES       IBM 5589-H01 Printer
                IBM 5588-H02 Printer
                IBM 5587-H01 Printer
                IBM 5586-H02 Printer
                IBM 5585-H01 Printer
                IBM 5584-K02 Printer
                IBM 5584-H02 Printer
                IBM 5584-G02 Printer
*IBMPAGESNPB    Same as *IBMPAGES, but without text
                positioning adjustments for a no-print
                border
*IBMPAGES300    IBM Network Printer 12 (with PAGES
                feature)
                IBM Network Printer 17 (with PAGES
                feature)
                IBM Network Printer 24 (with PAGES
                feature)
                IBM Infoprint 20 (with PAGES feature)
                IBM Infoprint 32 (with PAGES feature)
                IBM Infoprint 40 (with PAGES feature)
*IBMPAGES300NPB Same as *IBMPAGES300, but without text
                positioning adjustments for a no-print
                border
*INFOPRINT8C    IBM Infoprint Color 8
*INFOPRINT12    IBM Infoprint 12
*INFOPRINT20    IBM Infoprint 20
*INFOPRINT21    IBM Infoprint 21
*INFOPRINT32    IBM Infoprint 32
*INFOPRINT40    IBM Infoprint 40
*INFOPRINT70    IBM Infoprint 70
*INFOPRINT85    IBM Infoprint 2085
*INFOPRINT105   IBM Infoprint 2105
*INFOPRINT1116  IBM Infoprint 1116
*INFOPRINT1120  IBM Infoprint 1120
*INFOPRINT1125  IBM Infoprint 1125
*INFOPRINT1130  IBM Infoprint 1130
*INFOPRINT1140  IBM Infoprint 1140
*INFOPRINT1145  IBM Infoprint 1145
*INFOPRINT1220C IBM Infoprint Color 1220
*INFOPRINT1222  IBM Infoprint 1222
*INFOPRINT1226  IBM Infoprint 1226
*INFOPRINT1228C IBM Infoprint Color 1228
*INFOPRINT1312  IBM Infoprint 1312
*INFOPRINT1332  IBM Infoprint 1332
*INFOPRINT1334C IBM Infoprint Color 1334
*INFOPRINT1352  IBM Infoprint 1352
*INFOPRINT1354C IBM Infoprint Color 1354
*INFOPRINT1357C IBM Infoprint Color 1357
*INFOPRINT1372  IBM Infoprint 1372
*INFOPRINT1400C IBM Infoprint Color 14xx Series
                Printer
*INFOPRINT1410  IBM Infoprint 1410 MFP
*INFOPRINT1412  IBM Infoprint 1412
*INFOPRINT1422  IBM Infoprint 1422
*INFOPRINT1500  IBM Infoprint 15xx Series Printer
*INFOPRINT1500C IBM Infoprint Color 15xx Series
                Printer
*INFOPRINT1600  IBM Infoprint 16xx Series Printer
*INFOPRINT1600C IBM Infoprint Color 16xx Series
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                Printer
*INFOPRINT2000  IBM Infoprint 2000
*INFOPRINT2085  IBM Infoprint 2085
*INFOPRINT2105  IBM Infoprint 2105
*INFOPRINT2190  IBM Infoprint 2190
*INFOPRINT2210  IBM Infoprint 2210
*INFOPRINT2235  IBM Infoprint 2235
*INFOPRINT2705  IBM Infoprint 2105
*INFOPRINT2706  IBM Infoprint 2105ES
*INFOPRINT2761  IBM Infoprint 2060ES
*INFOPRINT2775  IBM Infoprint 2075ES
*INFOPRINT2785  IBM Infoprint 2085
*INFOPRINT2790  IBM Infoprint 2090ES
*INFOPRINT6500  IBM Infoprint 6500 (Epson Mode)
*CANLIPS3       Canon LIPS3 DBCS Printers
*CANLIPS3NPB    Same as *CANLIPS3, but without text
                positioning adjustments for a no-print
                border
*CPQPM15        COMPAQ PageMark 15 (HP Mode)
*CPQPM20        COMPAQ PageMark 20 (HP Mode)
*EPAP2250       Epson ActionPrinter 2250
*EPAP3250       Epson ActionPrinter 3250
*EPAP5000       Epson ActionPrinter 5000
*EPAP5500       Epson ActionPrinter 5500
*EPDFX5000      Epson DFX-5000
*EPDFX8000      Epson DFX-8000
*EPEPL7000      Epson EPL-7000
*EPEPL8000      Epson EPL-8000
*EPFX850        Epson FX-850
*EPFX870        Epson FX-870
*EPFX1170       Epson FX-1170
*EPLQ510        Epson LQ-510
*EPLQ570        Epson LQ-570
*EPLQ860        Epson LQ-860
*EPLQ870        Epson LQ-870
*EPLQ1070       Epson LQ-1070
*EPLQ1170       Epson LQ-1170
*EPLQ2550       Epson LQ-2550
*EPLX810        Epson LX-810
*EPSQ870        Epson SQ-870
*EPSQ1170       Epson SQ-1170
*ESCPDBCS       Epson ESC/P DBCS Printers
*HPII           HP LaserJet Series II
*HPIID          HP LaserJet IID
*HPIIP          HP LaserJet IIP
*HPIII          HP LaserJet III
*HPIIID         HP LaserJet IIID
*HPIIIP         HP LaserJet IIIP
*HPIIISI        HP LaserJet IIISi
*HP4            HP LaserJet 4
*HP5            HP LaserJet 5 series
*HP5SI          HP LaserJet 5Si
*HP6            HP LaserJet 6 series
*HP310          HP DeskJet 310
*HP320          HP DeskJet 320
*HP500          HP DeskJet 500
*HP520          HP DeskJet 520
*HP540          HP DeskJet 540
*HP550C         HP DeskJet 550C
*HP560C         HP DeskJet 560C
*HP1100         HP LaserJet 1100 series
*HP1200C        HP DeskJet 1200C
*HP1600C        HP DeskJet 1600C
*HP4000         HP LaserJet 4000 series
*HP5000         HP LaserJet 5000 series
*HP8000         HP LaserJet 8000 series
*HPCOLORLJ      HP Color LaserJet 5
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*HPDBCS        HP LaserJet-compatible printers for
               Double Byte Character Set (DBCS) input
*HPPAINT       HP PaintJet
               HP PaintJet XL
               HP PaintJet XL300
*LEX2380       Lexmark Forms Printer 2380 Plus
*LEX2381       Lexmark Forms Printer 2381 Plus
*LEX2390       Lexmark Forms Printer 2390 Plus
*LEX2391       Lexmark Forms Printer 2391 Plus
*LEX4227       Lexmark 4227 Forms Printer
*LEXMARKC      Lexmark C Series Printer
*LEXMARKC510   Lexmark C510 Color Printer
*LEXMARKC750   Lexmark C750 Color Printer
*LEXMARKC752   Lexmark C752 Color Printer
*LEXMARKC910   Lexmark C910 Color Printer
*LEXMARKC912   Lexmark C912 Color Printer
*LEXMARKE      Lexmark E Series Printer
*LEXMARKE322   Lexmark E322 Printer
*LEXMARKE323   Lexmark E323 Printer
*LEXMARKE330   Lexmark E330 Printer
               Lexmark E332n Printer
*LEXMARKT      Lexmark T Series Printer
*LEXMARKT420   Lexmark T420 Printer
*LEXMARKT520   Lexmark T520 Printer
*LEXMARKT522   Lexmark T522 Printer
*LEXMARKT620   Lexmark T620 Printer
*LEXMARKT622   Lexmark T622 Printer
*LEXMARKT630   Lexmark T630 Printer
*LEXMARKT632   Lexmark T632 Printer
*LEXMARKT634   Lexmark T634 Printer
*LEXMARKW      Lexmark W Series Printer
*LEXMARKW812   Lexmark W812 Printer
*LEXMARKW820   Lexmark W820 Printer
*LEXMARKX422   Lexmark X422 MFP
*LEXOPTRA      Lexmark Optra Family (HP Mode)
*LEXOPTRAC     Lexmark Optra C Color Printer
*LEXOPTRAN     Lexmark Optra N Printer
*LEXOPTRAS     Lexmark Optra S Printer family
*LEXOPTRASC    Lexmark Optra SC Color Printer
               Lexmark Optra Color 1200 Printer
*LEXOPTRAT     Lexmark Optra T Printer series
*LEXOPTRAW     Lexmark Optra W Printer series
*NECP2         NEC P2 Pinwriter
*NECP2200      NEC P2200 Pinwriter
*NECP2200XE    NEC P2200 XE Pinwriter
*NECP5200      NEC P5200 Pinwriter
*NECP5300      NEC P5300 Pinwriter
*NECP6200      NEC P6200 Pinwriter
*NECP6300      NEC P6300 Pinwriter
*NECPCPR201    NEC PC-PR101 DBCS Printer
               NEC PC-PR201 DBCS Printer
*NONE          Printer supports page-descriptor
               language generated by the CVTIMG API.
               NOTE: Spoolfiles with device type of
               *SCS or *AFPDS cannot be processed by
               the Host Print Transform function for
               these printers.
*OKI184IBM     Okidata Microline 184 Turbo (IBM Mode)
*OKI320IBM     Okidata Microline 320 (IBM Mode)
*OKI321IBM     Okidata Microline 321 (IBM Mode)
*OKI390IBM     Okidata Microline 390 Plus (IBM Mode)
*OKI391IBM     Okidata Microline 391 Plus (IBM Mode)
*OKI393IBM     Okidata Microline 393 Plus (IBM Mode)
*OKI590IBM     Okidata Microline 590 (IBM Mode)
*OKI591IBM     Okidata Microline 591 (IBM Mode)
*OKI400        Okidata OL400 LED Page Printer
*OKI800        Okidata OL800 LED Page Printer
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*OKI810         Okidata OL810 LED Page Printer
*OKI820         Okidata OL820 LED Page Printer
*OKI3410        Okidata Pacemark 3410
*PAN1123EP      Panasonic KX-P1123 (Epson Mode)
*PAN1124EP      Panasonic KX-P1124 (Epson Mode)
*PAN1124IEP     Panasonic KX-P1124i (Epson Mode)
*PAN1180EP      Panasonic KX-P1180 (Epson Mode)
*PAN1180IEP     Panasonic KX-P1180i (Epson Mode)
*PAN1191EP      Panasonic KX-P1191 (Epson Mode)
*PAN1624EP      Panasonic KX-P1624 (Epson Mode)
*PAN1654EP      Panasonic KX-P1654 (Epson Mode)
*PAN1695EP      Panasonic KX-P1695 (Epson Mode)
*PAN2123EP      Panasonic KX-P2123 (Epson Mode)
*PAN2124EP      Panasonic KX-P2124 (Epson Mode)
*PAN2180EP      Panasonic KX-P2180 (Epson Mode)
*PAN2624EP      Panasonic KX-P2624 (Epson Mode)
*PAN4410HP      Panasonic KX-P4410 (HP Mode)
*PAN4420HP      Panasonic KX-P4420 (HP Mode)
*PAN4430HP      Panasonic KX-P4430 (HP Mode)
*PAN4450IHP     Panasonic KX-P4450i (HP Mode)
*PAN4451HP      Panasonic KX-P4451 (HP Mode)
*PANASONIC2310  Panasonic DP-2310 Printer
*PANASONIC3010  Panasonic DP-3010 Printer
*PANASONIC3510  Panasonic DP-3510 Printer
*PANASONIC3520  Panasonic DP-3520 Printer
*PANASONIC4510  Panasonic DP-4510 Printer
*PANASONIC4520  Panasonic DP-4520 Printer
*PANASONIC6010  Panasonic DP-6010 Printer
*PANASONIC6020  Panasonic DP-6020 Printer
*PDF            Portable Document Format
*PDFEMBEDTT     Portable Document Format. All TrueType
                font references are embedded in the
                output document.
*PDFIBMWT       Portable Document Format. References
                to IBM WorldType fonts shipped with
                the system are mapped to standard PDF
                font references.
*RICOH1515      Ricoh Aficio 1515 Printer Series
*RICOH2015      Ricoh Aficio 2015 Printer Series
*RICOH2018      Ricoh Aficio 2018 Printer Series
*RICOH2022      Ricoh Aficio 2022 Printer Series
*RICOH2027      Ricoh Aficio 2027 Printer Series
*RICOH2032      Ricoh Aficio 2032 Printer Series
*RICOH2035      Ricoh Aficio 2035 Printer Series
*RICOH2045      Ricoh Aficio 2045 Printer Series
*RICOHAP400     Ricoh Aficio AP400 Printer Series
*RICOHAP600N    Ricoh Aficio AP600N Printer Series
*RICOHAP900     Ricoh Aficio AP900 Printer Series
*RICOHAP3200    Ricoh Aficio AP3200 Printer Series
*RICOHAP4510    Ricoh Aficio AP4510 Printer Series
*RICOHCL2000    Ricoh Aficio CL2000 Color Printer
                Series
*RICOHCL3100    Ricoh Aficio CL3000e Color Printer
                Series
                Ricoh Aficio CL3100N Color Printer
                Series
*RICOHCL4000    Ricoh Aficio CL4000 Color Printer
                Series
*RICOHCL5000    Ricoh Aficio CL5000 Color Printer
                Series
*RICOHCL7000    Ricoh Aficio CL7000 Color Printer
                Series
*RICOHCL7100    Ricoh Aficio CL7100 Color Printer
                Series
*RICOHMP1100    Ricoh Aficio MP1100 Printer Series
*RICOHMP1350    Ricoh Aficio MP1350 Printer Series
*RICOHMP9000    Ricoh Aficio MP9000 Printer Series
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*RICOHSP4100N    Ricoh Aficio SP4100N Printer Series
                 Ricoh Aficio SP4110N Printer Series
*RICOHSP9100DN   Ricoh Aficio SP9100DN Printer Series
*RICOHSPC811DN   Ricoh Aficio SPC811DN Color Printer
                 Series
*WORKIO_BL       Panasonic WORKiO DP-23xx Series
                 Printer
                 Panasonic WORKiO DP-30xx Series
                 Printer
*WORKIO_BM       Panasonic WORKiO DP-35xx Series
                 Printer
*WORKIO_CR       Panasonic WORKiO DP-Cxxx Series
                 Color Printer
*XRX4215MRP      Xerox 4215/MRP (HP Mode)
*XRX4219MRP      Xerox 4219/MRP (HP Mode)
*XRX4220MRP      Xerox 4220/MRP (HP Mode)
*XRX4230MRP      Xerox 4230/MRP (HP Mode)
*XRX4235         Xerox 4235 LaserPrinting (HP Mode)
*XRX4700II       Xerox 4700 II Color Document Printer
                 (HP Mode)
*WSCSTA3         Printer not listed (A3-sized paper)
*WSCSTA4         Printer not listed (A4-sized paper)
*WSCSTA5         Printer not listed (A5-sized paper)
*WSCSTB4         Printer not listed (B4-sized paper)
*WSCSTB5         Printer not listed (B5-sized paper)
*WSCSTCONT80     Printer not listed (8 inch continuous
                 forms)
*WSCSTCONT132    Printer not listed (13.2 inch
                 continuous forms)
*WSCSTEXECUTIVE  Printer not listed (executive-sized
                 paper)
*WSCSTLEDGER     Printer not listed (ledger-sized
                 paper)
*WSCSTLEGAL      Printer not listed (legal-sized paper)
*WSCSTLETTER     Printer not listed (letter-sized
                 paper)
*WSCSTNONE       Printer not listed (paper size not
                 specified)
*WSCST           Printer not listed
```

## Workstation customizing object (WSCST)

Specifies an object that consists of a table of attributes used to customize a given ASCII device, such as a workstation or printer. Character presentation, font specifications, and control key sequences are examples of characteristics that can be customized.

This parameter is only prompted when TRANSFORM(*YES) is specified, or when a user data transform program is used.

**Single values**

**\*SAME**
    The value does not change.

**\*NONE**
    No workstation customizing object is specified.

**Qualifier 1: Workstation customizing object**

*name*    Specify the name of a workstation customizing object, which was created with the Create Work Station Customizing Object (CRTWSCST) command.

**Qualifier 2: Library**

*LIBL* All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

# Image configuration (IMGCFG)

Specifies the image configuration for this output queue. An image configuration object provides transform services for a variety of image and print datastream formats. This parameter is only used with remote writers.

See the Image Configuration Object (IMGCFG Parameter) table below for a list of the image configuration objects provided.

See the Recommended Image Configuration Objects by Printer table below for the suggested IMGCFG object for many popular printers.

**\*SAME**

> The value does not change.

**\*NONE**

> No image configuration specified.

*character-value*

> Specify the image configuration to be used with the output queue.

**Image Configuration Object Table**

```
 -------------- HP PCL Datastream -----------------------
*IMGA01    PCL 300-dpi printer
*IMGA02    PCL 600-dpi printer
*IMGA03    PCL 1200-dpi printer
*IMGA04    PCL 300-dpi color printer
*IMGA05    PCL 600-dpi color printer
*IMGA06    PCL 1200-dpi color printer
*IMGA07    PCL 75-dpi printer (No compression)
*IMGA08    PCL 600-dpi color printer
           with larger no-print border
*IMGA09    PCL 300-dpi printer (No compression)
 -------------- Postscript Datastream ----------------------
*IMGB01    Postscript 300-dpi printer
*IMGB02    Postscript 600-dpi printer
*IMGB03    Postscript 1200-dpi printer
*IMGB04    Postscript 300-dpi color printer
*IMGB05    Postscript 600-dpi color printer
*IMGB06    Postscript 1200-dpi color printer
*IMGB07    Postscript 600x300-dpi color printer
*IMGB08    Postscript 1200x300-dpi color printer
*IMGB09    Postscript 360-dpi color printer
*IMGB10    Postscript 720-dpi color printer
*IMGB11    Postscript 1440x720-dpi color printer
*IMGB12    Postscript 400-dpi printer
*IMGB13    Postscript 800-dpi color printer
*IMGB14    Postscript 600-dpi color printer
           with larger no-print border
*IMGB15    Postscript 300-dpi color printer
           with larger no-print border
```

```
           ----------------- IPDS Datastream ------------------------
*IMGC01    IPDS 240-dpi printer
*IMGC02    IPDS 300-dpi printer
*IMGC03    IPDS 600-dpi printer
*IMGC04    IPDS 1200-dpi printer
*IMGC05    IPDS 240-dpi printer with no-print border
*IMGC06    IPDS 300-dpi printer with no-print border
*IMGC07    IPDS 600-dpi printer with no-print border
*IMGC08    IPDS 1200-dpi printer with no-print border
*IMGC09    IPDS 240-dpi printer (IM/1 image only)
*IMGC10    IPDS 240-dpi printer with no-print border
              (IM/1 image only)
*IMGC11    IPDS 240-dpi printer (CCITT G4 compression)
          ------------- PCL and Postscript Datastreams ---------------
*IMGD01    PCL/Postscript 300-dpi printer
*IMGD02    PCL/Postscript 600-dpi printer
*IMGD03    PCL/Postscript 1200-dpi printer
*IMGD04    PCL/Postscript 300-dpi color printer
*IMGD05    PCL/Postscript 600-dpi color printer
*IMGD06    PCL/Postscript 1200-dpi color printer
*IMGD07    PCL 300-dpi/Postscript 600-dpi printer
*IMGD08    PCL 300-dpi/Postscript 1200-dpi printer
*IMGD09    PCL 600-dpi/Postscript 300-dpi printer
*IMGD10    PCL 600-dpi/Postscript 1200-dpi printer
*IMGD11    PCL/Postscript 600-dpi color printer
              with larger no-print border
```

## Recommended Image Configuration Objects by Printer Table

```
Compaq Pagemarc 20                                    *IMGD01
Epson EPCL-4 Printer                                  *IMGA01
Epson EPCL-5 Printer                                  *IMGA02
Epson Stylus Photo with Postscript                    *IMGB10
Epson Stylus Color 600, 800 with Postscript           *IMGB11
HP Color Laserjet 5                                   *IMGA04
HP Color Laserjet 5M                                  *IMGD04
HP Deskjet 560C, 820C, 1200C                          *IMGA04
HP Deskjet 500, 600, 1200                             *IMGA01
HP Deskjet 1600C, 1600CN                              *IMGA04
HP Deskjet 1600CM                                     *IMGD04
HP Laserjet II, IID, IIP                              *IMGA09
HP Laserjet II, IID, IIP with Postscript              *IMGB01
HP Laserjet III, IIID, IIISi, 4L                      *IMGA01
HP Laserjet III, IIID, IIISi, 4L with Postscript      *IMGD01
HP Laserjet 4, 4P, 4V, 4Si, 4 Plus                    *IMGA02
HP Laserjet 4M, 4MP, 4MV, 4Si MX, 4M Plus             *IMGD02
HP Laserjet 5, 5P, 5Si                                *IMGA02
HP Laserjet 5M, 5MP, 5Si MX                           *IMGD02
HP Laserjet 6, 6P, 6L                                 *IMGA02
HP Laserjet 6M, 6MP                                   *IMGD02
IBM 3112, 3116 Page Printer with IPDS feature         *IMGD02
IBM 3112, 3116 Page Printer (ASCII/LAN)               *IMGA02
IBM 3112, 3116 Page Printer with Postscript           *IMGD02
IBM 3130, 3160-1 AF Printer (240-pel mode)            *IMGC01
IBM 3130 AF Printer (300-pel mode)                    *IMGC02
IBM Infoprint 20 with IPDS feature                    *IMGC02
IBM Infoprint 20 (ASCII)                              *IMGA02
IBM Infoprint 32 with IPDS feature                    *IMGC02
IBM Infoprint 32 (ASCII)                              *IMGA02
IBM Infoprint 60                                      *IMGC03
IBM Infoprint 62 Model 2                              *IMGC05
IBM Infoprint 62 Model 3                              *IMGC06
IBM InfoColor 70                                      *IMGB05
IBM Infoprint 4000                                    *IMGC05
IBM Infoprint 4000 High Resolution                    *IMGC06
```

```
IBM 3825, 3827, 3828 AF Printer                       *IMGC09
IBM 3825, 3827, 3828 AF Printer (with AFIG)           *IMGC01
IBM 3829 AF Printer                                   *IMGC01
IBM 3835-001 AF Printer                               *IMGC10
IBM 3835-001 AF Printer (with AFIG)                   *IMGC05
IBM 3835-002, 3900 AF Printer                         *IMGC05
IBM 3912, 3916 Page Printer (ASCII/LAN)               *IMGA01
IBM 3912, 3916 Page Printer with IPDS feature (twinax) *IMGC06
IBM 3930-02 Page Printer (IPDS diskette)              *IMGC01
IBM 3930-03 Page Printer                              *IMGA01
IBM 3930-03 Page Printer with Postscript              *IMGD01
IBM 3935 AF Printer                                   *IMGC02
IBM 4019 LaserPrinters (HP mode)                      *IMGA09
IBM 4019 LaserPrinters with Postscript                *IMGB01
IBM 4028 LaserPrinters                                *IMGC06
IBM 4029 LaserPrinters                                *IMGA01
IBM 4029 LaserPrinters with Postscript                *IMGB02
IBM 4039 LaserPrinters                                *IMGA01
IBM 4039 LaserPrinters with Postscript                *IMGD07
IBM 4049 LaserPrinters                                *IMGA02
IBM 4049 LaserPrinters with Postscript                *IMGD02
IBM 4079 Color Jetprinter PS                          *IMGB09
IBM 4303 Network Color Printer                        *IMGB05
IBM 4312, 4317, 4324 NP with IPDS feature (twinax)    *IMGC06
IBM 4312, 4317, 4324 NP with IPDS feature (LAN)       *IMGC06
IBM 4312, 4317, 4324 NP (ASCII/LAN)                   *IMGA02
IBM 4312, 4317, 4324 NP with Postscript (ASCII/LAN)   *IMGD02
Lexmark 4039Plus                                      *IMGB02
Lexmark Optra C Color Printer                         *IMGD11
Lexmark Optra E, E+                                   *IMGA02
Lexmark Optra N                                       *IMGD02
Lexmark Optra R+, Rx+, Lx+, Lxn+                      *IMGD02
Lexmark Optra S Printers                              *IMGD02
Lexmark Optra SC Color Printer                        *IMGD05
Okidata OL400 LED Page Printer                        *IMGA01
Okidata OL800, OL810 LED Page Printers                *IMGA02
QMS 2025, 3225                                        *IMGB12
QMS Magicolor CX                                      *IMGD04
Tektronix Phaser 140                                  *IMGB09
Tektronix Phaser 300                                  *IMGB04
Tektronix Phaser 400                                  *IMGB05
Tektronix Phaser 540, 550                             *IMGB05
Tektronix Phaser 560                                  *IMGB06
Xerox 4219/MRP                                        *IMGA01
Xerox 4220/MRP                                        *IMGA02
Xerox 4230 DocuPrinter                                *IMGA02
Xerox 4512, 4517 Network Printer                      *IMGA02
Xerox 4520mp Printer                                  *IMGB13
Xerox 4700 II Color Document Printer                  *IMGD04
Xerox 4915 Color Laser Printer                        *IMGB08
Xerox 4920, 4925 Color Laser Printer                  *IMGB05
```

## Internet address (INTNETADR)

Specifies the internet address of the remote system to which the print request will be sent.

**Note:** This parameter is valid only when RMTSYS(*INTNETADR) is specified.

**\*SAME**

> The value does not change.

*internet-address*

> The internet address is specified in the form **nnn.nnn.nnn.nnn**, where **nnn** is a decimal number

ranging from 0 through 255. (An internet address having all binary ones or zeros in the bits of the network or host identifier portions of the address is not valid.)

Values must be enclosed in apostrophes (') when entered from the command line.

## VM/MVS class (CLASS)

Specifies the VM/MVS SYSOUT class for files sent to a VM/MVS host system.

**Note:** This parameter is valid only when CNNTYPE(*SNA) and DESTTYPE(*S390) are specified.

**\*SAME**
> The value does not change.

*character-value*
> Specify a distribution class value. Valid values range from A through Z and 0 through 9.

## Forms Control Buffer (FCB)

Specifies the forms control buffer for files sent to a VM/MVS host system.

**Note:** This parameter is valid only when CNNTYPE(*SNA) and DESTTYPE(*S390) are specified.

**\*SAME**
> The value does not change.

**\*NONE**
> No forms control buffer is used.

**\*USRDTA**
> The first 8 characters of the user data (USRDTA) spooled file attribute is the name of the forms control buffer. If the user data is blank, no forms control buffer is used.

**\*PRTF** The first 8 characters of the printer file used to spool the file is the name of the forms control buffer.

*name*  Specify the name of the forms control buffer to be used.

## Destination options (DESTOPT)

Specifies the destination-dependent options. When CNNTYPE(*IP) is specified, the destination-dependent options are added to the control file which is sent to the remote LPD server. When CNNTYPE(*SNA) is specified, this field is used to determine how spooled files are handled once they are sent to the remote system.

**\*SAME**
> The value does not change.

**\*NONE**
> No destination options are specified.

**\*USRDFNTXT**
> The user-defined text of the user profile when the spooled file was created is used. This value is ignored if CNNTYPE(*SNA) is specified.

**\*NOWAIT**
> When CNNTYPE(*SNA) is specified, a value of *NOWAIT indicates that the operating system will no longer keep track of spooled files once they have been sent.

***'destination-options'***
> Specify no more than 128 characters, enclosed in apostrophes.

## Print separator page (SEPPAGE)

Specifies whether or not to request a separator page when printing on a remote system.

**Note:** This parameter is valid only when CNNTYPE(*IP) is specified.

**\*SAME**
> The value does not change.

**\*YES**  A separator page is requested.

**\*NO**  A separator page is not requested.

## User-defined options (USRDFNOPT)

Specifies, for spooled output only, one or more user-defined options to be used by user applications or user-specified programs that process spooled files. A maximum of four user-defined options can be specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No user-defined option is specified.

**Other values (up to 4 repetitions)**

***character-value***
> Specify the user-defined option to be used by user applications that process spooled files. All characters are acceptable.

## User-defined object (USRDFNOBJ)

Specifies, for spooled output only, the user-defined object to be used by user applications or user-specified programs that process spooled files.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No user-defined object name is specified .

**Element 1: Object**

### Qualifier 1: Object

*name*   Specify the name of the user-defined object.

### Qualifier 2: Library

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
   The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name*   Specify the name of the library to be searched.

**Element 2: Object type**

*object-type*
   The user object type can be one of the following:
   - \*DTAARA (Data Area)
   - \*DTAQ (Data Queue)
   - \*FILE (File)
   - \*PSFCFG (PSF Configuration)
   - \*USRIDX (User Index)
   - \*USRQ (User Queue)
   - \*USRSPC (User Space)

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## User-defined driver program (USRDRVPGM)

Specifies the user-defined driver program.

**Note:** This parameter is valid only when RMTSYS is not \*NONE.

**Single values**

**\*SAME**
   The value does not change.

**\*NONE**
   No user-defined driver program is specified.

**Qualifier 1: User driver program**

*name*   Specify the name of the user-specified driver program to process spooled files.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name*   Specify the name of the library to be searched.

## Spooled file ASP (SPLFASP)

Specifies the auxiliary storage pool (ASP) where the spooled files physically reside.

**\*SAME**

> The value does not change.

**\*OUTQASP**

> The spooled files reside in the same ASP that the output queue resides in.

**\*SYSTEM**

> The spooled files reside in the system ASP. This value is not allowed if the output queue is in a library on a primary or secondary ASP.

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**

> The text, if any, is not to be changed.

**\*BLANK**

> No text is to be specified.

*'description'*

> Specify no more than 50 characters, enclosed in apostrophes.

## Display any file (DSPDTA)

Specifies whether users that have authority to read the output queue can display the data from any spooled file on the queue or display only data from their own files.

**\*SAME**

> The current value of the display data attribute that is specified for the output queue does not change.

**\*NO**   Users authorized to use the queue can display, copy, or send the data from their own files only, unless they have some special authority.

**\*YES**   Any user with read authority for the output queue can display, copy, or send the data from any file on the queue.

**\*OWNER**

> The owner of the file or a user with spool control (\*SPLCTL) special authority can display, copy, or send the spooled files on the queue.

# Job separators (JOBSEP)

Specifies, for each job having spooled files on this output queue, the number of separators to be placed at the beginning of the printed output for each job. Each separator contains information that identifies the job such as its name, the job user's name, the job number, and the time and date when the job was run. The number of separators can range from 0 through 9.

This parameter is used only by the printer writers, all other types of writers will ignore the value specified for this parameter.

**\*SAME**
> The number of job separators does not change.

**\*MSG** No job separators are placed before each job's output. Instead, a message is sent to the writer's message queue notifying the operator of the end of each job.

**0-9** Specify the new number of separators placed before the output of each job.

# Operator controlled (OPRCTL)

Specifies whether a user with job control authority is allowed to control and make changes to spooled files with entries on this output queue.

**\*SAME**
> The current value specified for the operator control attribute of the output queue does not change.

**\*YES** A user with job control authority can control the queue and make changes to the entries on the queue.

**\*NO** This queue and its entries cannot be manipulated or changed by users with job control authority unless they also have some other special authority.

# Data queue (DTAQ)

Specifies the data queue associated with the output queue.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No data queue is associated with the output queue.

**Qualifier 1: Data queue**

*name* Specify the name of the data queue associated with the output queue.

**Qualifier 2: Library**

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library where the data queue is located.

## Authority to check (AUTCHK)

Specifies what type of authorities to the output queue allow the user to control all the files on the queue. Users with some special authority may also be able to control the spooled files.

**\*SAME**
The current value of the authority check attribute that is specified for the output queue is not to be changed.

**\*OWNER**
The requester must have ownership authority to the output queue to pass the output queue authorization test. The requester can have ownership authority by being the owner of the output queue, sharing a group profile with the queue owner, or running a program that adopts the owner's authority.

**\*DTAAUT**
Any user with add, read, and delete authority to the output queue can control all spooled files on the queue.

## Examples

```
CHGOUTQ   OUTQ(QPRINT4)  JOBSEP(4)
          TEXT('Default queue for files using 4-part forms')
```

This command changes the number of job separators and the text that describes the output queue named QPRINT4. Four job separator pages are inserted before the spooled files for each job produced from the QPRINT4 output queue.

## Error messages

**\*ESCAPE Messages**

**CPF0002**
Command not run. Error detected by validity checker.

**CPF2207**
Not authorized to use object &1 in library &3 type *&2.

**CPF33F1**
Data queue &1 in library &2 not found.

**CPF3319**
Cannot change parameters specified. A writer is active to output queue &1.

**CPF3330**
Necessary resource not available.

**CPF3357**
Output queue &1 in library &2 not found.

**CPF3361**

> Output queue &1 in library &2 not changed. Output queue in use.

**CPF34D7**

> Output queue &1 in &2 not changed due to errors.

# Change Owner (CHGOWN)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Owner (CHGOWN) command transfers ownership of an object or group of objects from one user to another. An object name pattern can be used to change authority for a group of related objects. The authority that other users have to the object does not change.

The CHGOWN command can also be used to change the owner of a directory tree where the directory, its contents, and the contents of all of its subdirectories are to have the owner changed. If SUBTREE(*ALL) is specified, this command will attempt to change the owner of all objects within the subtree. A diagnostic message will be sent for each object that could not have its owner changed and, when all of the objects have been attempted, an escape message will be sent. If all of the objects had their owner changed with no errors, a completion message will be sent.

If a symbolic link object is encountered, either specified in the **Object (OBJ)** parameter or encountered in the processing of a subtree, the value specified for the **Symbolic link (SYMLNK)** parameter will be applied to that symbolic link object. If processing a subtree, the processing of that branch of the subtree then stops because a symbolic link object itself cannot have subtrees.

The owner of an object always has all the authorities applicable to the object unless they are explicitly revoked. The owner of an object has the authority to grant any authorities to any user for that object. Owners can also grant to themselves authorities that were previously revoked. Owners may, for example, remove some of their specific authorities as a precautionary measure, and then, when the need arises, grant those same authorities to themselves again.

A user with all object (*ALLOBJ) special authority has complete authority for all objects and can transfer the ownership of any object. All users have add (*ADD) and delete (*DLT) authorities for their own user profiles; that is, users can add objects to or delete objects (that they created) from their own user profiles by transferring the ownership of the object.

For more information about integrated file system commands, see the Integrated file system topic collection in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Restrictions:**
- To transfer ownership of an object in the QSYS.LIB or independent ASP QSYS.LIB file system, you must have all of the following:
  - Object existence (*OBJEXIST) authority for the object
  - Object operational (*OBJOPR) and *OBJEXIST authorities if the object is a file, library, or subsystem description
  - *ALLOBJ special authority or ownership if the object is an authorization list
  - *ADD authority for the new owner's user profile
  - *DLT authority for the present owner's user profile
  - *ALLOBJ and security administrator (*SECADM) special authorities to change the object owner of a program that adopts authority.
- Changing the ownership of an object that has an authority holder associated with it also changes the ownership of the authority holder.
- When doing subtree processing, you must have read (*R) and execute (*X) authorities to the path name and all subdirectories within that path.

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## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| OBJ | Object | *Path name* | Required, Positional 1 |
| NEWOWN | New owner | *Name* | Required, Positional 2 |
| RVKOLDAUT | Revoke current authority | *NO, ***YES** | Optional |
| SUBTREE | Directory subtree | ***NONE**, *ALL | Optional |
| SYMLNK | Symbolic link | ***NO**, *YES | Optional |

## Object (OBJ)

Specifies the object, or a pattern to match multiple objects, for which ownership is to be changed.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

This is a required parameter.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/ for additional information.

*path-name*
> Specify the path name of the objects whose ownership is to be changed.

> The object path name can be either a simple name or a name that is qualified with the name of the directory in which the object is located. A pattern can be specified in the last part of the path name. An asterisk (*) matches any number of characters and a question mark (?) matches a single character. If the path name is qualified or contains a pattern, it must be enclosed in apostrophes.

## New owner (NEWOWN)

Specifies the user profile of the new owner for the object. The user profile must exist when this command is run.

This is a required parameter.

*name*    Specify the name of the user profile.

# Revoke current authority (RVKOLDAUT)

Specifies whether the authorities for the current owner are revoked when ownership is transferred to the new owner specified for the **New owner (NEWOWN)** parameter.

**\*YES**   The authorities for the current owner are revoked when the object is transferred to the new owner.

**\*NO**   The current owner's authority is not changed when the object is transferred to the new owner.

# Directory subtree (SUBTREE)

Specifies whether or not to change the objects within the subtree if the object specified by the **Object (OBJ)** parameter is a directory or a library.

**\*NONE**
The objects specified by the OBJ parameter are changed. If the object is a directory or a library, it will be changed, but the directory or library contents will not be changed.

**\*ALL**   The objects specified by the OBJ parameter are changed. If the object is a directory or a library, it will be changed as well as the contents of the directory or library and the contents of all subdirectories.

**Note:** Pattern matching from the OBJ parameter only applies to the first level objects. If the first level object is a directory or a library, the pattern matching does not apply to the directory or library contents or the contents of the subdirectories.

**Note:** This command may run a long time when SUBTREE(\*ALL) is specified if there are many subdirectories to be processed.

Once the command has begun processing a specific directory subtree, the objects which will be found and processed may be affected by operations that update the organization of objects within the specified directory tree. This includes, but is not limited to, the following:

- Adding, removing, or renaming object links
- Mounting or unmounting file systems
- Updating the effective root directory for the process calling the command
- Updating the contents of a symbolic link

In order to process the directory subtree, the system code may increase the process-scoped maximum number of file descriptors that can be opened during processing. This is done so that the command is not likely to fail due to a lack of descriptors. This process-scoped maximum value is not reset when the command completes.

# Symbolic link (SYMLNK)

If the object is a symbolic link, specifies whether or not to change the symbolic link or the object pointed to by the symbolic link.

**\*NO**   The symbolic link object is not changed. The object pointed to by the symbolic link is changed.

**\*YES**   If the object is a symbolic link, the symbolic link is changed. The object pointed to by the symbolic link is not changed.

# Examples

**Example 1: Changing the owner of a program**

```
CHGOWN   OBJ('/QSYS.LIB/USERLIB.LIB/PROGRAM1.PGM')  NEWOWN(ANN)
```

This command assigns ownership of the program named PROGRAM1, located in the user library named USERLIB, to the user named ANN. The authority is revoked from the current owner.

**The following examples use the chart below:**

```
*          sym1 (symbolic link to dir1)
*
*
*                 dir1
*                * * *
*              *   *   *
*            *     *     *
*          dir2.1  dir2.2  dir2.3
*             *       *        *
*             *       *        *
*          dir3.1  dir3.2   sym3.3 (symbolic link to dirA)
*
*
*                 dirA
*                * * *
*              *   *   *
*            *     *    *
*          dirB.1  dirB.2   dirB.3
*
```

**Example 2: Changing the owner of a symbolic link when SYMLNK(*NO)**

```
CHGOWN   OBJ('/sym1')  NEWOWN(SAM) SUBTREE(*ALL) SYMLNK(*NO)
```

This command will first determine if there are subtrees to process. Since the object specified in the OBJ parameter is a symbolic link, the SUBTREE parameter will be ignored because a symbolic link object does not have subtrees. Next, the object pointed to by symbolic link sym1 (dir1) will be changed because the SYMLNK parameter specifies that the symbolic link object not be changed.

In this example, the owner of dir1 is changed to SAM and the authority is revoked from the current owner. It does not change the owner of the symbolic link object (sym1) and it does not change the owner of the contents of dir1.

**Example 3: Changing the owner a symbolic link when SYMLNK(*YES)**

```
CHGOWN   OBJ('/sym1')  NEWOWN(JOE) SUBTREE(*ALL) SYMLNK(*YES)
```

This command will first determine if there are subtrees to process. Since the object specified in the OBJ parameter is a symbolic link, the SUBTREE parameter will be ignored because a symbolic link object does not have subtrees. Next, the symbolic link object (sym1) will be changed because the SYMLNK parameter specifies that the symbolic link object be changed.

In this example, the owner of sym1 is changed to JOE and the authority is revoked from the current owner. It does not change the owner of the object pointed to by the symbolic link (dir1) and it does not change the owner of the contents of dir1.

**Example 4: Changing the owner of a directory when SUBTREE(*ALL) and SYMLNK(*NO)**

```
CHGOWN   OBJ('/dir1')  NEWOWN(PETE)  SUBTREE(*ALL) SYMLNK(*NO)
```

This command will first determine if there are subtrees to process. Since the object specified in the OBJ parameter is a directory, the subtrees will be processed. When the processing of the tree encounters a *SYMLNK object, the value for the SYMLNK parameter will be applied to that *SYMLNK object. When the SYMLNK parameter is *NO, the object the symbolic link points to will be changed. The processing of that branch of the tree then stops because the *SYMLNK object itself does not have a subtree.

In this example, the owner of dir1, dir2.1, dir2.2, dir2.3, dir3.1, dir3.2, dirA is changed to PETE and the authority to those directories is revoked from their current owners. The owner of sym3.3, dirB.1, dirB.2, dirB.3 is not changed.

**Example 5: Changing the owner of a directory when SUBTREE(*ALL) and SYMLNK(*YES)**

```
CHGOWN   OBJ('/dir1')  NEWOWN(GEORGE)  SUBTREE(*ALL) SYMLNK(*YES)
```

This command will first determine if there are subtrees to process. Since the object specified in the OBJ parameter is a directory, the subtrees will be processed. When the processing of the tree encounters a *SYMLNK object, the value for the SYMLNK parameter will be applied to the *SYMLNK object. When the SYMLNK parameter is *YES, the symbolic link object will be changed. The processing of that branch of the tree then stops because the *SYMLNK object itself does not have a subtree.

In this example, the owner of dir1, dir2.1, dir2.2, dir2.3, dir3.1, dir3.2, sym3.3 is changed to GEORGE and the authority is revoked from their current owners. The owner of dirA, dirB.1, dirB.2, dirB.3 is not changed.

**Example 6: Changing the owner of a directory when SUBTREE(*NONE) and SYMLNK(*NO)**

```
CHGOWN   OBJ('/dir1')  NEWOWN(BETTY)  SUBTREE(*NONE) SYMLNK(*NO)
```

This command will not process subtrees. Since the object specified in the OBJ parameter is not a symbolic link, the SYMLNK parameter will be ignored.

The owner of dir1 is changed to BETTY and the authority is revoked from the current owner.

**NOTE:**

The only way to change dirB.1, dirB.2, and dirB.3 is to specify them individually in the OBJ parameter of the change command, or to specify the change command with OBJ(dirA) and SUBTREE(*ALL).

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# Error messages

**ESCAPE Messages**

**CPE3101**

A non-recoverable I/O error occurred.

**CPE3408**

The address used for an argument was not correct.

**CPE3418**

Possible APAR condition or hardware failure.

**CPE3474**

Unknown system state.

**CPFA0AA**

Error occurred while attempting to obtain space.

**CPFA0AB**

Operation failed for object. Object is &1.

**CPFA0AD**

Function not supported by file system.

**CPFA0A2**

Information passed to this operation was not valid.

**CPFA0A3**

Path name resolution causes looping.

**CPFA0A4**

Too many open files for process.

**CPFA0A7**

Path name too long.

**CPFA0A9**

Object not found. Object is &1.

**CPFA0B1**

No objects satisfy request.

**CPFA0C1**

CCSID &1 not valid.

**CPFA0CE**

Error occurred with path name parameter specified.

**CPFA0DD**

Function was interrupted.

**CPFA0D4**

File system error occurred. Error number &1.

**CPFA08B**

Path name cannot begin with *.

**CPFA08C**

Pattern not allowed in path name directory.

**CPFA085**

Home directory not found for user &1.

**CPFA086**

Matching quote not found in path name.

**CPFA087**

Path name contains null character.

**CPFA088**

        Path name pattern not valid.

**CPFA089**

        Pattern not allowed in path name.

**CPFA09C**

        Not authorized to object. Object is &1.

**CPFA09D**

        Error occurred in program &1.

**CPFA09E**

        Object in use. Object is &1.

**CPFA091**

        Pattern not allowed in user name.

**CPFA092**

        Path name not converted.

**CPFA094**

        Path name not specified.

**CPFBC50**

        Path name or path names not found.

**CPF220A**

        New owner &1 does not have a uid.

**CPF2204**

        User profile &1 not found.

**CPF2213**

        Not able to allocate user profile &1.

**CPF2217**

        Not authorized to user profile &1.

**CPF223A**

        &1 objects changed, &2 objects not changed.

**CPF22F0**

        Unexpected errors occurred during processing.

**CPF3BF6**

        Path Type value is not valid.

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# Change Organizer Profile (CHGPCOPRF)

**Where allowed to run:**

- Interactive job (*INTERACT)
- Interactive program (*IPGM)
- Using QCMDEXEC, QCAEXEC, or QCAPCMD API (*EXEC)

**Threadsafe:** No

The Change System i Access Organizer Profile (CHGPCOPRF) command allows you to specify if you want to use OfficeVision/400, DW 4, DW 4/2, DW 5, or DW 5/2 as your text editor.

If you select DW 4, DW 4/2, DW 5, or DW5/2, you are asked what DisplayWrite profile you want to use, where to find your DisplayWrite program files, and how you want to save your DisplayWrite files.

If you are using the OS/2 operating system on your personal computer, you can only select OfficeVision/400 or DW 5/2 as your editor.

If you are using the DOS operating system on your personal computer, you can only select OfficeVision/400, DW 4, DW 4/2, or DW 5 as your editor.

There are no parameters for this command.

## Error messages for CHGPCOPRF

None

## Parameters

None

## Examples

None

## Error messages

None

# Change PDG Profile (CHGPDGPRF)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Print Descriptor Group Profile (CHGPDGPRF) command changes the Print Descriptor Group (PDG) profile information for a particular user.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| USER | User | *Name*, *CURRENT | Required, Key, Positional 1 |
| PDG | Print descriptor group | Single values: *SAME<br>Other values: *Qualified object name* | Required, Positional 2 |
| | Qualifier 1: Print descriptor group | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| PRTD | Print descriptor | *Character value*, *SAME | Required, Positional 3 |

## User (USER)

Specifies the name of the user whose PDG profile is being changed.

The possible values are:

**\*CURRENT**
     The PDG profile of the current user is changed.

*user-name*
     Specify the name of the user whose PDG profile is being changed.

## Print descriptor group (PDG)

Specifies the name and library of the print descriptor group (PDG) to associate with this user.

The possible PDG values are:

*print-descriptor-group-name*
     Specify the name of the PDG to change.

The possible library values are:

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

> The current library for the job is used to locate the PDG. If no library is specified as the current library for the job, QGPL is used.

*library-name*

> Specify the name of the library where the PDG being changed is located.

This is a required parameter.

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## Print descriptor (PRTD)

Specifies the print descriptor name within the Print Descriptor Group (PDG).

The possible values are:

**\*SAME**

> The print descriptor name does not change.

*print-descriptor-name*

> Specify the print descriptor name.

This is a required parameter.

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## Examples

```
CHGPDGPRF   USER(JPSMITH)  PDG(*LIBL/LETTERS)   PRTD(DRAFT_QUALITY)
```

This command changes the print descriptor for user profile JPSMITH. The print descriptor is changed to DRAFT_QUALITY in print descriptor group LETTERS.

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## Error messages

**\*ESCAPE Messages**

**CPF2204**

> User profile &1 not found.

**CPF2217**

> Not authorized to user profile &1.

**CPF2247**

> Internal security object not available. Reason code &1.

**CPF6D82**

> PDG profile not changed for user &1.

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# Change PEX Definition (CHGPEXDFN)

The Change Performance Explorer Definition (CHGPEXDFN) command changes an existing Performance Explorer definition. The current values stored in an existing definition are inserted when the CHGPEXDFN command is prompted. Each definition is stored as a member in the QAPEXDFN file in library QUSRSYS. A Performance Explorer definition identifies the performance data that is to be collected during a Performance Explorer session. A session can be started using the STRPEX (Start Performance Explorer) command. When starting a new session, a Performance Explorer definition name must be provided.

Additional information about the Performance Explorer tool can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Restrictions:**

1. This command is shipped with public *EXCLUDE authority.
2. You must have *EXECUTE authority to the library of each program specified on the PGM parameter.
3. To use this command you must have *SERVICE special authority, or be authorized to the Service Trace function of i5/OS through iSeries Navigator's Application Administration support. The Change Function Usage (CHGFCNUSG) command, with a function ID of QIBM_SERVICE_TRACE, can also be used to change the list of users that are allowed to perform trace operations.
4. The following user profiles have private authorities to use the command:
   - QPGMR
   - QSRV
5. Two threads within the same job will not be allowed to run CHGPEXDFN at the same time. The thread that issued CHGPEXDFN first will run the command to completion while the second CHGPEXDFN waits.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **DFN** | Definition | *Name* | Required, Key, Positional 1 |
| **TYPE** | Type | **<u>*SAME</u>**, *STATS, *TRACE, *PROFILE | Optional |
| **PRFTYPE** | Profile type | **<u>*SAME</u>**, *PGM, *JOB | Optional |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| JOB | Jobs | Single values: **\*SAME**, \*, \*NONE<br>Other values (up to 8 repetitions): *Element list* | Optional |
| | Element 1: Job name | *Qualified job name* | |
| | Qualifier 1: Job name | *Generic name, name*, **\*ALL** | |
| | Qualifier 2: User | *Generic name, name*, **\*ALL** | |
| | Qualifier 3: Number | 000001-999999, **\*ALL** | |
| | Element 2: Thread identifier | Single values: **\*ALL**, \*SELECT<br>Other values (up to 20 repetitions): 00000001-FFFFFFFF, \*INITIAL | |
| | Element 3: Subsystem | *Generic name, name*, **\*ALLSBS** | |
| TASK | Task name | Single values: **\*SAME**, \*NONE, \*ALL<br>Other values (up to 8 repetitions): *Generic name, name* | Optional |
| PGM | Program to monitor | Values (up to 16 repetitions): *Element list* | Optional |
| | Element 1: Program | *Qualified object name* | |
| | Qualifier 1: Program | *Name*, **\*SAME**, \*ALL | |
| | Qualifier 2: Library | *Name*, **\*SAME**, \*LIBL | |
| | Element 2: Module | *Name*, **\*SAME**, \*ALL | |
| | Element 3: Procedure | *Character value*, **\*SAME**, \*ALL | |
| | Element 4: Type | **\*SAME**, \*PGM, \*SRVPGM | |
| | Element 5: Pane size | **\*SAME**, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096 | |
| DTAORG | Data organization | \*SAME, **\*FLAT**, \*HIER | Optional |
| MAXSTG | Maximum storage to use | 1024-250000000, **\*SAME** | Optional |
| TRCFULL | Trace full | **\*SAME**, \*STOPTRC, \*WRAP | Optional |
| MRGJOB | Merge job data | **\*SAME**, \*YES, \*NO | Optional |
| ADDTHDOPT | Add threads/tasks option | **\*SAME**, \*ALL, \*NEW, \*CURRENT | Optional |
| LSTALLJOB | List all jobs/tasks | **\*SAME**, \*NO, \*YES | Optional |
| INTERVAL | Sampling interval | *Element list* | Optional |
| | Element 1: Milliseconds | 0.1-200.0, **\*SAME**, \*NONE | |
| | Element 2: Randomize | **\*SAME**, \*FIXED, \*VARY | |
| PGMBKTEVT | Program bracketing events | Single values: **\*SAME**, \*DFT<br>Other values (up to 3 repetitions): \*MISTREND, \*MIENTRYEXIT, \*JVA, \*PRC | Optional |
| TRCTYPE | Trace type | Single values: **\*SAME**, \*SLTEVT<br>Other values (up to 12 repetitions): \*CALLRTN, \*BASIC, \*DSKIO1, \*DSKIO2, \*DSKSVR, \*DSKSTG, \*VRTADR, \*PGMACT, \*FILEOPEN, \*PRFDTA, \*TASKSWT, \*HEAP | Optional |
| SLTEVT | Specific events | **\*SAME**, \*NO, \*YES | Optional |
| MCHINST | Machine instructions | Single values: **\*SAME**, \*ALL, \*NONE<br>Other values (up to 50 repetitions): *Character value* | Optional |
| PGMEVT | Program events | Single values: **\*SAME**, \*NONE<br>Other values (up to 16 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*MIENTRY, \*MIEXIT, \*MISTR, \*MIEND, \*JVAENTRY, \*JVAEXIT, \*PRCENTRY, \*PRCEXIT, \*PASEPRCENTRY, \*PASEPRCEXIT | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| BASEVT | Base events | Single values: **\*SAME**, \*NONE<br>Other values (up to 27 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*PRCCRT, \*PRCDLT, \*TASKCRT, \*TASKDLT, \*TASKSWTIN, \*TASKSWTOUT, \*TASKSWTOUTQ, \*TASKSWTOUTINT, \*TASKAVAIL, \*PMCO, \*PGMDBG, \*ACTGRPACTPGM, \*ACTGRPCRT, \*ACTGRPDLT, \*EXCP, \*MIEXCP, \*DCRINTSTR, \*DCRINTEND, \*CPUVRYON, \*CPUVRYOFF, \*CPUSWTIN, \*CPUSWTOUTY, \*CPUSWTOUTP, \*CPUAVAIL, \*CPUSWT, \*SETPRF, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| STGEVT | Storage events | Single values: **\*SAME**, \*NONE<br>Other values (up to 13 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*CRTSEG, \*DLTSEG, \*EXDSEG, \*FNDSEGSIZ, \*TRUNCSEG, \*SYSHEAP, \*RESHEAP, \*LCLHEAP, \*USRHEAP, \*ACTGRPHEAP, \*HDLHEAP, \*CLEHEAP, \*STGPTC, \*TSADRFALSETRAP, \*SPCADRFALSETRAP, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| DSKEVT | Disk events | Single values: **\*SAME**, \*NONE<br>Other values (up to 14 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*ALLSTR, \*READSTR, \*READEND, \*WRTSTR, \*WRTEND, \*PGREADSTR, \*PGREADEND, \*PGWRTSTR, \*PGWRTEND, \*RMTWRTSTR, \*RMTWRTEND, \*RMTPGWRTSTR, \*RMTPGWRTEND, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| FAULTEVT | Fault events | Single values: **\*SAME**, \*NONE<br>Other values (up to 4 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*STR, \*ENDOK, \*ENDERR, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| JOBEVT | Job events | Single values: **\*SAME**, \*NONE<br>Other values (up to 10 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*LWSTR, \*LWEND, \*INELIGIBLE, \*ACTIVE, \*INTERRUPT, \*MPLPOOLCHG, \*TOBCHMPLPOOL, \*TSLEND, \*MPLLEAVE, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| LCKEVT | Lock events | Single values: **\*SAME**, \*NONE<br>Other values (up to 5 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*LWEND, \*OBJLOCK, \*SPCLOCK, \*DBLOCK, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| SAREVT | SAR events | Single values: **\*SAME**, \*NONE<br>Other values (up to 18 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*ALLSTR, \*CLR, \*CLRPIN, \*EXCHCLR, \*READ, \*READASYNC, \*READASYNCCALL, \*READPIN, \*EXCHREAD, \*EXCHREADASYNC, \*WRT, \*WRTASYNC, \*WRTRMV, \*WRTPGOUT, \*RMV, \*UNPINRMV, \*ENDOK, \*ENDERR, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| EXPCCHEVT | Expert cache events | Single values: **\*SAME**, \*NONE<br>Other values (up to 3 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*TUNE, \*TUNEDB, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| DSKSVREVT | Disk server events | Single values: **\*SAME**, \*NONE<br>Other values (up to 11 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*CTLEND, \*RQSACP, \*RQSRJT, \*SVRTASKSTR, \*SVRTASKEND, \*RQSRCV, \*RQSENDOK, \*RQSENDERR, \*TAPSNDCMD, \*TAPDONE, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| OSEVT | Operating System events | Single values: **\*SAME**, \*NONE<br>Other values (up to 54 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*DBIO, \*DBOPEN, \*DBSVRCNN, \*DBSVRREQ, \*DIRSRV, \*DTAARA, \*DTAQ, \*HOSTSVRCNN, \*IFSCOMP, \*IFSIO, \*IFSOPEN, \*MIEV8, \*MGTC, \*TRCCOMP, \*TRCDTA, \*USRTNS, \*SAVRST, \*ADDTHD1, \*ARMTRC, \*MIEV25, \*MIEV26, \*MIEV27, \*MIEV28, \*MIEV29, \*MIEV30, \*MIEV35, \*MIEV36, \*MIEV37, \*MIEV38, \*MIEV39, \*MIEV40, \*MIEV41, \*MIEV42, \*MIEV43, \*MIEV44, \*MIEV45, \*MIEV46, \*MIEV47, \*MIEV48, \*MIEV49, \*MIEV50, \*MIEV51, \*MIEV52, \*MIEV53, \*MIEV54, \*MIEV55, \*MIEV56, \*MIEV57, \*MIEV58, \*MIEV59, \*MIEV60, \*MIEV61, \*MIEV62 | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| JVAEVT | Java events | Single values: **\*SAME**, \*NONE<br>Other values (up to 20 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*OBJCRT, \*GBGCOL, \*GBGCOLSWEEP, \*THDCRT, \*THDDLT, \*THDWAIT, \*THDNFY, \*THDNFYALL, \*CLSLOAD, \*CLSUNLOAD, \*LIBOPR, \*TFMSTR, \*LCKSTR, \*UNLCK, \*JVAEXCP, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| CMNEVT | Communications events | Single values: **\*SAME**, \*NONE<br>Other values (up to 6 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*SOCKETSAPI, \*SOCKETS, \*IP, \*TCP, \*TCPIN, \*TCPOUT, \*UDP, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **APPEVT** | Application events | Single values: **\*SAME**, \*NONE<br>Other values (up to 7 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*DOMTRCDTA, \*WAS, \*CONNECT, \*APPEVT1, \*APPEVT2, \*APPEVT3, \*APPEVT4 | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| **PASEEVT** | PASE events | Single values: **\*SAME**, \*NONE<br>Other values (up to 22 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*SYSCALLSTR, \*SYSCALLEND, \*FORKPARENTSTR, \*FORKCHILDSTR, \*FORKEND, \*PRCINITSTR, \*PRCINITEND, \*EXECSTR, \*EXECEND, \*EXIT, \*THDINITSTR, \*THDINITEND, \*THDEND, \*LOADSTR, \*LOADEND, \*UNLOADSTR, \*UNLOADEND, \*SIGPRCSND, \*SIGTHDSND, \*SIGRCV, \*TRCHOOK, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| **FILSVREVT** | File server events | Single values: **\*SAME**, \*NONE<br>Other values (up to 9 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*IFSBSF, \*IFSDIR, \*IFSLFS, \*LIC, \*NETSVR, \*NFS, \*OS, \*VNODMGMT, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| **SYNCEVT** | Synchronization events | Single values: **\*SAME**, \*NONE<br>Other values (up to 13 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*CONDSET, \*CONDWAIT, \*HDLMTXRLS, \*HDLMTXWAIT, \*PTRMTXLOCK, \*PTRMTXUNLOCK, \*PTRSEMPOST, \*PTRSEMWAIT, \*NAMSEMPOST, \*NAMSEMWAIT, \*TKNLOCK, \*TKNUNLOCK, \*MTXCLEANUP, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| **JRNEVT** | Journal events | Single values: **\*SAME**, \*NONE<br>Other values (up to 10 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*STRCOMMIT, \*ENDCOMMIT, \*STROBJFORCE, \*ENDOBJFORCE, \*STRROLLBACK, \*ENDROLLBACK, \*STRCYCLE, \*STREVAL, \*ENDEVAL, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| **DBEVT** | Database events | Single values: **\*SAME**, \*NONE<br>Other values (up to 9 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| **RSCAFNEVT** | Resources affinity events | Single values: **\*SAME**, \*NONE<br>Other values (up to 9 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*CHGTASK, \*CHGGRP, \*CHGCFG, \*BALCFG, \*CHKBAL, \*VFYBAL, \*ANZBAL, \*CHGBALSTT, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| VRTIOEVT | Virtual I/O events | Single values: **\*SAME**, \*NONE<br>Other values (up to 12 repetitions): *Element list* | Optional |
| | Element 1: Event identifier | \*ALL, \*SCSICLIENT, \*SCSISERVER, \*ISCSI, \*SCSICMD, \*SCSITSKMGMT, \*DISKSTR, \*DISKEND, \*OPTSTR, \*OPTEND, \*TAPSTR, \*TAPEND, \*ETHADPT, \*SERVICE | |
| | Element 2: Event counter | **\*NONE**, 1, 2, 3, 4 | |
| | Element 3: Event format | **\*FORMAT1**, \*FORMAT2, \*FORMAT3, \*FORMAT4 | |
| TEXT | Text 'description' | *Character value*, **\*SAME**, \*BLANK | Optional |

## Definition (DFN)

Specifies the name of the Performance Explorer definition to be changed.

This is a required parameter.

*name*   Specify the name of the Performance Explorer definition to change.

## Type (TYPE)

Specifies the type of performance data to be collected.

**\*SAME**
> The value does not change.

**\*STATS**
> General performance program statistics are collected to help identify problem areas. This mode is mainly used as a map to help determine if and where more detailed information should be collected and analyzed.
>
> In addition to collecting the information specified above, TYPE(\*STATS) also provides the option of counting the occurrences of specific types of events. These can be counted in any of 4 counters provided.
>
> To count the occurrences of a particular type of event, specify SLTEVT(\*YES) and then choose the event-identifier(s) to be counted from the various event categories.
>
> For example, TYPE(\*STATS) SLTEVT(\*YES) JOBEVT((\*ALL 1)) would count all job events in counter 1.

**\*TRACE**
> Detailed trace information is collected. This is the most detailed type of performance data collection available.

**\*PROFILE**
> Specific programs are sampled to identify sections of code that are using larger amounts of resources. This information is very valuable when the user wants to improve the performance of a specific program or application.

# Profile type (PRFTYPE)

Specifies the type of profile to collect. This parameter is only valid if TYPE(*PROFILE) is specified.

**\*PGM**    Specific programs are sampled to identify sections of code that are using larger amounts of resources. This information is very valuable when the user wants to improve the performance of a specific program or application.

**\*JOB**    Specific jobs are sampled to identify programs and procedures that are using larger amounts of resources. This mode can provide a view of all the programs and procedures in the entire system, and is equivalent to *TRACE mode of *PMCO events with a specified interval.

# Job name (JOB)

Specifies which jobs are included in the Performance Explorer data collection session.

**Single values**

**\*SAME**

The value does not change.

**\***    Only the job that issues the STRPEX (Start Performance Explorer) command is included.

**Element 1: Job name**


### Qualifier 1: Job name

**\*ALL**    All jobs on the system are included.

*name*    Specify the name of the job to be included in the Performance Explorer data collection session.

*generic-name*

Specify the generic name of the job to be included. A generic name is a character string of one or more characters followed by an asterisk (*); for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic (prefix) name, the system assumes it to be the complete object name. For more information about generic object names, see the i5/OS objects topic under Programming->CL in the iSeries Information Center at the Web site: http://www.ibm.com/eserver/iseries/infocenter


### Qualifier 2: User

**\*ALL**    All jobs that match the specified job name are included.

*name*    Specify the name of the user of the job to be included.

*generic-name*

Specify the generic user name of the jobs to be included.


### Qualifier 3: Number

**\*ALL**    All jobs that match the specified job name and user name are included.

> *job-number*
>> Specify the job number to further qualify the job name and user name.

**Element 2: Thread identifier**

**\*ALL**    All threads of the specified job are included.

**\*INITIAL**
>> Only the initial thread of the specified job is included.

**\*SELECT**
>> Select the threads from a list of threads for the specified job. This value is only valid if the command is run in an interactive job.

*thread-identifier*
>> Specify the thread identifier of the job to be included. This is the thread ID as shown by the WRKJOB command.

**Element 3: Subsystem**

**\*ALLSBS**
>> All subsystems are searched to find jobs matching the specified job name, user, and number.

*name*    Specify the subsystem name of the jobs to be included.

*generic-name*
>> Specify the generic subsystem name of the jobs to be included.

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# Task name (TASK)

Specifies which licensed internal code (LIC) tasks are included in the Performance Explorer data collection session. Up to 8 task names may be specified.

**Note:** LIC tasks can be obtained from the Performance Tools reports and WRKSYSACT command. There is no guarantee that LIC task names will remain the same or exist from system to system or release to release.

**Single values**

**\*SAME**
>> The value does not change.

**\*NONE**
>> No LIC tasks on the system are included.

**\*ALL**    All LIC tasks on the system are included.

**Other values (up to 8 repetitions)**

*name*    Specify the name of the task to be included in the Performance Explorer data collection session.

*generic-name*
>> Specify the generic name of the task to be included. A generic name is a character string of one or more characters followed by an asterisk (*); for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic (prefix) name, the system assumes it to be the complete object name.

# Program to monitor (PGM)

Specifies the program whose performance profile data is collected. This parameter is only valid if TYPE(*PROFILE) is specified. Up to 16 programs may be specified.

**Element 1: Program**

### Qualifier 1: Program

**\*SAME**
> The value does not change.

**\*ALL** All programs in the specified library are sampled.

*name* Specify the name of the program to be sampled.

### Qualifier 2: Library

**\*SAME**
> The value does not change.

**\*LIBL** The library list of the job that issues the STRPEX command is searched to find the specified program or service program.

*name* Specify the library which contains the program or service program.

**Element 2: Module**

**\*SAME**
> The value does not change.

**\*ALL** All modules in the program or service program will be sampled. If sampling an OPM (Original Program Model) program, specify \*ALL for this element.

*name* Specify the name of the module within the program or service program that is to be sampled.

**Element 3: Procedure**

**\*SAME**
> The value does not change.

**\*ALL** All procedures in the specified module are sampled.

*name* Specify the name of a procedure within the specified module that is to be sampled. Specify the procedure name within single quotes if the procedure name contains lower case characters.

**Element 4: Type**

**\*SAME**
> The value does not change.

**\*PGM** The program being specified is a program (\*PGM) object.

**\*SRVPGM**
> The program being specified is a service program (\*SRVPGM) object.

**Element 5: Pane size**

The pane size is the number of consecutive program instruction addresses assigned to each counter. The smaller the pane size, the more fine-grained the program profile information will be.

**\*SAME**
> The value does not change.

*number*
> Specify the pane size to use for the program. Valid values are 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, and 4096.

## Data organization (DTAORG)

Specifies how the data is organized.

**Note:** This parameter is only valid if TYPE(\*STATS) is specified.

**\*SAME**
> The value does not change.

**\*FLAT**  The Performance Explorer tool will not collect data for a parent-child relationship.

**\*HIER**  The Performance Explorer tool will collect data for a parent-child relationship.

## Maximum storage to use (MAXSTG)

Specifies the maximum amount of storage, in kilobytes (K), that the Performance Explorer tool uses for collecting trace data.

**Note:** This parameter is only valid if TYPE(\*TRACE) is specified.

**\*SAME**
> The value does not change.

*maximum-K-bytes*
> Specifies the requested maximum amount of storage, in kilobytes (K), to use for the collected trace records. The system calculates the minimum amount of storage that is necessary for the trace. This minimum storage size calculation depends on the system's processor configuration. The minimum amount of storage may be significantly larger than the size specified on the MAXSTG parameter. The system uses the larger of the two values.

## Trace full (TRCFULL)

Specifies whether the trace records wrap (replace oldest records with new records) or whether the trace stops when all of the storage specified by the MAXSTG parameter has been used.

**Note:** This parameter is only valid if TYPE(\*TRACE) is specified.

**\*SAME**
> The value does not change.

**\*STOPTRC**
> Tracing stops when the trace file is full of trace records.

**\*WRAP**
> When the trace file is full, the trace wraps to the beginning. The oldest trace records are written over by new ones as they are collected.

## Merge job data (MRGJOB)

Specifies whether the data from different jobs should be merged together or kept separate.

**Note:** This parameter is only valid if DTAORG(\*FLAT) is specified.

**\*SAME**
> The value does not change.

**\*YES**   The data from individual jobs is merged.

**\*NO**   The data from individual jobs is kept separate.

## Add threads/tasks option (ADDTHDOPT)

Specifies what types of threads and tasks should be included in the Performance Explorer session based on the creation time of the threads and tasks relative to the start time of the Performance Explorer session.

**\*SAME**
> The value does not change.

**\*ALL**   The collection will include all threads and tasks that satisfy the criteria specified by the JOB and TASK parameters.

**\*NEW**   The collection will include only new threads and tasks that satisfy the criteria specified by the JOB and TASK parameters and are created after the Performance Explorer session is started. Any threads or tasks that are active at the time the Performance Explorer session is started will not be included.

**\*CURRENT**
> The collection will include only threads and tasks that satisfy the criteria specified by the JOB and TASK parameters and are active at the time the Performance Explorer session is started. Any threads or tasks created after the start of the Performance Explorer session will not be included.

## List all jobs/tasks (LSTALLJOB)

Specifies whether summary data should be listed for all jobs and tasks in the system, or only those jobs and tasks specified on the JOB or TASK parameter.

**\*SAME**
> The value does not change.

**\*NO**   Data for a job or task is listed in the task information file only if that job or task is specified on the JOB or TASK parameter.

**\*YES**   Data for all jobs and tasks is listed in the task information file, even if the job or task is not specified on the JOB or TASK parameter.

# Sampling interval (INTERVAL)

Specifies the interval at which samples are taken of the program. A small interval will cause a high number of samples to be taken, and will also cause higher overhead. The smaller the sampling interval, the larger the amount of trace data collected.

**Note:** This parameter is valid only when TYPE(*PROFILE) or TYPE(*TRACE) is specified.

**Element 1: Milliseconds**

***SAME**
> The value does not change.

***NONE**
> Interval is not used.

*0.1-200.0*
> Specify the interval at which samples of the program are taken. Valid values range from 0.1 to 200.0 milliseconds.

**Element 2: Randomize**

***SAME**
> The value does not change.

***FIXED**
> The sampling interval will always be the value specified for element 1 of this parameter.

***VARY**
> The sampling interval will be approximately the value specified for element 1 of this parameter. The specified interval will be changed each time by adding or subtracting a small random percentage of the interval. This may be necessary to eliminate harmonics when the set of threads/tasks in a collection have settled into a steady state sequence of machine cycles that do not vary in order or length during the collection.

# Program bracketing events (PGMBKTEVT)

Specifies which program call flow events are included in the TYPE(*STATS) definition.

**Note:** This parameter is only valid if TYPE(*STATS) is specified.

**Single values**

***SAME**
> The value does not change.

***DFT**  Statistics are to be collected on *MISTREND events, *MIENTRYEXIT events for programs and service programs, and *JVA events.

**Other values (up to 3 repetitions)**

***MISTREND**
> Statistics are to be collected on all machine instructions.

**\*MIENTRYEXIT**

Statistics are to be collected on programs and procedures. This includes any program that has been compiled at optimization level 30 or below. Optimization level 40 programs are also enabled, but only for procedures that stack a frame on the invocation stack when called (non-leaf procedures).

**\*JVA**   Statistics are to be collected on Java methods. This includes interpreted Java and Java programs running in JIT mode where the property 'os400.enbpfrcol=1' has been set. This is only for classic VM, not IBM Technology for Java.

**\*PRC**   As of V6R1 \*PRC will behave exactly like \*MIENTRYEXIT.

# Trace type (TRCTYPE)

Specifies what type of trace performance data to be collected. Additional information about the TRCTYPE options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if TYPE(\*TRACE) is specified.

**Single values**

**\*SAME**

The value does not change.

**\*SLTEVT**

Only selected individual events (xxxEVT parameters) and machine instructions (MCHINST parameter) are included in the trace definition.

**Note:** If TRCTYPE(\*SLTEVT) is specified, SLTEVT(\*YES) must also be specified.

**Other values (up to 12 repetitions)**

**\*CALLRTN**

Specifies that call return events are included in the trace definition. Call return events occur when a program is entered and exited as well as when certain machine instructions are started and completed.

**\*BASIC**

Specifies that events relative to general performance analysis are included in the trace definition. This option should be used when it is unclear as to what type of performance problem determination is necessary.

**\*DSKIO1**

Specifies that events associated with disk input/output operations are included in the trace definition.

**\*DSKIO2**

Specifies that events associated with disk input/output operations plus higher level requests to do input/output operations are included in the trace definition.

**\*DSKSVR**

Specifies that events associated with disk server operations are included in the trace definition.

**\*DSKSTG**

Specifies that events associated with disk storage consumption are included in the trace definition.

**\*VRTADR**

Specifies that events associated with virtual address assignment are included in the trace definition.

**\*PGMACT**

Specifies that events associated with program activations and deactivations are included in the trace definition.

**\*FILEOPEN**

Specifies that events associated with file (\*FILE) opens are included in the trace definition.

**\*PRFDTA**

Specifies that events associated CPU instruction profiling are included in the trace definition.

**\*TASKSWT**

Specifies that events associated with tasking are included in the trace definition.

# Specific events (SLTEVT)

For trace mode (TYPE(\*TRACE)) collections, SLTEVT allows individual machine instructions and events to be specified in addition to the categories of events available with the TRCTYPE parameter. For statistics mode (TYPE(\*STATS)) collections, SLTEVT allows individual events to be counted.

**Note:** This parameter is only valid if TYPE(\*TRACE) or TYPE(\*STATS) is specified.

**\*SAME**

The value does not change.

**\*NO**    Do not allow selection of specific events.

**\*YES**    Allow selection of specific events.

# Machine instructions (MCHINST)

Specifies which machine instructions are included in the Performance Explorer data collection session. Use this parameter in conjunction with the PGMEVT parameter. MCHINST controls which of the possible machine instructions are to be included in the collection. PGMEVT(\*MISTR and \*MIEND) controls whether any machine instructions are included in the collection.

**Note:** This parameter is only valid if TYPE(\*TRACE) and SLTEVT(\*YES) is specified.

**\*SAME**

The value does not change.

**\*ALL**    All machine instructions that are available for collection are included.

**\*NONE**

No machine instructions available for collection are included.

**Other values (up to 50 repetitions)**

*name*    Specify the name of the machine instruction to be included in the Performance Explorer data collection session.

**Note:** Specifying machine instructions should be done only under the direction of your iSeries service representative.

# Program events (PGMEVT)

Specifies which program call flow events are included in the trace definition. Additional information about the PGMEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if TYPE(*TRACE) and SLTEVT(*YES) are specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No program call flow events are included in the trace definition.

**\*ALL**   All program call flow events are included in the trace definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the call flow event identifier to be included in the trace definition.
>
> Note: The *MIENTRY, *MIEXIT, *PRCENTRY and *PRCEXIT events are always available in programs that have been compiled at optimization level 30 or below. For optimization level 40, these events are available only for the procedures that stack a frame on the invocation stack when called (non-leaf procedures).
>
> The *JVAENTRY and *JVAEXIT are available in interpreted Java and Java programs running in JIT mode where the property 'os400.enbpfrcol=1' has been set. This is only for classic VM, not IBM Technology for Java.

**Element 2: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

# Base events (BASEVT)

Specifies which base events are included in the definition. Additional information about the BASEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No base events are included in the definition.

**\*ALL**   All base events are included in the trace mode definition, or counted in the statistics mode definition. If TYPE(*STATS), you can specify which event-identifiers are to be counted. Some of the base event event-identifiers cannot be counted. An informational message will be shown if a definition attempts to count all base events.

**Element 1: Event identifier**

*event-identifier*
> Specify the base event identifier to be traced or counted.

**Element 2: Event counter**

**\*NONE**
> No base events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events. Values other than *FORMAT1 are valid for only the *PMCO and *SWOQ events. For all other events, *FORMAT1 will be used regardless of what format is specified.

*FORMAT2 for the *PMCO event will collect the same data as *FORMAT1 plus an additional 16 levels of the call stack.

*FORMAT3 for the *PMCO event will collect the same data as *FORMAT1 plus 4 additional PMC registers.

*FORMAT2 for the *SWOQ event will collect the same data as *FORMAT1 plus an additional 16 levels of the call stack.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
>   The fourth event format is used to collect data for this event.

## Storage events (STGEVT)

Specifies which auxiliary storage management events are included in the definition. Additional information about the STGEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(\*YES) is specified.

**Single values**

**\*SAME**
>   The value does not change.

**\*NONE**
>   No auxiliary storage management events are included in the definition.

**\*ALL**   All auxiliary storage management events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
>   Specify the auxiliary storage management event identifier to be included.

**Element 2: Event counter**

**\*NONE**
>   No auxiliary storage management events are counted.

*event-counter*
>   If TYPE(\*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(\*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. \*FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
>   The first event format is used to collect data for this event.

**\*FORMAT2**
>   The second event format is used to collect data for this event.

**\*FORMAT3**
>   The third event format is used to collect data for this event.

**\*FORMAT4**
>   The fourth event format is used to collect data for this event.

# Disk events (DSKEVT)

Specifies which disk events are included in the definition. Additional information about the DSKEVT options can be found in the Performance Management information at http://www.ibm.com/servers/ eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No disk events are included in the definition.

**\*ALL**  All disk events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

**\*ALLSTR**
> All disk start events are traced, if TYPE(*TRACE), or counted, if TYPE(*STATS).

*event-identifier*
> Specify the disk event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No disk events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

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# Fault events (FAULTEVT)

Specifies which page fault events are included in the definition. Additional information about the FAULTEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No page fault events are included in the definition.

**\*ALL**  All page fault events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the page fault event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No page fault events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

# Job events (JOBEVT)

Specifies which job or process related events are included in the definition. Additional information about the JOBEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No job or process related events are included in the definition.

**\*ALL**   All job or process related events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the job or process related event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No job or process related events are counted.

*event-counter*
> If TYPE(\*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(\*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. \*FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

# Lock events (LCKEVT)

Specifies which lock or seize events are included in the definition. Additional information about the LCKEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(\*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No lock or seize events are included in the definition.

**\*ALL**   All lock or seize events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the lock or seize event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No lock or seize events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

# SAR events (SAREVT)

Specifies which segment address register events are included in the definition. Additional information about the SAREVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No segment address register events are included in the definition.

**\*ALL**  All segment address register events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the segment address register event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No segment address register events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

# Expert cache events (EXPCCHEVT)

Specifies which expert cache events are included in the definition. Additional information about the EXPCCHEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No expert cache events are included in the definition.

**\*ALL**   All expert cache events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the expert cache event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No expert cache events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**

>The first event format is used to collect data for this event.

**\*FORMAT2**

>The second event format is used to collect data for this event.

**\*FORMAT3**

>The third event format is used to collect data for this event.

**\*FORMAT4**

>The fourth event format is used to collect data for this event.

## Disk server events (DSKSVREVT)

Specifies which disk server events are included in the definition. Additional information about the DSKSVREVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(\*YES) is specified.

**Single values**

**\*SAME**

>The value does not change.

**\*NONE**

>No disk server events are included in the definition.

**\*ALL** All disk server events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*

>Specify the disk server event identifier to be included.

**Element 2: Event counter**

**\*NONE**

>No disk server events are counted.

*event-counter*

>If TYPE(\*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(\*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. \*FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**

>The first event format is used to collect data for this event.

**\*FORMAT2**

>The second event format is used to collect data for this event.

**\*FORMAT3**

>The third event format is used to collect data for this event.

**\*FORMAT4**

> The fourth event format is used to collect data for this event.

## Operating System events (OSEVT)

Specifies which operating system events are included in the definition. Additional information about the OSEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(\*YES) is specified.

**Single values**

**\*SAME**

> The value does not change.

**\*NONE**

> No operating system events are included in the definition.

**\*ALL**   All operating system events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*

> Specify the operating system event identifier to be included.

**Element 2: Event counter**

**\*NONE**

> No operating system events are counted.

*event-counter*

> If TYPE(\*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(\*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. \*FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**

> The first event format is used to collect data for this event.

**\*FORMAT2**

> The second event format is used to collect data for this event.

**\*FORMAT3**

> The third event format is used to collect data for this event.

**\*FORMAT4**

> The fourth event format is used to collect data for this event.

# Java events (JVAEVT)

Specifies which Java events are included in the definition. These events are only for classic VM, not IBM Technology for Java. Additional information about the JVAEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**<u>*SAME</u>**
> The value does not change.

***NONE**
> No Java events are included in the definition.

***ALL** All Java events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the Java event identifier to be included.

**Element 2: Event counter**

**<u>*NONE</u>**
> No Java events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

*FORMAT2 for the *OBJCRT, *LCKSTR, and *UNLCK events will collect the same data as *FORMAT1 plus an additional 16 levels of the call stack.

**<u>*FORMAT1</u>**
> The first event format is used to collect data for this event.

***FORMAT2**
> The second event format is used to collect data for this event.

***FORMAT3**
> The third event format is used to collect data for this event.

***FORMAT4**
> The fourth event format is used to collect data for this event.

# Communications events (CMNEVT)

Specifies which communications events are included in the definition. Additional information about the CMNEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No communications events are included in the definition.

**\*ALL** All communications events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the communications event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No communications events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events. Values other than *FORMAT1 are valid for only the *SOCKETS events. For all other events, *FORMAT1 will be used regardless of what format is specified.

*FORMAT2 for the *SOCKETS event will collect the same data as *FORMAT1 except the application data contains 128 bytes of data instead of 64.

*FORMAT3 for the *SOCKETS event will collect the same data as *FORMAT1 except the application data contains 256 bytes of data instead of 64.

*FORMAT4 for the *SOCKETS event will collect the same data as *FORMAT1 except the application data contains 500 bytes of data instead of 64.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

# Application events (APPEVT)

Specifies which application events are included in the definition. Additional information about the APPEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
    The value does not change.

**\*NONE**
    No application events are included in the definition.

**\*ALL**   All application events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
    Specify the application event identifier to be included.

**Element 2: Event counter**

**\*NONE**
    No application events are counted.

*event-counter*
    If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
    The first event format is used to collect data for this event.

**\*FORMAT2**
    The second event format is used to collect data for this event.

**\*FORMAT3**
    The third event format is used to collect data for this event.

**\*FORMAT4**
    The fourth event format is used to collect data for this event.

# PASE events (PASEEVT)

Specifies which Portable Application Solution Environment (PASE) events are included in the definition. Additional information about the PASEEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No PASE events are included in the definition.

**\*ALL**  All PASE events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the PASE event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No PASE events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

# File server events (FILSVREVT)

Specifies which iSeries NetServer, File Server and Network File System Server and Client events are included in the definition. Additional information about the FILSVREVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No iSeries NetServer, File Server and Network File System Server and Client events are included in the definition.

**\*ALL**  All iSeries NetServer, File Server and Network File System Server and Client events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the iSeries NetServer, File Server and Network File System Server and Client event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No iSeries NetServer, File Server and Network File System Server and Client events are counted.

*event-counter*
> If TYPE(\*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(\*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. \*FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

## Synchronization events (SYNCEVT)

Specifies which synchronization events are included in the definition. Additional information about the SYNCEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(\*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No synchronization events are included in the definition.

**\*ALL**   All synchronization events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the synchronization event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No synchronization events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

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# Journal events (JRNEVT)

Specifies which journal events are included in the definition. Additional information about the JRNEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No journal events are included in the definition.

**\*ALL**   All journal events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the journal event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No journal events are counted.

*event-counter*
> If TYPE(\*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(\*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. \*FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

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# Database events (DBEVT)

Specifies which database events are included in the definition. Additional information about the DBEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(\*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No database events are included in the definition.

**\*ALL**  All database events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the database event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No database events are counted.

*event-counter*
> If TYPE(\*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(\*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
> The third event format is used to collect data for this event.

**\*FORMAT4**
> The fourth event format is used to collect data for this event.

# Resources affinity events (RSCAFNEVT)

Specifies which resources affinity events are included in the definition. Additional information about the RSCAFNEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> No resources affinity events are included in the definition.

**\*ALL**   All affinity events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
> Specify the affinity event identifier to be included.

**Element 2: Event counter**

**\*NONE**
> No affinity events are counted.

*event-counter*
> If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
> The first event format is used to collect data for this event.

**\*FORMAT2**
> The second event format is used to collect data for this event.

**\*FORMAT3**
    The third event format is used to collect data for this event.

**\*FORMAT4**
    The fourth event format is used to collect data for this event.

## Virtual I/O events (VRTIOEVT)

Specifies which virtual I/O events are included in the definition. Additional information about the VRTIOEVT options can be found in the Performance Management information at http://www.ibm.com/servers/eserver/iseries/perfmgmt/resource.html.

**Note:** This parameter is only valid if SLTEVT(*YES) is specified.

**Single values**

**\*SAME**
    The value does not change.

**\*NONE**
    No virtual I/O events are included in the definition.

**\*ALL**    All virtual I/O events are included in the trace mode definition, or counted in the statistics mode definition.

**Element 1: Event identifier**

*event-identifier*
    Specify the virtual I/O event identifier to be included.

**Element 2: Event counter**

**\*NONE**
    No virtual I/O events are counted.

*event-counter*
    If TYPE(*STATS), events can be counted in one of four counters (1,2,3 or 4). The event counter value is ignored if TYPE(*TRACE).

**Element 3: Event format**

The event format describes what data is collected for this event. *FORMAT1 provides the data used for most data analysis. The other formats allow for collection of other data related to these events.

**\*FORMAT1**
    The first event format is used to collect data for this event.

**\*FORMAT2**
    The second event format is used to collect data for this event.

**\*FORMAT3**
    The third event format is used to collect data for this event.

**\*FORMAT4**
    The fourth event format is used to collect data for this event.

# Text 'description' (TEXT)

Specifies the text that briefly describes the Performance Explorer definition.

**\*SAME**
The value does not change.

**\*BLANK**
Text is not specified.

**'description'**
Specify no more than 50 characters of text, enclosed in apostrophes.

# Examples

**Example 1: Using TYPE(\*TRACE)**

```
CHGPEXDFN   DFN(TEST1)  TYPE(*TRACE)  JOB(*)  MAXSTG(5000)
```

This command changes the performance definition named TEST1. When this definition is used to start a performance explorer session (STRPEX command), detailed trace information will be collected for the job that invoked the STRPEX command. A maximum of 5000 kilobytes of trace data will be collected. When the trace record storage area is full no more trace records will be collected.

**Example 2: Using TYPE(\*PROFILE)**

```
CHGPEXDFN   DFN(TEST2)  TYPE(*PROFILE)
            PGM((MYLIB/MYSRVPGM1 *ALL *ALL *SRVPGM))
```

This command changes the performance explorer definition named TEST2. When this definition is used to start a performance explorer session (STRPEX command), performance profile information for service program MYSRVPGM1 in library MYLIB will be collected.

# Error messages

**\*ESCAPE Messages**

**CPFAF0E**
Definition not found.

# Change Physical File (CHGPF)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Physical File (CHGPF) command changes the attributes of a physical file and all its members. The changed attributes are used for all members subsequently added to the file unless other values are specified or default for the add operation. To change the attributes of a specific member, specify the Change Physical File Member (CHGPFM) command.

**Restrictions:**

- You must have object management (*OBJMGT) authority or object alter (*OBJALTER) authority for the file and execute (*EXECUTE) authority to the library. An exclusive-no-read lock is required, which means no one can be using the file for any purpose.
- If a request to make an existing file re-use deleted records is made, but there are logical files over the physical file that specify "FIFO" or "LIFO" ordering for duplicate keys, the change is not allowed.

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# Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| **FILE** | Physical file | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Physical file | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **SYSTEM** | System | **\*LCL**, *RMT, *FILETYPE | Optional, Key |
| **SRCFILE** | Source file | Single values: **\*NONE**<br>Other values: *Qualified object name* | Optional, Key |
| | Qualifier 1: Source file | *Name*, **QDDSSRC** | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| **SRCMBR** | Source member | *Name*, **\*FILE** | Optional |
| **OPTION** | Source listing options | Values (up to 3 repetitions): *SRC, *NOSRC, *SOURCE, *NOSOURCE, *LIST, *NOLIST, *SECLVL, *NOSECLVL, *EVENTF, *NOEVENTF | Optional |
| **GENLVL** | Generation severity level | 0-30, **20** | Optional |
| **FLAG** | Flagging severity level | 0-30, **0** | Optional |
| **DLTDEPLF** | Delete dependent logical file | **\*NO**, *YES | Optional |
| **RMVCST** | Remove constraint | **\*RESTRICT**, *REMOVE | Optional |
| **EXPDATE** | Expiration date for member | *Date*, **\*SAME**, *NONE | Optional |
| **MAXMBRS** | Maximum members | *Integer*, **\*SAME**, *NOMAX | Optional |
| **ACCPTHSIZ** | Access path size | **\*SAME**, *MAX4GB, *MAX1TB | Optional |
| **MAINT** | Access path maintenance | **\*SAME**, *IMMED, *REBLD, *DLY | Optional |
| **RECOVER** | Access path recovery | **\*SAME**, *NO, *AFTIPL, *IPL | Optional |
| **FRCACCPTH** | Force keyed access path | **\*SAME**, *NO, *YES | Optional |

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| SIZE | Member size | Single values: *NOMAX<br>Other values: *Element list* | Optional |
| | Element 1: Initial number of records | 1-2147483646, **\*SAME** | |
| | Element 2: Increment number of records | 0-32767, **\*SAME** | |
| | Element 3: Maximum increments | 0-32767, **\*SAME** | |
| ALLOCATE | Allocate storage | *NO, *YES, **\*SAME** | Optional |
| UNIT | Preferred storage unit | 1-255, **\*SAME**, *ANY | Optional |
| FRCRATIO | Records to force a write | *Integer*, **\*SAME**, *NONE | Optional |
| WAITFILE | Maximum file wait time | *Integer*, **\*SAME**, *IMMED, *CLS | Optional |
| WAITRCD | Maximum record wait time | *Integer*, **\*SAME**, *IMMED, *NOMAX | Optional |
| SHARE | Share open data path | **\*SAME**, *NO, *YES | Optional |
| DLTPCT | Max % deleted records allowed | 1-100, *NONE, **\*SAME** | Optional |
| REUSEDLT | Reuse deleted records | **\*SAME**, *YES, *NO | Optional |
| SRTSEQ | Sort sequence | Single values: **\*SAME**, *SRC, *JOB, *LANGIDSHR, *LANGIDUNQ, *HEX<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Sort sequence | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| LANGID | Language ID | *Character value*, *JOB, **\*SAME** | Optional |
| LVLCHK | Record format level check | **\*SAME**, *YES, *NO | Optional |
| NODGRP | Node group | Single values: *NONE, **\*SAME**<br>Other values: *Qualified object name* | Optional |
| | Qualifier 1: Node group | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| PTNKEY | Partitioning Key | Single values: **\*SAME**<br>Other values (up to 300 repetitions): *Name* | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |
| CCSID | Coded character set ID | 1-65535, **\*SAME**, *HEX | Optional |

# Physical file (FILE)

Specifies the physical file to be changed.

**Note:** If a Distributed Data Management (DDM) file is specified, the name of the physical file to be changed and the name of the remote system on which the file is to be changed are contained in the DDM file. For more information, see the **System (SYSTEM)** parameter of this command.

This is a required parameter.

**Qualifier 1: Physical file**

*name*   Specify the name of the physical file.

**Qualifier 2: Library**

**\*LIBL**   All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is used to locate the file. If no library is specified as the current library for the job, the QGPL library is used.

*name*   Specify the name of the library to be searched.

## System (SYSTEM)

Specifies whether the physical file is changed on the local system or the remote system.

**\*LCL**   The physical file is changed on the local system.

**\*RMT**   The physical file is changed on a remote system using distributed data management (DDM). The physical file name specified on the **Physical file (FILE)** parameter must be the name of the DDM file that identifies the name of the physical file to be changed and the name of the remote system on which the file is to be changed.

**\*FILETYPE**
> If the name specified on the FILE parameter is a DDM file, the physical file is changed on the remote system specified by the **Remote location (RMTLOCNAME)** parameter of the DDM file. If the name specified on the FILE parameter is not a DDM file, the physical file on the local system with that name is changed.

## Source file (SRCFILE)

Specifies the source file used to change the physical file. The source file contains the specifications that describe the record format and its fields, and the access path for the file and its members. The data description specifications (DDS) that are made are described in the Database category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/ and the DDS topic collection in the Programming category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

If the format attributes are changed, the data in the existing file is converted to the new attributes.

**Attention:**
- The data in the existing file is converted to the new format based on field names. If the name of a field is changed, its existing data is lost.
- Because you are converting data, it is strongly recommended that you save the file before you issue this command.

If the access path attributes are changed or the attributes of one of the key fields in the format are changed, a new access path may need to be built.

**Note:** When the data or the access path attributes are changed, the change file operation can take a long time to complete. Status messages are sent to keep the interactive user informed of the progress of the operation.

**Single values**

**\*NONE**
> No source file is specified. Neither the format nor the access path attributes for the file are changed.

**Qualifier 1: Source file**

**QDDSSRC**
      The source file, QDDSSRC, contains the DDS used to change the physical file.

*name*    Specify the name of the source file that contains the DDS used to change the physical file.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
      The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name*    Specify the name of the library to be searched.

# Source member (SRCMBR)

Specifies the source file member that contains the DDS for the physical file being changed.

**Note:** This parameter is valid only when a source file is specified for the **Source file (SRCFILE)** parameter.

**\*FILE**    The source file member name is the same as the name of the physical file being changed.

*name*    Specify the name of the source file member used to change the physical file.

# Source listing options (OPTION)

Specifies the type of output produced when the file is changed. A maximum of four of the following values can be specified in any order on this parameter. If neither or both of the values on an option are specified, the first value is used.

**Notes:**
- This parameter is valid only when a source file is specified on the **Source file (SRCFILE)** parameter.
- The first values on an option are similar to, but are not actually default values, and therefore they cannot be changed with the Change Command Default (CHGCMDDFT) command.
- You can specify up to 3 values for this parameter.

**Source Listing Option**

**\*SRC or \*SOURCE**
      A printout is created of the source statements used to change the file, and of the errors that occur.

**\*NOSRC or \*NOSOURCE**
      No printout of the source statements is created unless errors are detected. If errors are detected, they are listed along with the keyword or record format that caused the error.

**Program Listing Option**

**\*LIST**    An expanded source printout is created, showing a detailed list of the file specifications that result from the source statements and references to other file descriptions.

**\*NOLIST**
      The expanded source printout is not created.

**Second-Level Message Text Option**

**\*NOSECLVL**
> The messages section of the DDS printout does not contain the second-level message for the errors found during DDS processing.

**\*SECLVL**
> Second-level message text is included in the source listing.

**Event File Creation Option**

**\*NOEVENTF**
> The compiler does not produce an event file for the CoOperative Development Environment for i5/OS (CODE for i5/OS) product.

**\*EVENTF**
> The compiler produces an event file that can be used by the CODE for i5/OS product. The event file is created as a member in the file EVFEVENT in your object library. The CODE for i5/OS product uses this file to offer error feedback integrated with the CODE for i5/OS editor. This value is normally specified by the CODE for i5/OS product on your behalf

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# Generation severity level (GENLVL)

Specifies the severity level of errors at which the change operation fails. If errors occur that have a severity level greater than or equal to this value, the operation ends.

**Notes:**

- This parameter is valid only when a source file is specified on the **Source file (SRCFILE)** parameter.
- This parameter applies only to messages created while processing the DDS source. Messages created elsewhere in the file change process are not affected by this parameter.
- The value on this parameter must be greater than or equal to the value specified on the **Flagging severity level (FLAG)** parameter.

**20**    The error severity level of 20 or above ends the change operation.

*0-30*    Specify the maximum severity level allowed. The file is not changed if the severity level specified is 0.

<div align="right"><em>Top</em></div>

# Flagging severity level (FLAG)

Specifies the minimum severity level of messages to be listed.

**Note:** This parameter is valid only when a source file is specified on the **Source file (SRCFILE)** parameter.

**0**    All messages are listed.

*0-30*    Specify a number indicating the minimum severity of messages to be listed. The value specified must be greater than or equal to the value specified for the **Generation severity level (GENLVL)** parameter.

<div align="right"><em>Top</em></div>

# Delete dependent logical file (DLTDEPLF)

Specifies whether the logical files and SQL materialized query tables that are dependent on a field are deleted if that field is removed from the file as part of the change operation. A field is removed from the file if its definition is not included in the DDS identified in the source file.

**Note:** This parameter is valid only when a source file is specified on the **Source file (SRCFILE)** parameter.

**\*NO**   The dependent files are not deleted. The field on which the access paths are dependent is not removed and the file is not changed. The command ends.

**\*YES**   The files that are dependent on a field that is removed from the file are deleted.

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# Remove constraint (RMVCST)

Specifies whether the constraint relationships are removed in the associated set of dependent files when you are deleting a parent file of a referential constraint.

**Note:** This parameter is valid only when \*YES if sepcified for the **Delete dependent logical file (DLTDEPLF)** parameter.

**\*RESTRICT**
:   The constraint relationships are not removed. The parent file is not removed and the file is not changed. The command ends.

**\*REMOVE**
:   The constraints that are dependent on a field that is removed from the file are removed. If a unique constraint is removed, any referential constraints that are dependent on the unique constraint are also removed.

Top

# Expiration date for member (EXPDATE)

Specifies the expiration date of all the file's members. If an expiration date is specified, all members in the file are changed. You can specify a new expiration date for a member that has exceeded its expiration date by changing this parameter. The expiration date must be later than or equal to the current date.

**\*SAME**
:   The expiration date of the file does not change.

**\*NONE**
:   No expiration date is specified.

*date*   Specify the date after which the file members should not be used. The date must be specified in the job-date format.

Top

# Maximum members (MAXMBRS)

Specifies the maximum number of members that the physical file can have at any time. The maximum number of members specified must be greater than or equal to the current number of members in the file.

**\*SAME**

   The maximum number of members in the file does not change.

**\*NOMAX**

   No maximum is specified for the number of members; the system maximum of 32,767 members per file is used.

*integer*

   Specify the maximum number of members that the physical file can have. Valid values range from 1 through 32767.

# Access path size (ACCPTHSIZ)

Specifies the maximum size of auxiliary storage that can be occupied by the following kinds of access paths:

- The access paths that are associated with a database file that has a keyed sequence access path.
- The access paths that are created for referential or unique constraints, and that can be added to this file with the Add Physical File Constraint (ADDPFCST) command.

Changing the value for this file causes the access paths that are owned by the file to be rebuilt.

**Note:** This parameter does not apply to access paths that are created for queries that refer to the data in the file.

**Performance Tip**

For optimum performance, consider whether there is high contention for keys within the access path when selecting the value on this parameter:

- When there is little or no contention for keys, specifying the \*MAX4GB value generally provides better performance.
- When there is high contention for keys, specifying the \*MAX1TB value generally provides better performance.

**\*SAME**

   The value does not change.

**\*MAX4GB**

   The access paths associated with this file can occupy a maximum of four gigabytes (4,294,966,272 bytes) of auxiliary storage. This value provides compatibility with releases of the operating system earlier than Version 3 Release 6 Modification 0.

**\*MAX1TB**

   The access paths associated with this file can occupy a maximum of one terabyte (1,099,511,627,776 bytes) of auxiliary storage.

# Access path maintenance (MAINT)

Specifies the type of access path maintenance used for all members of the physical file. This parameter is valid only if the file has a keyed access path.

**\*SAME**

   The access path maintenance of the file does not change.

**\*IMMED**

The access path is continuously (immediately) maintained for each physical file member. The path is changed each time a record is changed, added to, or deleted from the member. \*IMMED is specified for all files requiring unique keys to ensure uniqueness in all inserts and changes.

**\*REBLD**

The access path is rebuilt when a file member is opened. The access path is continuously maintained until the member is closed; then the access path maintenance is ended. \*REBLD is not valid for access paths that contain unique key values.

**\*DLY** The maintenance of the access path is delayed until the member is opened for use. Then the access path is changed only for records that were added, deleted, or changed since the file was last closed. (While the file is open, all changes made to based-on members are immediately reflected in the access paths of the members of the opened files, no matter what is specified for the **Access path maintenance (MAINT)** parameter.) To prevent a lengthy rebuild time when the file is opened, \*DLY should be specified only when the number of changes to the access path between a close operation and the next open operation are small (when key fields in records for this access path change infrequently). \*DLY is not valid for access paths that require unique key values.

If the number of changes between a close operation and the next open operation reaches approximately 10% of the access path size, the system stops saving changes and the access path is completely rebuilt the next time the file is opened.

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## Access path recovery (RECOVER)

Specifies, for files having immediate or delayed maintenance on their access paths, when recovery processing of the file is done if a system failure occurs while the access path is being changed. This parameter is valid only if a keyed access path is used.

**\*SAME**

The recovery attribute of the file does not change.

**\*NO** The access path of the file is not rebuilt. The file's access path, if not valid, is rebuilt when the file is opened.

**\*AFTIPL**

The file has its access path rebuilt after the IPL operation is completed. This option allows other jobs not using this file to begin processing immediately after the IPL is completed.

**\*IPL** The file has its access path rebuilt during the IPL operation. This ensures that the file's access path is rebuilt before the first user program tries to use it; however, no jobs are started until after all files that specify \*IPL have their access paths rebuilt.

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## Force keyed access path (FRCACCPTH)

Specifies, for files with keyed access paths only, whether access path changes are forced to auxiliary storage along with the associated records in the file. Specifying \*YES minimizes (but does not remove) the chance that an abnormal end will cause damage to the access path, which then requires it to be rebuilt.

**\*SAME**

The force access path attribute of the file does not change.

**\*NO** The changed access path and changed records are not forced to auxiliary storage whenever the access path is changed.

**\*YES**     The changed access path and changed records are forced to auxiliary storage whenever the access path is changed. If this value is specified, \*REBLD must not be specified for the **Access path maintenance (MAINT)** parameter.

## Member size (SIZE)

Specifies the initial number of records in each member of the file, the number of records for each increment added to the member, and the number of times the increment is automatically applied. The number of records for each file member is specified as the number of records that can be placed in it (this number includes any deleted records).

The maximum number of records for the member (initial number of records plus the increment number of records times the maximum increments) must be larger than the current number of records in the member. If it is smaller than the current number of records in the member, an error message is sent, and the maximum number of records for the member does not change.

**Single values**

**\*NOMAX**
> The number of records that can be added to each member of the file is not limited by the user. The maximum number of records for each member is determined by the system. If \*YES is in effect for the ALLOCATE attribute of the physical file, this option cannot be specified

**Element 1: Initial number of records**

**\*SAME**
> The value does not change.

*1-2147483646*
> Specify the number of records that can be inserted before an automatic extension occurs. If automatic extensions are not wanted, enter zeros for the second and third values in the list.

**Element 2: Increment number of records**

**\*SAME**
> The value does not change.

*0-32767*
> Specify a value for the number of additional records that are added to the member when the number of records in the member will exceed the initial number of records, or will exceed the current increment's number of records.

> Enter a 0 value to prevent automatic extensions. This value must be 0 if the value for the maximum increments is 0.

**Element 3: Maximum increments**

**\*SAME**
> The value does not change.

*0-32767*
> Specify the maximum number of increments that can be automatically added to the member(s). Enter a 0 value to prevent automatic extensions. If the increment number of records value is 0, this value must also be 0.

## Allocate storage (ALLOCATE)

Specifies whether the initial storage space is allocated for each physical file member when it is added to the file. This change takes effect the next time a new member is added to the file or when a current member is cleared, restored, or reorganized.

**\*SAME**
> The allocation method does not change.

**\*NO**   When a new member is added, or when an existing member is cleared or reorganized, the system determines the space that is needed and allocates that amount.

**\*YES**   The amount of storage space specified in the first value of the **Member size (SIZE)** parameter is allocated each time a new member is added, or each time an existing member is cleared or reorganized. If that amount of storage space is not available, the member is not added, and a message is sent to the user. If this parameter value is used, \*NOMAX cannot be in effect for the SIZE parameter.

## Preferred storage unit (UNIT)

This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 3 Release 6 Modification 0 of OS/400. For information on using auxiliary storage pools (ASPs), refer to the Recovering your system book, SC41-5304.

## Records to force a write (FRCRATIO)

Specifies the number of inserted, changed, or deleted records that are processed before those records are forced to auxiliary (permanent) storage. If the physical file is being recorded in a journal, it is recommended that a larger force write ratio, or \*NONE, be specified. More information on journal management is in the Recovering your system book, SC41-5304.

**\*SAME**
> The force write ratio of the file does not change.

**\*NONE**
> There is no force write ratio; the system determines when the records are written to auxiliary storage.

*integer*
> Specify the number of new or changed records that are processed before those records are forced into auxiliary storage.

## Maximum file wait time (WAITFILE)

Specifies the number of seconds that the program waits for the file resources and session resources to be allocated when the file is opened, or for the device or session resources to be allocated when an acquire operation is performed to the file. If the file resources are not allocated in the specified wait time, an error message is sent to the program.

**Note:** An immediate allocation of the device by the device resource is required when an acquire operation is performed to the file.

**\*SAME**

The wait attribute of the file does not change.

**\*IMMED**

The program does not wait. Immediate allocation of file resources is required.

**\*CLS**  The default wait time specified in the class description is used as the wait time for the file resources that are allocated.

*1-32767*

Specify the number of seconds that the program waits for the file resources to be allocated.

## Maximum record wait time (WAITRCD)

Specifies the number of seconds that the program waits for a record that is changed or deleted. If the record is not allocated in the specified wait time, an error message is sent to the program.

**\*SAME**

The record wait attribute of the file does not change.

**\*IMMED**

The program does not wait; when a record is locked, an immediate allocation of the record is required.

**\*NOMAX**

The wait time is the maximum allowed by the system (32,767 seconds).

*1-32767*

Specify the number of seconds that the program waits for the file resources to be allocated.

## Share open data path (SHARE)

Specifies whether the open data path (ODP) is shared with other programs in the same routing step. When an ODP is shared, the programs accessing the file share facilities such as the file status and the buffer.

**\*SAME**

The ODP sharing value of the member does not change.

**\*NO**  The ODP is not shared with other programs in the routing step. A new ODP for the file is created and used every time a program opens the file.

**\*YES**  The same ODP is shared with each program in the job that also specifies \*YES when it opens the file.

## Max % deleted records allowed (DLTPCT)

Specifies the maximum percentage of deleted records that any member in the physical file can have. The percentage is based on the number of deleted records compared with the total record count in a member. This change takes effect the next time the file is opened and closed.

**\*SAME**

The deleted record percentage does not change.

**\*NONE**
No percentage is specified; the number of deleted records in the file members is not checked when a member is closed.

*1-100* Specify the largest percentage of deleted records that any member in the file can have. If a value is larger than this percentage, a message is sent to the system history log (QHST) when the file is closed.

# Reuse deleted records (REUSEDLT)

Specifies whether the space used by deleted data entries is reclaimed by future insert requests.

**\*SAME**
The setting does not change.

**\*NO** The file does not reclaim space used by deleted data entries.

**\*YES** The file reclaims space used by deleted data entries. More information about the algorithm used to reclaim the deleted data is in Database category in the i5/OS Information Center at http://www.ibm.com/systems/i/infocenter/.

**Note:** Arrival order becomes meaningless for a file that reuses deleted record space. Records might not be added at the end of the file.

# Sort sequence (SRTSEQ)

Specifies the sort sequence used for this file. The sort sequence value is used with the LANGID parameter to determine which sort sequence table is used.

**Note:** Changing the value for this file causes the access paths that are owned by the file to be rebuilt.

**Single values**

**\*SAME**
The value does not change.

**\*SRC** The table specified on the ALTSEQ keyword in the data description specification (DDS) is used. If the ALTSEQ keyword is not used in the DDS, this value defaults to the \*JOB value on this parameter.

**\*JOB** The sort sequence value used is the value for the job issuing this command to change the physical file.

**\*LANGIDSHR**
The sort sequence table uses the same weight for multiple characters, and is the shared-weight sort sequence table associated with the language specified on the LANGID parameter.

**\*LANGIDUNQ**
The sort sequence table must contain a unique weight for each character in the code page.

**\*HEX** A sort sequence table is not used. The hexadecimal values of the characters are used to determine the sort sequence.

**Qualifier 1: Sort sequence**

*name* Specify the name of the sort sequence table to use.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name*  Specify the name of the library to be searched.

## Language ID (LANGID)

Specifies the language identifier used when *LANGIDSHR or *LANGIDUNQ is specified for the **Sort sequence (SRTSEQ)** parameter. The language identifier is used with the SRTSEQ and **Coded character set ID (CCSID)** parameters to determine which sort sequence table the file will use.

**Note:** Changing the value for this file causes the access paths that are owned by the file to be rebuilt unless the SRTSEQ attribute is *HEX.

**\*SAME**
> The value does not change.

**\*JOB**  The language identifier specified in the job description is used.

*character-value*
> Specify a language identifier.

## Record format level check (LVLCHK)

Specifies whether the levels of record format identifiers are checked to verify that the current record format identifier is the same as that specified in the program that opens the physical file.

**\*SAME**
> The level check value of the member does not change.

**\*YES**  The level identifiers of the record formats are checked when the file is opened. If the level identifiers do not match, an error message is sent to the program requesting the open, and the file is not opened.

**\*NO**  The level identifiers are not checked when the file is opened.

## Node group (NODGRP)

Specifies the name of a node group across which the file is distributed.

**Single values**

**\*SAME**
> The value does not change.

**\*NONE**
> The file is not a distributed file. All data associated with the file is on the local system.

**Qualifier 1: Node group**

*name*    Specify the name of a node group associated with this file.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name*    Specify the name of the library to be searched.

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## Partitioning Key (PTNKEY)

Specifies the field, or set of fields, that is used as the partition key for distributing data.

**Note:** This parameter is not valid when NODGRP(*NONE) is specified. If a node group name is specified (NODGRP parameter), one or more field names must be specified.

**Single values**

**\*SAME**
> The value does not change.

**Other values (up to 300 repetitions)**

*name*    Specify the name of a field to be used to define the partition key.

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
> The text that describes the file does not change.

**\*BLANK**
> No text is specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

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## Coded character set ID (CCSID)

Specifies the coded character set identifier (CCSID) to be used to describe character data in the fields of the file.

**Notes:**

- If this parameter is specified, SRCFILE(*NONE) also must be specified.
- The CCSID cannot be changed if:
  - Any explicit field-level or file-level CCSIDs are specified on the CCSID keyword in the DDS for fields in the physical file, the IDDU, or the SQL.

- The physical file is a program-described file.
- The physical file's format contains a concatenated field.

**\*SAME**

The CCSID does not change.

**\*HEX**  The CCSID 65535 is used, which indicates that character data in the fields is treated as bit data and is not converted.

*1-65535*

Specify the CCSID to be used.

If a DBCS field is in the physical file, the CCSID specified must have a corresponding mixed CCSID. More information on valid CCSIDs is in the Globalization information in the iSeries Information Center at http://www.ibm.com/eserver/iseries/infocenter.

## Examples

**Example 1: Changing Expiration Date for All Members**

```
CHGPF   FILE(QGPL/INV)   EXPDATE('10/31/89')
```

This command changes the expiration date for all members in physical file INV to October 31, 1989.

**Example 2: Changing File Size**

```
CHGPF   FILE(QGPL/DDMF)   SIZE(*NOMAX)   SYSTEM(*RMT)
```

This command changes the size of file INV located in the QGPL library on the remote system. Prior to specifying the above command, this user had created a DDM file by specifying the command CRTDDMF FILE(QGPL/DDMF) RMTFILE(QGPL/INV) RMTLOCNAME(AS400).

**Example 3: Adding, Removing, and Changing Fields**

```
CHGPF   FILE(QGPL/T1)   SRCFILE(QDDSSRC)
```

This command adds fields, removes fields, and changes field attributes based on the DDS in the source file member T1 in the source file QDDSSRC. Prior to specifying the above command, the user had edited the source member.

## Error messages

**\*ESCAPE Messages**

**CPF326A**

Operation not successful for file &1 in library &2.

**CPF327F**

Operation not successful for file &1 in library &2.

**CPF7304**

File &1 in &2 not changed.

**CPF7305**

File &1 in &2 changed but distributed requests failed.

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# Change PF Constraint (CHGPFCST)

**Where allowed to run:** All environments (*ALL)  
**Threadsafe:** No

The Change Physical File Constraint (CHGPFCST) command changes the state of one or more check constraints for a file or referential constraints between local database files. For referential constraints, the local database files of a constraint are physical files that have been defined in a parent and dependent relationship with either the SQL interface or the Add Physical File Constraint (ADDPFCST) command. For check constraints, the file for the check expression is the file that has been defined in a constraint with either the SQL interface or the Add Physical File Constraint (ADDPFCST) command.

The state of a referential constraint can be changed to disabled (stopped from providing referential integrity) or, if it has been disabled, to enabled (providing referential integrity again). The state of a check constraint can be changed to disabled (stopped from providing validity checking) or, if it has been disabled, to enabled (providing validity checking again). The alternative to changing the state of the constraint is to remove it when you do not want it to be used, and add it again when you need it.

**Restrictions:**

- You must have object management (*OBJMGT) or object alter (*OBJALTER) authority to the physical file.
- You must have execute (*EXECUTE) authority to the library that contains the physical file.

## Parameters

| Keyword | Description | Choices | Notes |
|---------|-------------|---------|-------|
| FILE | File | *Qualified object name* | Required, Positional 1 |
| | Qualifier 1: File | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| CST | Constraint name | Single values: *ALL, *CHKPND<br>Other values (up to 300 repetitions): *Character value* | Required, Positional 2 |
| STATE | Constraint state | **\*SAME**, *ENABLED, *DISABLED | Optional |

## File (FILE)

Specifies the file or dependent file for which a constraint is being changed, and the library of the file or dependent file. The file must be a physical file and it must allow a maximum of one member (MAXMBRS(1)).

This is a required parameter.

**Qualifier 1: File**

*name*    Specify the name of the physical file.

**Qualifier 2: Library**

**\*LIBL**  All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**
> The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*name*  Specify the name of the library to be searched.

## Constraint name (CST)

Specifies the name of the constraint relationship being changed.

This is a required parameter.

**Single values**

**\*ALL**  All of the constraint relationships for the file or dependent file are changed.

**\*CHKPND**
> The constraint relationships that have records that possibly are in violation of the constraints and are pending verification (check pending) are changed.

**Other values (up to 300 repetitions)**

*character-value*
> Specify the name of the constraint relationship.
>
> **Note:** The case is preserved when lowercase characters are specified.

## Constraint state (STATE)

Specifies the state to which the constraint is being changed. You can use this parameter to temporarily stop (disable) a defined or established constraint from providing referential integrity (\*REFCST) or data validity checking (\*CHKCST), or to make a constraint that was previously disabled to start working again (enable).

**\*SAME**
> The value does not change.

**\*ENABLED**
> The constraint that was disabled starts providing referential integrity (\*REFCST) or validity checking (\*CHKCST) again.

**\*DISABLED**
> The constraint stops providing referential integrity or validity checking.

## Examples

```
CHGPFCST   FILE(ADMN/PERSONNEL)   CST(*CHKPND)
           STATE(*DISABLED)
```

This command disables the referential constraints that have caused records in the PERSONNEL file of the ADMN library to be in check pending status. While referential integrity is disabled, the user can correct the records that are causing the check pending.

After the records are corrected, the following command is run to provide referential integrity again.

```
CHGPFCST  FILE(ADMN/PERSONNEL)  CST(*CHKPND)
          STATE(*ENABLED)
```

---

## Error messages

**\*ESCAPE Messages**

**CPF32B2**

Constraint cannot be changed for file &1.

# Change Physical File Member (CHGPFM)

**Where allowed to run:** All environments (*ALL)
**Threadsafe:** No

The Change Physical File Member (CHGPFM) command changes the attributes of a physical file member.

**Restrictions:**

- To change a physical member, you must have object management (*OBJMGT) or object alter (*OBJALTER) authority for the physical file that contains the member, and execute (*EXECUTE) authority to the file library.
- No other user may be clearing or initializing the member, nor may any user be holding the file for exclusive use. Other users may have the member open, but the changes made to the member are not reflected in any open members. For the changes in open members to be effective, first close the member (this must be a full close if the member is open SHARE(*YES)) and then open it again.

## Parameters

| Keyword | Description | Choices | Notes |
|---|---|---|---|
| FILE | Physical file | *Qualified object name* | Required, Key, Positional 1 |
| | Qualifier 1: Physical file | *Name* | |
| | Qualifier 2: Library | *Name*, **\*LIBL**, *CURLIB | |
| MBR | Member | *Name*, *FIRST | Required, Key, Positional 2 |
| SRCTYPE | Source type | *Simple name*, **\*SAME**, *NONE | Optional |
| EXPDATE | Expiration date for member | *Date*, **\*SAME**, *NONE | Optional |
| SHARE | Share open data path | **\*SAME**, *YES, *NO | Optional |
| TEXT | Text 'description' | *Character value*, **\*SAME**, *BLANK | Optional |

## Physical file (FILE)

Specifies physical file that contains the member to be changed.

This is a required parameter.

**Qualifier 1: Physical file**

*name*    Specify the name of the physical file.

**Qualifier 2: Library**

**\*LIBL**    All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the thread is used to locate the file. If no library is specified as the current library for the job, the QGPL library is used.

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*name*   Specify the name of the library to be searched.

## Member (MBR)

Specifies the member to be changed.

This is a required parameter.

**\*FIRST**
The first member of the specified file is used.

*name*   Specify the name of the physical file member to be changed.

## Source type (SRCTYPE)

Specifies the source type of a member if this is a source file. The source type option is a character string of no more than 10 characters representing a name. The first character must be alphabetic (including the characters $, @, or #), and the remaining characters must be alphanumeric or an underline.

**Note:** The user of this command must assure the validity of the source type option.

The source type option can only be used with this command to change the source type attribute of a source file member.

**\*SAME**
The value does not change.

**\*NONE**
No source type is specified.

*simple-name*
Specify the source type of a member.

## Expiration date for member (EXPDATE)

Specifies the expiration date. The files cannot be overwritten until the expiration date. The expiration date must be later than or equal to the current date.

**\*SAME**
The expiration date of the member does not change.

**\*NONE**
The member has no expiration date.

*date*   Specify the date after which the member cannot be used. The date is specified in the job-date format.

# Share open data path (SHARE)

Specifies whether the open data path (ODP) is shared with other programs in the same routing step. When an ODP is shared, the programs accessing the file share facilities such as the file status and the buffer.

**\*SAME**
> The ODP sharing value of the member does not change.

**\*NO**   The ODP is not shared with other programs in the routing step. A new ODP for the file is created and used every time a program opens the file.

**\*YES**   The same ODP is shared with each program in the job that also specifies \*YES when it opens the file.

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# Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SAME**
> The text that describes the member does not change.

**\*BLANK**
> No text is specified.

*character-value*
> Specify no more than 50 characters of text, enclosed in apostrophes.

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# Examples

```
CHGPFM   FILE(QGPL/INV)  MBR(FEB)  EXPDATE('10/31/90')
```

This command changes the member named FEB in the physical file INV in the QGPL library so that the expiration date of the member is now October 31, 1990 (assuming the job date format is mm/dd/yy).

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# Error messages

**\*ESCAPE Messages**

**CPF3288**
> Member &3 file &1 in &2 not changed.

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# Appendix. Notices

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