

IBM

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iSeries

CL Commands Volume 8





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Contents

Command Descriptions	1
CRTDEVTAP (Create Device Description (Tape)) Command Description	1
CRTDIR (Create Directory) Command Description	3
MD (Create Directory) Command	7
MKDIR (Create Directory) Command	7
CRTDKTF (Create Diskette File) Command Description	7
CRTDSPF (Create Display File) Command Description	13
CRTDDMF (Create Distributed Data Management File) Command Description	22
CRTDSTL (Create Distribution List) Command Description	30
CRTDOC (Create Document) Command Description	31
CRTDUPOBJ (Create Duplicate Object) Command Description	33
CRTEDTD (Create Edit Description) Command Description	39
CRTFTR (Create Filter) Command Description	44
CRTFLR (Create Folder) Command Description	46
CRTFNTRSC (Create Font Resources) Command Description	49
CRTFNTTBL (Create Font Table) Command Description	51
CRTFORMDF (Create Form Definition) Command Description	54
CRTFCNARA (Create Functional Area) Command Description	57
CRTGPHFMT (Create Graph Format) Command Description	58
CRTGPHPKG (Create Graph Package) Command Description	70
CRTGSS (Create Graphics Symbol Set) Command Description	72
CRTHSTDTA (Create Historical Data) Command Description	74
CRTIMGCLG (Create Image Catalog) Command Description	76
CRTICFF (Create Intersystem Communications Function File) Command Description	77
CRTJVAPGM (Create Java Program) Command Description	83
CRTJOB (Create Job Description) Command Description	87
CRTJOBQ (Create Job Queue) Command Description	97
CRTJRN (Create Journal) Command Description	100
CRTJRNRCV (Create Journal Receiver) Command Description	107
CRTL (Create Library) Command Description	110
CRTLINASC (Create Line Description (Async)) Command Description	114
CRTLINBSC (Create Line Description (BSC)) Command Description	123
CRTLINDDI (Create Line Description (DDI Network)) Command Description	131
CRTLINETH (Create Line Description (Ethernet)) Command Description	138
CRTLINFAX (Create Line Description (Fax)) Command Description	148
CRTLINFR (Create Line Description (Frame Relay Network)) Command Description	150
CRTLINIDLC (Create Line Description (IDLC)) Command Description	156
CRTLINNET (Create Line Description (Network)) Command Description	163
CRTLINPPP (Create Line Description (PPP)) Command Description	165
CRTLINS DLC (Create Line Description (SDLC)) Command Description	177
CRTLINTDLC (Create Line Description (TDLC)) Command Description	191
CRTLINTRN (Create Line Description (Token-Ring Network)) Command Description	193
CRTLINWLS (Create Line Description (Wireless)) Command Description	204
CRTLINX25 (Create Line Description (X.25)) Command Description	211
CRTLOCALE (Create Locale) Command Description	226
CRTLF (Create Logical File) Command Description	229
CRTMNU (Create Menu) Command Description	241
CRTMSGF (Create Message File) Command Description	246
CRTMSGFMNU (Create Message File Menu) Command Description	249
CRTMSGQ (Create Message Queue) Command Description	254
CRTMODD (Create Mode Description) Command Description	258
CRTNTBD (Create NetBIOS Description) Command Description	263
CRTNTWVOL (Create NetWare Volume) Command Description	266


CRTNWIATM (Create Network Interface (ATM Network)) Command Description	268
CRTNWIFR (Create Network Interface (Frame Relay Network)) Command Description	271
CRTNWIISDN (Create Network Interface Description for ISDN) Command Description	275
CRTNWSDD (Create Network Server Description) Command Description	281
CRTNWSSTG (Create Network Server Storage Space) Command Description	294
CRTNODGRP (Create Node Group) Command Description	297
CRTNODL (Create Node List) Command Description	300
CRTOUTQ (Create Output Queue) Command Description	301
CRTOVL (Create Overlay) Command Description	322
CRTPAGDFN (Create Page Definition) Command Description	324
CRTPAGSEG (Create Page Segment) Command Description	327
CRTPNLGRP (Create Panel Group) Command Description	329
CRTPFRTA (Create Performance Data) Command Description	332
CRTPEXDTA (Create Performance Explorer Data) Command Description	337
CRTPF (Create Physical File) Command Description	339
CRTPDG (Create Print Descriptor Group) Command Description	352
CRTPSFCFG (Create Print Services Facility Configuration) Command Description	354
CRTPRTF (Create Printer File) Command Description	368
CRTPRDDFN (Create Product Definition) Command Description	398
CRTPRDLOD (Create Product Load) Command Description	401
CRTPGM (Create Program) Command Description	406
CRTPTF (Create Program Temporary Fix) Command Description	413
CRTPTFPKG (Create Program Temporary Fix Package) Command Description	419

Command Descriptions

CRTDEVTAP (Create Device Description (Tape)) Command Description

CRTDEVTAP Command syntax diagram

Purpose

The Create Device Description (Tape) (CRTDEVTAP) command creates a device description for a tape device. More information about using this command is in the Local Device Configuration  book.

Required Parameters

DEV Specifies the name of the device description being created.

TYPE Specifies the type of device this description represents. Any of the following types, listed in numeric order, are valid:

2440	3570	6344	6366	6380	9348
3422	3590	6346	6368	6390	
3430	6341	6347	6369	7208	
3480	6342	6348	6378	9346	
3490	6343	6349	6379	9347	

MODEL

Specifies the model number of the device type for this description.

***ANY:** This value is for 3490 device types.

0001: This model number is for a 6341, 6342, 6343, 6344, 6346, 6347, 6348, 6349, 6366, 6368, 6369, 6378, 6379, 6380, 6390 9346, 9347, or 9348 device type.

0002: This model number is for a 7208, 9346, or 9348 device type.

0012: This model number is for a 7208 device type.

A01: This model number is for a 3422 or 3430 device type.

A12: This model number is for a 2440 device type.

B00: This model number is for a 3570 device type.

B01: This model number is for a 3422, 3430, or 3570 device type.

B11: This model number is for a 3480, 3570, or 3590 device type.

B1A: This model number is for a 3570 or 3590 device type.

B22: This model number is for a 3480 device type.

C00: This model number is for a 3570 device type.

C01: This model number is for a 3570 device type.

C11: This model number is for a 3570 device type.

C1A: This model number is for a 3570 device type.

RSRCNAME

Specifies the resource name that describes the automatic call unit port.

Note:

Use the Work with Hardware Resources (WRKHDWRSC) command with *STG specified on the TYPE parameter to determine the resource name.

SWTSET

Specifies a 1-character switch setting field with a value ranging from 0 through F.

Note:

This parameter is required for a device type of 3422, 3430, 3480, or 3490, but is not allowed for other device types. Valid values for a 3422, 3480 or 3490 device type ranges from 0 through F. Valid values for a 3430 device type range from 0 through 3.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The object is automatically varied on at IPL.

***NO:** This object is not automatically varied on at IPL.

CTL

Specifies the name of the controller description to which this object is attached.

Note:

This parameter is valid only for 3422, 3430, 3480 and 3490 device types.

ASSIGN

Specifies whether the tape drive is assigned to the system when it is varied on.

***YES:** The tape drive is assigned when the device is varied on.

***NO:** The tape drive is not assigned when the device is varied on.

UNLOAD

Specifies whether the tape drive is unloaded when the device is varied off.

***YES:** The tape drive is unloaded when the device is varied off.

***NO:** The tape drive is not unloaded when the device is varied off. The tape is rewound, but not past the beginning-of-tape marker.

➤ MSGQ

Specifies the name of the message queue to which messages are sent.

***SYSOPR:** Messages are sent to the system operator message queue (QSYS/QSYSOPR).

message-queue-name: Specify the name of the message queue to which operational messages are sent.

The name of the message queue 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.



AUT Specifies the authority given to users who do not have specific authority to the device description, who are not on an authorization list, and whose user group has no specific authority to the device description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the device description.

***USE:** The user can perform basic operations on the device description, such as running a program or reading a file. The user cannot change the device description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the device description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the device file. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTDEVTAP

```
CRTDEVTAP  DEVD(TAP01)  TYPE(9347)  MODEL(0001)
           RSRNAME(TAP01)
```

This command creates a device description for a tape drive named TAP01. It is a 9347 Model 0001 tape drive with a resource name of TAP01.

Error messages for CRTDEVTAP

*ESCAPE Messages

CPF261A

Device description &1 not created due to errors.

CRTDIR (Create Directory) Command Description

CRTDIR Command syntax diagram

Purpose

The Create Directory (CRTDIR) command adds a new directory to the system. A directory is an object that contains the names of other objects. Libraries and folders are types of directories. When a directory is created, a link is added to the directory prefix. The directory must have been created before any objects can be placed into it.

This command can also be issued using the following alternative command names:

- MD
- MKDIR

For more information about integrated file system commands, see the Integrated file system topic in the File systems and management category of the Information Center.

Restrictions:

1. The following restrictions apply when the directory being created is a library in **»** the QSYS.LIB or independent ASP QSYS.LIB file system, **«**, or a directory within the root directory or QOpenSys file system:
 - The *AUDIT special authority is required when specifying a value other than *SYSVAL on the CRTOBJAUD parameter.
2. The following restriction applies when the directory being created is a folder in an existing folder in QDLS:
 - The *CHANGE authority is required for the existing folder.
3. The user must have *X authority to each directory in the path.
4. When creating a directory in the root directory or QOpenSys file system, the user must have *WX authority to the directory that contains the new directory.
5. When creating a directory, the owner ID (UID) is the user creating the directory.

» If the directory is being created in the Root ('/'), QOpensys, and user-defined file systems, the following applies. If the S_ISGID bit of the parent directory is off, the group ID (GID) is set to the effective GID of the thread creating the directory. If the S_ISGID bit of the parent directory is on, the group ID (GID) of the new directory is set to the GID of the parent directory.

If the directory is being created in the QSYS.LIB or independent ASP QSYS.LIB file system, the GID is obtained from the primary user profile. For all other file systems, **«** the GID is obtained from the parent directory.

Required Parameter

DIR Specifies the path name of the directory being created. See path names for more information on specifying path names.

Note:

Do not use a name that begins with the character Q. The system assumes that libraries or directories with those names are system libraries or directories.

Optional Parameters

DTAAUT

Specifies the public data authority given to the user for the directory.

***INDIR:** The authority for the directory being created is determined by the directory it is being created in. The directory immediately preceding the new directory determines the authority. A directory created in the root is assigned the public authority given to objects in the root directory. A directory created in QDLS for a folder defaults to *EXCLUDE for a first level folder. If created in the second level or greater, the authority of the previous level is used. The QOpenSys and root file systems use the parent directory's DTAAUT value. If the value *INDIR is specified for either the OBJAUT parameter or the DTAAUT parameter, then *INDIR must be specified for both parameters.

***RWX:** The user can change the object and perform basic functions on the object except those limited to the owner or controlled by object existence, object management, object alter and object reference authority. *RWX provides object operational authority and all data authorities.

***RW:** The user can view and modify the contents of an object. *RW authority provides object operational authority and data read, add, update and delete authorities.

***RX:** The user can perform basic operations on the object, such as run a program or display the contents of a file. The user is prevented from changing the object. *RX authority provides object operational authority and read and execute authorities.

***WX:** The user can modify the contents of an object and run a program or search a library or directory. *WX authority provides object operational, and data add, update, delete, and execute authorities.

***R:** The user can view the contents of an object. *R authority provides object operational authority and data read authority.

***W:** The user can modify the contents of an object. *W authority provides object operational authority and data add, update, and delete authorities.

***X:** The user can run a program or search a library or directory. *X authority provides object operational authority and data execute authority.

***EXCLUDE:** The user cannot access the object. The OBJAUT value must be *NONE, if this special value is used.

***NONE:** The user is given no data authorities to the objects. This value cannot be used with OBJAUT value of *NONE.

authorization-list-name: Specify the name of the authorization list used. The format of the authorization list name remains the current ten-character format. The OBJAUT value must be *NONE, if this special value is used.

OBJAUT

Specifies the public object authority given to users for the directory.

***INDIR:** The object authority is based on the authority for the directory where this directory is being created. If the value *INDIR is specified for either the OBJAUT parameter or the DTAAUT parameter, then *INDIR must be specified for both parameters.

***NONE:** None of the other object authorities (existence, management, alter or reference) are given to the users. If *EXCLUDE or an authorization list is specified for the DTAAUT parameter, *NONE must be specified. This value cannot be used with the DTAAUT value of *NONE.

***ALL:** All of the other object authorities (existence, management, alter, and reference) are given to the users.

You can specify up to four of the following values:

***OBJEXIST:** The user is given object existence authority to the object. The user can control existence and ownership, delete, free storage of the object, perform save/restore operations and transfer ownership of the object.

***OBJMGT:** The user is given object management authority to the object. With this authority the user can specify security for the object, move or rename the object and add members to database files.

***OBJALTER:** The user is able to alter the attributes of the objects. On a database file, the user can add and remove triggers, add and remove referential and unique constraints, and change the attributes of the database file. With this authority on an SQL package, the user can change the attributes of the SQL package. Currently, this authority is used only for database files and SQL packages.

***OBJREF:** The user is given object reference authority to objects. Used only for database files, the user can refer to an object from another object such that operations on that object may be restricted by the other object. On a physical file, the user can add a referential constraint in which the physical file is the parent.

CRTOBJAUD

Specifies the auditing value of objects created in this directory.

Note:

This parameter is ignored when using this command in QDLS. No error message is sent and the directory is created.

***SYSVAL:** The object auditing value for the objects in the directory is determined by the system auditing value **>>** (QCRTOBJAUD) **<<** .

***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 for this access. The OBJAUD keyword of the CHGUSRAUD command is used to turn on auditing 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.

Example for CRTDIR

```
CRTDIR DIR('MYDIR')
```

This command creates the directory MYDIR and adds it to the current directory. The authority and auditing defaults are used.

Error messages for CRTDIR

***ESCAPE Messages**

CPFA085

Home directory not found for user &1.

CPFA089

Pattern not allowed in path name.

CPFA09C

Not authorized to object.

CPFA09D

Error occurred in program &1.

CPFA0A0

Object name already exists.

CPFA0A1

An input or output error occurred.

CPFA0A3

Path name resolution causes looping.

CPFA0A6

Number of links exceeds maximum allowed for the file system.

CPFA0A7

Path name too long.

CPFA0A9

Object not found.

CPFA0AA

Error occurred while attempting to obtain space.

CPFA0AB

Object name not a directory.

CPFA0AD

Function not supported by file system.

CPFA0B1

Requested operation not allowed. Access problem.

MD (Create Directory) Command

MD syntax diagram

MD Command	For the description of the MD command, see the CRTDIR (Create Directory) command description.
------------	---

MKDIR (Create Directory) Command

MKDIR syntax diagram

MKDIR Command	For the description of the MKDIR command, see the CRTDIR (Create Directory) command description.
---------------	--

CRTDKTF (Create Diskette File) Command Description

CRTDKTF Command syntax diagram

Purpose

The Create Diskette File (CRTDKTF) command creates a diskette device file. The device file contains the file description, which identifies the device to be used and specifies the input and output data spooling requirements; the device file does not contain data. The diskette device file is used to read and write records on diskettes that are in the diskette device and that have been initialized in the basic, H, or I exchange format. The same device file is used for both input and output operations.

Note:

This command is not used to create device files for use in save/restore operations. User-created device files are not needed for save/restore operations.

All the information in the diskette file description is contained in the command that creates it; there is no data description specifications (DDS) for diskette device files. The diskette file has only one record format for input/output operations. The record format consists of one character field containing the input data retrieved from the device or the output data written to the device. The program using the device file must describe the fields in the record format so that the program can arrange the data either received from or sent to the device in the manner specified by the diskette file description.

Required Parameter

FILE Specifies the qualified name of the file being created. If the file is used by a high-level language (HLL) program, the file name must be consistent with the naming rules of that language; otherwise, the file must be renamed in the program.

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

***CURLIB:** The diskette file is created in the current library for the job. 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 diskette file is created.

diskette-device-file-name: Specify the name of the diskette device file being created.

Optional Parameters

DEV Specifies the name of the diskette device used with this diskette device file to perform input/output data operations. The device name of the IBM-supplied diskette device description is QDKT. This parameter is ignored if SPOOL(*YES) is specified for the file when it is opened.

***NONE:** No device name is specified. The name of the diskette device can be specified before the device file is opened, in a Change Diskette File (CHGDKTF) command or Override with Diskette File (OVRDKTF) command, or in the high-level language program that opens the file.

device-name: Specify the name of the device that is used with this diskette device file. The device name must already exist on the system as a device description before this device file is created.

VOL Specifies one or more volume identifiers used by the file. More information on this parameter is in Commonly used parameters.

***NONE:** The diskette volume identifiers are not specified for this file in this command. They can be specified later before the device file is opened, either in a Override with Diskette File (OVRDKTF) command or a Change Diskette File (CHGDKTF) command, or in the high-level language program. Otherwise, no volume identifier checking is done.

volume-identifier: Specify the identifiers of one or more volumes in the order in which they are put on the device and used. Each volume identifier contains a maximum of 6 alphanumeric characters. A blank is used as a separator character when listing multiple identifiers.

LABEL

Specifies the data file label of the data file on diskette that is used with this diskette device file. For input files (diskette input to system), this label specifies the identifier of the file that exists on the diskette. For output files (system output to diskette), the label specifies the identifier of the file that is created on the diskette. More information on this parameter is in Commonly used parameters.

***NONE:** The data file label is not specified here. It can be specified before the device file is opened, in a CHGDKTF or OVRDKTF command, or in the high-level language program that opens the file.

data-file-label: Specify up to 8 characters for the identifier of the data file used with this diskette device file.

FILETYPE

Specifies whether the diskette device file being created describes data records or describes source records (statements) for a program or another file. More information on this parameter is in Commonly used parameters.

***DATA:** The diskette file describes data records.

***SRC:** The diskette file describes source records.

EXCHTYPE

Specifies, for diskette output files only, the exchange type used by the device file when the system is writing diskette data. More information on this parameter is in Commonly used parameters.

***STD:** The basic exchange format is used for a type 1 or a type 2 diskette. The H exchange type is used for a type 2D diskette.

***BASIC:** The basic exchange type is used.

***H:** The H exchange type is used.

***I:** The I exchange type is used.

CODE Specifies the character code used. The code can be either extended binary-coded decimal interchange code (*EBCDIC) or the American National Standard Code for Information Interchange (*ASCII).

***EBCDIC:** The extended binary-coded decimal interchange code (EBCDIC) character set code is used.

***ASCII:** The ASCII character set code is used.

CRTDATE

Specifies the date when the diskette data file was created on the diskette.

Note:

The creation date parameter is valid only for diskette input data files. If the creation date written on the diskette containing the data file does not match the date specified for the device file when it is opened, an error message is sent to the user program.

***NONE:** The creation date is not specified. It is not checked unless it is supplied before the device file is opened, either in a OVRTAPF command or CHGTAPF command, or in the high-level language program.

creation-date: Specify the creation date of the data file used by this device file. The date must be specified in the format defined by the job attributes DATFMT and, if separators are used, DATSEP. However, the specified date is put in the diskette label in the format yymmdd.

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.

***NONE:** No expiration date for the data file is specified; the file is protected for 1 day. Its protection ends the day after it is created.

***PERM:** The data file is permanently protected. An expiration date of 999999 is assigned.

expiration-date: Specify the expiration date of the data file. The date must be specified in the format defined by the job attributes DATFMT and, if separators are used, DATSEP. However, the specified date is put in the diskette label as yymmdd.

SPOOL


Specifies whether the input or output data for the diskette device file is spooled.

***NO:** The data is not spooled. If this file is opened for input, the data is read directly from the diskette. If this is an output file, the data is written directly to the diskette as it is processed by the program.

Note:

If SPOOL(*NO) is specified, the following parameters in this command are ignored: OUTQ, MAXRCDS, SCHEDULE, HOLD, SAVE, OUTPTY, and USRDTA.

***YES:** The data is spooled. If this file is opened for input, an inline data file having the specified name is processed; otherwise, the next unnamed inline spooled file is processed. More information

on named and unnamed inline files is in the Tape and Diskette Device Programming  book. If this is an output file, the data is spooled for processing by a diskette or print writer.

OUTQ Specifies the qualified name of the output queue.

The name of the output queue 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.

QDKT: The spooled output data is sent to the IBM-supplied QDKT output queue. If no library qualifier is specified, *LIBL is used to find the output queue.

output-queue-name: Specify the name of the output queue to which the output data is spooled. The IBM-supplied output queue that is used by the diskette file is the QDKT output queue, stored in the QGPL library.

MAXRCDS

Specifies, for spooled files only, the maximum number of records in the spooled file for spooled jobs using this diskette device file.

100000: Up to 100,000 records are in the spooled file for the diskette data file that is produced by this device file.

***NOMAX:** The system maximum is used.

maximum-records: Specify the maximum number of diskette records that are in the spooled file. Valid values range from 1 through 500000.

SCHEDULE

Specifies, for spooled output only, when the spooled file is available to a writer.

***FILEEND:** The spooled file is made available to the writer as soon as the file is closed in the program.

***JOBEND:** The spooled file is made available to the writer only after the entire job is completed.

***IMMED:** The program does not wait; when the file is opened, an immediate allocation of the file resources is required.

HOLD Specifies, for spooled output only, whether the spooled file is held. The spooled file can be released by using the Release Spooled File (RLSSPLF) command.

***NO:** The spooled printer file is not held by the output queue. The spooled output is available to a writer based on the SCHEDULE parameter value.

***YES:** The spooled file is held until released by the Release Spool File (RLSSPLF) command.

SAVE Specifies, for spooled output only, whether the spooled file is saved (left on the output queue) after the output has been produced.

***NO:** The spooled file data is not saved on the output queue after it has been produced.

***YES:** The spooled file data is saved on the output queue until the file is deleted.

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. More information on this parameter is in Commonly used parameters.

***JOB:** The output priority associated with the job that created the spooled file is used.

output-priority: Specify the output priority. Valid values range from 1 (high priority) through 9 (low priority).

USRDTA

Specifies, for spooled output only, the user-specified data that identifies the file.

***BLANK:** Ten blanks are used as the user data.

user-data: Specify up to 10 characters of text.

IGCDTA

Specifies whether the file processes double-byte character set (DBCS) data.

***NO:** The file does not process DBCS data.

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

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 those resources are not allocated within the specified wait time, an error message is sent to the program. More information on this parameter is in Commonly used parameters.

Note:

An immediate allocation of the device by the device resource is required when an acquire operation is performed to the file.

***IMMED:** The program does not wait; when the file is opened, an immediate allocation of the file resources is required.

***CLS:** The job default wait time is used as the wait time for the file resources being allocated.

number-of-seconds: Specify the number of seconds that the program waits for the file resources to be allocated to the diskette file when the file is opened, or the wait time for the device allocated when an acquire operation is performed to the file. Valid values range from 1 through 32767 seconds.

SHARE

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

More information on shared database files is in the Database Programming topic in the Information Center.

***NO:** The ODP created by the program with this attribute is not shared with other programs in the routing step. Every time a program opens the file with this attribute, a new ODP to the file is created and activated.

***YES:** The ODP created with this attribute is shared with each program in the routing step that also specifies SHARE(*YES) when it opens the file.

Note: When SHARE(*YES) is specified and control is passed to a program, a read operation in that program retrieves the next input record. A write operation produces the next output record.

AUT Specifies the authority given to users who do not have specific authority to the diskette file, who are not on an authorization list, and whose user group has no specific authority to the diskette file. More information on this parameter is in Commonly used parameters.

***LIBCRTAUT:** The public authority for the diskette file is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the diskette file). The public authority is determined when the diskette file is created. If the CRTAUT value for the library changes after the diskette file is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the diskette file except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the diskette file. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the diskette file.

***USE:** The user can perform basic operations on the diskette file, such as running a program or reading a file. The user cannot change the diskette file. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the diskette file.

authorization-list-name: Specify the name of the authorization list used.

REPLACE

Specifies whether an existing file is replaced by the new diskette file. More information on this parameter is in Commonly used parameters.

***YES:** The existing diskette file is replaced by the one being created.

***NO:** The existing file, if any, is not replaced by the diskette file.

TEXT Specifies text that briefly describes the diskette device file. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTDKTF

Example 1: Creating Diskette Device File

```
CRTDKTF FILE(DSPHST)
```

This command creates a diskette device file named DSPHST. The defaults for all the other parameters are assumed. The device name, diskette volume, file label, and the creation date of the data file on diskette must be specified in another CL command or in each program that uses the device file. The device file

describes diskette data files that are in EBCDIC code and that are spooled for both input and output. Output goes to the QDKT output queue and then onto diskette as soon as the file is closed by the program. When output is produced from the output queue, only one copy is produced.

Example 2: Specifying DBCS Data Processing

```
CRTDKTF FILE(IGCLIB/IGCDKT) IGCDTA(*YES)
```

This command creates a diskette device file named IGCDKT, which is stored in the library IGCLIB, and it can process double-byte character set (DBCS) data.

Error messages for CRTDKTF

*ESCAPE Messages

CPF7302

File &1 not created in library &2.

CRTDSPF (Create Display File) Command Description

CRTDSPF Command syntax diagram

Purpose

The Create Display File (CRTDSPF) command creates a display device file. The device file contains the file description, which identifies the device used and, optionally, the record formats used by the device (if specified in data description specifications (DDS)); the device file does not contain data. The display device file sends records to one or more display devices associated with the device file, and to receive records from the display devices.

The display file description contains information that is specified in two places: (1) in the source file that contains the DDS (if used); and (2) in the CRTDSPF command. The DDS contains the specifications for each record format in the device file and for the fields in each record format.

The Change Display File (CHGDSPF) or Override Display File (OVRDSPF) command is used in a program to change or override the parameter values specified in the display file description; the override command must be run before the display file is opened by the program. Overridden values are changed only for the running of the program; once the program ends, the original parameter values specified for the display file are used.

Note:

If an application program attempts to acquire a work station on a switched line and the line connection has been lost or has never been established, the application program waits indefinitely until the connection is established.

Required Parameter

FILE Specifies the qualified name of the file being created. If the file is used by a high-level language (HLL) program, the file name must be consistent with the naming rules of that language; otherwise, the file must be renamed in the program.

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

***CURLIB:** The file is created in the current library for the job. 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 file is created.

display-device-file-name: Specify the name of the display device file.

Optional Parameters

SRCFILE

Specifies the qualified name of the source file (if specified) that contains the DDS for the records in the display device file. More information on the specifications stated in DDS is in the Application

Display Programming  book and the DDS Reference topic in the Information Center.

***NONE**: There is no DDS source file for this display device file; either the display device file has only one record format with no fields, or the program that uses the file must describe the record formats and their fields.

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.

source-file-name: Specify the name of the source file that contains the DDS for this display device file.

SRCMBR

Specifies the name of the member in the source file that contains the DDS for this display device file. The SRCMBR parameter is valid only if SRCFILE is specified.

***FILE**: The source file member name is the same as the device file name specified in the FILE parameter.

source-file-member-name: Specify the name of the member in the source file specified by SRCFILE that is used to create the display device file.

OPTION

Specifies the type of output produced when the file is created. 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 underlined value is used.

Note:

The underlined values for this parameter are *similar* to, but not *actually* default values, and therefore, cannot be changed with the CHGCMDDFT (Change Command Default) command.

Source Listing Options

***SRC** or ***SOURCE**: A printout of the source statements used to create the file and errors that occur is created.

***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 record format containing the error.

Program Listing Options

***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**: An expanded source printout is not created.

Second-Level Message Text Options

***NOSECLVL**: The messages section of the data description specifications (DDS) listing does not contain the second-level message text for the errors found during DDS processing.

***SECLVL**: Second-level message text is included in the source listing.

Event File Creation Options

***NOEVENTF**: The compiler does not produce an event file for the CoOperative Development Environment/400 (CODE/400) product.

***EVENTF**: The compiler produces an event file that can be used by the CODE/400 product. The event file is created as a member in the file EVFEVENT in your object library. The CODE/400 product uses this file to offer error feedback integrated with the CODE/400 editor. This value is normally specified by the CODE/400 product on your behalf.

GENLVL

Specifies the severity level at which the create operation fails. If errors occur that have a severity level greater than or equal to this value, the operation ends.

Note:

This parameter applies only to messages created while processing DDS source statements. Messages created elsewhere in the file creation process are not affected by this parameter.

20: If errors occur in the DDS source with a severity level greater than or equal to 20, the file is not created.

severity-level: Specify a severity level ranging from 0 through 30. The file is not created if the severity level specified for this parameter equals 0 or is less than the severity level that occurs in the data description specifications (DDS) source. This value must be greater than or equal to value specified on the FLAG parameter.

FLAG Specifies the minimum severity level of messages to be listed in the DDS source listing.

0: The spooled file is owned by the original user profile of the job. If the job has switched to a new user profile, the original user profile is still the owner of the spooled file.

severity-level: Specify the minimum severity level of messages to be listed. Valid values range from 0 through 30. The severity level specified must be less than or equal to the severity level specified on the GENLVL parameter.

DEV Specifies the names of one or more display devices 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.

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

device-name: Specify the names of one or more display devices used with this device file to pass data records between the users of the devices and the system. Each device name must already be known on the system by a device description before this device file is created. *REQUESTER can be specified as one of the names. Up to 50 names can be specified in this command, but the total number cannot exceed the number specified on the MAXDEV parameter.

***NONE:** No device name is specified. The name of the display device must be specified later in a CHGDSPF or OVRDSPF command, or in the HLL program that opens the file.

MAXDEV

Specifies the maximum number of display devices that are 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.

1: Only one device name, or *REQUESTER, can be specified for this display device file.

number-of-devices: Specify the maximum number of devices that are connected to this display file at the same time. Valid values range from 1 through 256.

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.

***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.

RSTDSP

Specifies whether data being shown on a display by this display file is saved at the time the file is suspended (made temporarily inactive) so that another display file can 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.

***NO:** The data being shown by this file is not saved when the file is suspended. When control is returned to the programs using this file, the data is not restored.

***YES:** The data being shown when the file is suspended is saved so it can be shown on the display when the file is used again.

DFRWRT

Specifies that the writing of data is deferred (delayed) until it is written out 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.

***YES:** When the program issues a write request, control is returned 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.

***NO:** After a write operation, the user program does not regain control until the input/output operation is completed (with the data displayed and the input/output feedback information available).

CHRID

Specifies the character identifier (graphic character set and code page) that a work station display device supports. When a display file that was created with the CHRID DDS keyword is used with the device, the system converts data sent to and received from the device to ensure that the correct characters are shown and that the correct hexadecimal byte values are returned to the application program. More information about display file CHRID processing and the translation tables that are used to convert data sent to and received from the display are in the Application

Display Programming  book.

***DEVD:** The value specified on the CHRID parameter in the device description of the work station on which the application is running, is used. If no CHRID value is specified, the QCHRID system value for the system on which the application is running, is used. No conversion is necessary because the file has the same character identifier as the work station. For a list of valid values, see the table in CHRID description of the CRTDEV DSP command.

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

***JOBCCSID:** The character data is converted, if necessary, from the device CHRID to the CCSID (coded character set identifier) of the job during input, and from the CCSID of the job to the device CHRID on output.

***CHRIDCTL:** The system checks the CHRIDCTL job definition attribute to determine whether to use *JOBCCSID or *DEVD on the CHRID command parameter for this file.

Element 1: Character Set

graphic-character-set: Specify the graphic character set values that match the attributes of the display device. Valid values range from 1 through 32767.

Element 2: Code Page

code-page: Specify the code page set values that match the attributes of the display device. Valid values range from 1 through 32767.

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.

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

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

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.

***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.

***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.

IGCDTA

Specifies, for program-described original files, whether the file processes double-byte character set (DBCS) data. For externally described printer files, this parameter specifies DBCS attributes of the file.

***NO:** The file does not process DBCS data.

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

RTNDTACAK

Specifies whether AID keys which do not return data, like CA keys, the print, help, home, and clear keys, will allow input data to be returned from the device to the application after validity checking has caused the input buffer to be updated.

***NO:** The input buffer will be restored to its original values before it is returned to the application. Any date, time, or timestamp field which has invalid data is replaced in the input buffer with a valid default value.

***YES:** The input buffer, which may include values that did not pass the validity checks, will be returned to the application. Any date, time, or timestamp field which has invalid data is replaced in the input buffer with a valid default value.

IGCEXNCHR

Specifies whether the system processes double-byte character set (DBCS) extension characters.

***YES:** The system processes DBCS extension characters.

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

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 those resources are not allocated within the specified wait time, an error message is sent to the program. More information on this parameter is in Commonly used parameters.

Note:

An immediate allocation of the device by the device resource is required when an acquire operation is performed to the file.

***IMMED:** The program does not wait; when the file is opened, an immediate allocation of the file resources is required.

***CLS:** The job default wait time is used as the wait time for the file resources being allocated.

number-of-seconds: Specify the number of seconds that the program waits for the file resources to be allocated to the display device file when the file is opened, or the wait time for the device allocated when an acquire operation is performed to the file. Valid values range from 1 through 32767 seconds.

WAITRCD

Specifies the number of seconds the program waits for the completion of a read-from-invited-device operation to a multiple device file in a high-level language program. Refer to the appropriate 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 input from all invited devices currently accessing the file. If a record is not returned from an invited device 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 specific device.


Note:

This parameter is also used to specify the time (seconds) that a CL program waits to complete a WAIT command. If a record is not returned from any of the devices that should return a record, an escape message is sent to the CL program. More information on the WAITRCD parameter is in the Receive File (RCVF), Send File (SNDF), Send/Receive File (SNDRCVF), and WAIT (Wait) command descriptions.

***NOMAX:** There is no limit on the time the system waits for the completion of the operation.

***IMMED:** The program does not wait for the read-from-invited-device operation for the completion of the file. A record must be available from an invited program device when the read-from-invited-program-device operation is performed. If a record is not already available when the read-from-invited-program-device operation is performed, a notify message is sent to the program.

number-of-seconds: Specify the number of seconds that the program waits for the completion of the read-from-invited-device operation. Valid values range from 1 through 32767.

DTAQ Specifies the name of the data queue that receives an entry from the system when a data-available event is signaled from an invited display device. The data queue need not exist when the display file is created since the name specified on this parameter is not evaluated until the file is used. More information on the data queue function is in the CL Programming  book.

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.

***NONE:** A data queue does not receive an entry from the system.

The name of the data queue 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.

data-queue-name: Specify the name of the data queue that is to receive an entry from the system when the data-available event is signaled.

SHARE

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

More information on shared database files is in the Database Programming topic in the Information Center.

***NO:** The ODP created by the program with this attribute is not shared with other programs in the routing step. Every time a program opens the file with this attribute, a new ODP to the file is created and activated.

***YES:** The ODP created with this attribute is shared with each program in the routing step that also specifies SHARE(*YES) when it opens the file.

Note:

When SHARE(*YES) is specified and control is passed to a program, a read operation in that program retrieves the next input record. A write operation produces the next output record.

SRTSEQ

Specifies the sort sequence used for this user profile. The sort sequence is used in conjunction with the LANGID parameter to determine which sort sequence table is used.

***JOB:** The SRTSEQ value specified on the job attribute is used.

***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.

The name of the sort sequence table 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.

table-name: Specify a table name.

LANGID

Specifies the language identifier used when *LANGIDSHR or *LANGIDUNQ is specified on the SRTSEQ parameter. The language identifier is used with the SRTSEQ parameter to determine which sort sequence table the file uses.

***JOB:** The language ID specified in the job description is used.

language-id: Specify a language identifier to be used by the file.

LVLCHK

Specifies whether the record format level identifiers in the program are checked against those in the device file when the file is opened. 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.

***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 that requested the open, and the file is not opened.

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

AUT Specifies the authority given to users who do not have specific authority to the display file, who are not on an authorization list, and whose user group has no specific authority to the display file. More information on this parameter is in Commonly used parameters.

***LIBCRTAUT:** The public authority for the display file is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the display file). The public authority is determined when the display file is created. If the CRTAUT value for the library changes after the display file is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the display file except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the display file. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the display file.

***USE:** The user can perform basic operations on the display file, such as running a program or reading a file. The user cannot change the display file. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the display file.

authorization-list-name: Specify the name of the authorization list used.

REPLACE

Specifies whether an existing file is replaced by the new display file. More information on this parameter is in Commonly used parameters.

Note: The existing file cannot be replaced if it is in use by this job or another job.

***YES:** The existing display file is replaced by the one being created.

***NO:** The existing file, if any, is not replaced by the display file.

TEXT Specifies the text that briefly describes the display device file. More information on this parameter is in Commonly used parameters.

***SRCMBRTXT:** The text is taken from the source file member used to create the printer file. If the source file is a database file, the text is taken from the source member. If the source file is an inline file or a device file, the text is blank.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTDSPF

Example 1: Specifying Default Optional Parameters

```
CRTDSPF FILE(DSPHIST) SRCFILE(PRSNNL/JOBHIST)
```

This command creates a display device file named DSPHIST which is stored in the current library using the source file named JOBHIST that is stored in the PRSNL library. The defaults for all the other parameters are assumed. Only the device requesting the program that uses this device file (that is, *REQUESTER) is assigned to the device file. The level identifiers of the record formats are checked when the file is opened. The public has only object operational authority for the device file.

Example 2: Specifying DBCS Data Processing

```
CRTDSPF FILE(IGCDSP) SRCFILE(IGCLIB/IGCSRC)
        IGCDTA(*YES)
```

This command creates the display file IGCDSP from the source file IGCSRC in the library IGCLIB. The file processes double-byte character set (DBCS) data.

Error messages for CRTDSPF

*ESCAPE Messages

CPF7302

File &1 not created in library &2.

CRTDDMF (Create Distributed Data Management File) Command Description

CRTDDMF Command syntax diagram

Purpose

The Create Distributed Data Management File (CRTDDMF) command creates a distributed data management (DDM) file. The DDM file is used as a reference file by programs to access files located on a remote (target) system in the DDM network. Programs on the local (source) system know a remote file only by the DDM file's name, not by the remote file's actual name. (The DDM file name, however, can be the same as the remote file name.)

The DDM file (on the source system) contains the name of the remote file accessed and the name or address of the remote (target) system that contains the file. It can also specify the type of access method that is used to access records in the remote file.

Required Parameters

FILE Specifies the qualified name of the file being created. If the file is used by a high-level language (HLL) program, the file name must be consistent with the naming rules of that language; otherwise, the file must be renamed in the program.

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

***CURLIB:** The DDM file is created in the current library for the job. 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 DDM file is created.

DDM-file-name: Specify the name of the DDM file being created.

RMFILE

Specifies the name of the remote file on the target system. This file name must be specified in code page 500. The file does not need to exist when the DDM file is created.

Element 1: Remote File Name

The name of the 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.

Note: The library name is used only if the target system is an iSeries 400.

remote-file-name: Specify up to 10 characters for an iSeries 400 file name, up to 10 characters for a System/38 simple file name, or up to 8 characters for a System/36 file name, that identifies the remote file accessed. No apostrophes, blanks, or any other special characters are allowed, and any lowercase characters are changed to uppercase.

- If the target system is an iSeries 400:
 - If *LIBL (the default library qualifier) is specified or assumed, the library list in the called job on the target system is searched to locate the file.
 - If *CURLIB is specified, the current library in the called job on the target system is searched to locate the file.
 - A member name can be specified as part of the remote file name, but it is considered a nonstandard name and the library/file (member) name parts must follow the value *NONSTD.
- If the target system is a System/38 system:
 - A qualified file name can be specified as part of the remote file name but is considered a nonstandard name and the full file name must follow the value *NONSTD.
 - A qualified file name and member name can be specified as part of the remote file name but is considered a nonstandard name and the full file name must follow the value *NONSTD.
 - If *LIBL is specified as the library value, the library list in the called job on the target system is searched to locate the file.
- If the target system is a System/36, the remote file name is the same as its System/36 file label, as used by System/36 OCL.

***NONSTD:** For target systems that allow naming conventions other than those used by iSeries 400, System/38, and System/36, and when specifying a *member* name of a remote iSeries 400 or qualified name or member name of a remote System/38 file, enter the value *NONSTD and specify the non-standard file name for element 2.

Element 2: Non-standard File Name

If *NONSTD was specified for element 1, specify up to 255 characters for the name of the remote file accessed. The name must be in the form required by the target system. The name must always be enclosed in apostrophes, and can contain lowercase letters, blanks, periods, or other special characters. The iSeries 400 and System/38 names must be in uppercase (because they are not changed to uppercase if enclosed in apostrophes) and no blanks are allowed.

If the target system is a System/38, a file and library name can be specified enclosed in apostrophes following the value *NONSTD.

If the target system is an iSeries 400 or System/38, a file name, library name, and member name can all be specified.

- If a member name is specified, the full file name must be enclosed in apostrophes and follow the value *NONSTD, and the member name *must* be enclosed in parentheses and immediately follow (with no space) either the library name or the file name.
- If the target system is an iSeries 400 or System/38 and *LIBL is specified, the library list in the evoked job on the target system is used to search for the file.
- If the target system is an iSeries 400 and *CURLIB is specified, the current library in the evoked job on the target system is used to search for the file.

Examples of specifying iSeries 400 remote file member names are:

```
RMTFILE(*NONSTD 'CAR(JULY)')
RMTFILE(*NONSTD 'SALES/CAR(JULY)')
```

Examples of specifying System/38 remote file member names are:

```
RMTFILE(*NONSTD 'CAR.SALES')
RMTFILE(*NONSTD 'CAR.*LIBL')
RMTFILE(*NONSTD 'CAR(JULY)')
RMTFILE(*NONSTD 'CAR.SALES(JULY)')
```

RMTLOCNAME

Specifies the name or address of the remote location that is used with this object.

Note: Multiple DDM files can use the same remote location for the target system.

Element 1: Name or Address

remote-location-name: Specify the name or address of the remote location that is associated with the target system. The remote location, which is used in accessing the target system, does not need to exist when the DDM file is created but must exist when the DDM file is opened. The first element of this parameter can take several forms:

- SNA remote location name (LU name). Specify a maximum of 8 characters for the remote location name. If this form is used, the second element of this parameter must be *SNA (the default).
- SNA remote network identifier and remote location name separated by a period. Specify a maximum of 8 characters for the remote location name, and a maximum of 8 characters for the remote network identifier. If this form of the parameter is used, the second element of this parameter must be *SNA (the default), and any value specified for the RMTNETID parameter must agree. If the RMTNETID parameter is not specified, the RMTNETID value will be set to agree with the RMTLOCNAME parameter.
- IP address in dotted decimal form. Specify an internet protocol address in the form nnn.nnn.nnn.nnn where each nnn is a number in the range 0 through 255. If this form is used, the second element of this parameter must be specified as *IP.
- IP host domain name. Specify an internet host domain name of up to 254 characters in length. If this form is used, the second element of this parameter must be specified as *IP.

If *IP is specified for the second element, the DDM server at the remote location must support the use of TCP/IP, and the DEV, LCLLOCNAME, RMTNETID, and MODE parameters will be ignored.

If *IP is not specified, the DDM server must support SNA connectivity, and the PORT parameter will be ignored.

Element 2: Address Type

***SNA:** The remote location has a Systems Network Architecture (SNA) address type.

***IP:** The remote location has an Internet Protocol (IP) address type.

Optional Parameters

DEV Specifies the name of the APPC device description on the source system that is used with this DDM file. The device description does not need to exist when the DDM file is created. This parameter will be ignored if *IP is specified in the RMTLOCNAME parameter.

***LOC:** The device associated with the remote location is used. If several devices are associated with the remote location, the system determines which device is used.

device-name: Specify the name of a communications device associated with the remote location. If the device name is not valid for the remote location, a message is sent when the program device entry is acquired.

LCLLOCNAME

Specifies the local location name. This parameter will be ignored if *IP is specified in the RMTLOCNAME parameter.

***LOC:** The device associated with the remote location is used. If several devices are associated with the remote location, the system determines which device is used.

***NETATR:** The LCLLOCNAME value specified in the system network attributes is used.

local-location-name: Specify the name of the local location that is associated with the remote location. The local location name is specified only if the user indicates a specific local location for the remote location. If the local location name is not valid for the remote location, an escape message is sent when the DDM file is opened.

MODE Specifies the mode name that is used with the remote location name to communicate with the target system. This parameter will be ignored if *IP is specified in the RMTLOCNAME parameter.

***NETATR:** The mode name specified in the network attributes is used.

***BLANK:** Text is not specified.

mode-name: Specify the name of the mode that is used. If the mode name is not valid for any combination of remote location and local location, an escape message is sent when the DDM file is opened.

RMTNETID

Specifies the remote network ID in which the remote location resides that is used to communicate with the target system. If this parameter is specified, the RMTLOCNAME parameter must be consistent with this RMTNETID parameter. If the RMTLOCNAME parameter specified a network ID, this parameter must agree (otherwise, an error message will be issued). If the RMTLOCNAME parameter does not specify any network ID, there is no possibility of conflict with this parameter. This parameter will be ignored if *IP is specified in the RMTLOCNAME parameter.

***LOC:** The remote network identifier (ID) associated with the remote location is used. If several remote network IDs are associated with the remote location, the system determines which remote network ID is used.

***NETATR:** The RMTNETID value specified in the system network attributes is used.

***NONE:** No remote network identifier (ID) is used.

remote-network-ID: Specify the remote network ID that is associated with the remote location. The remote network ID is specified only if the user indicates a specific remote network ID for the remote location. If the remote network ID is not valid for the remote location, an escape message is sent when the DDM file is opened.

PORT Specifies the TCP/IP port that is used at the remote location to communicate with the system on which the remote file is located. This parameter will be ignored if *IP is not specified in the RMTLOCNAME parameter.

***DRDA:** The DRDA well-known port of 446 will be used. This the port on which the iSeries 400 DDM TCP/IP server listens.

port-number: Specify a number in the range 1-65535.

ACCMTH

Specifies, when the remote file is not on an iSeries 400 or System/38 target system, the DDM access method used to open the remote file and access its records. Specifying a value other than *RMTFILE for this parameter may also improve performance when processing requests to remote files on a system other than an iSeries 400 or System/38 targets.

This parameter is ignored when the target system is an iSeries 400 or a System/38; the access to a remote iSeries 400 and System/38 file is supported as if it were a local file.

***RMTFILE:** The source system selects the access method that is compatible with (a) the attributes of the remote file identified by the RMTFILE parameter and (b) the access methods supported by the target system for that file. For systems other than the iSeries 400 and System/38 target systems, if this value is used and the source system cannot select an access method when the file is opened, a message is sent to the program user. A different value must then be specified for this parameter, using the CHGDDMF command, after someone at the target system has been contacted about the appropriate access method information for the file.

***COMBINED:** The DDM combined access method is used for the remote file. This access method combines the file processing capabilities of the *combined by key* (*KEYED *BOTH) and the *combined by record number* (*ARRIVAL *BOTH) access methods, as shown in the following table. The record can be selected with a key value or a record number. The position can then be set relatively or randomly by key value or by record number. If duplicate keys are present in the file, they are processed in the order defined by each target system's implementation of the DDM architecture.

Access Method

***KEYED or *ARRIVAL:** Specify a set of two values that indicates the access method that is used to access the remote file. If only the first value is specified (*KEYED or *ARRIVAL), the default for the second value is *BOTH, and either random or relative (sequential) selection can be requested.

The other possible values for the ACCMTH parameter are shown below. The remote file attributes (in the far left column) refer to the type of file on the target system. The local access method (in the last three columns) refers to the way in which the source iSeries 400 or System/38 program intends to access the records in the remote file.

Remote File Attributes	Local Access Method		
	*SEQUENTIAL	*RANDOM	*BOTH
*ARRIVAL	Relative by record number	Random by record number	Combined by record number
*KEYED	Relative by key	Random by key	Combined by key

The following explanations refer to the possible values for the ACCMTH parameter.

Relative by record number access method (*ARRIVAL *SEQUENTIAL): This method allows access to records relative to the current position in record number sequence. The record number is not specified to identify the record.

Random by record number access method (*ARRIVAL *RANDOM): This method allows access to records by specifying a record number in a random sequence determined by the requester.

Combined by record number access method (*ARRIVAL *BOTH): This method combines the capabilities of the relative by record number and random by record number access methods.

Relative by key access method (*KEYED *SEQUENTIAL): This method allows records in a keyed file to be accessed in key value sequence. Records can be accessed by moving forward or backwards in key sequence from the current record. The key value is not specified to identify the record.

Random by key access method (*KEYED *RANDOM): This method allows records in a keyed file to be accessed in a random sequence. Records are selected by their key value and not their position in the file.

Combined by key access method (*KEYED *BOTH): This method combines the capabilities of the relative by key and random by key access methods.

SHARE

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

More information on shared database files is in the Database Programming topic in the Information Center.

***NO:** The ODP created by the program with this attribute is not shared with other programs in the routing step. Every time a program opens the file with this attribute, a new ODP to the file is created and activated.

***YES:** The ODP created with this attribute is shared with each program in the routing step that also specifies SHARE(*YES) when it opens the file.

Note:

When SHARE(*YES) is specified and control is passed to a program, a read operation in that program retrieves the next input record. A write operation produces the next output record.

Operation considerations (regarding buffers and file position, for example) for SHARE(*YES) are the same as for database files.

PTCCNV

Specifies whether the DDM conversation that is started for the DDM file is a protected conversation or not. A **protected conversation** is a conversation that uses two-phase commit protocols to ensure, even if a failure occurs, updates made on the remote system are synchronized with updates to other remote or local resources. A protected conversation is required to use two-phase commitment control with DDM. More information on using two-phase commitment control with DDM is in the Distributed Data Management topic in the Information Center. PTCCNV(*NO) must be specified if *IP is specified in the RMTLOCNAME parameter.

***NO:** The DDM conversation started, using this DDM file, is not a protected conversation.

***YES:** The DDM conversation started, using this DDM file, is a protected conversation. Two-phase commitment control can be used with this DDM file.

LVLCHK

Specifies whether the record format level identifiers in the program are checked against those in the remote file when the DDM file is opened. If so, the record format identifiers in the program must match those in the remote file. If they do not match, an error message is sent to the requesting program and neither the DDM file nor the associated remote file is opened. Files that

have an error while being opened are automatically closed. This parameter can be overridden by an Override with Database File (OVRDBF) command before the remote file is opened.

***RMTFILE:** The level identifiers of the record formats of the remote file (identified in the RMTFILE parameter) are checked at the time the DDM file is opened.

If the target system is *not* an iSeries 400 and not a System/38, the source iSeries 400 creates a level check value based on the record length of the remote file and any key fields used in it. The created values are then compared to the values in the program, and they must match before the remote file can be opened. This reduces the chances of the wrong file being selected.

Note:

Before this can be done for a system other than an iSeries 400 or a System/38, the program must be compiled (or recompiled) using the DDM file. During the compilation, the DDM file is used to establish communications with the target system, get the remote file's attributes from the target system, and generate the level identifier values so they can be included in the compiled program for later level checking.

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

AUT

Specifies the authority given to users who do not have specific authority to the DDM file, who are not on an authorization list, and whose user group has no specific authority to the DDM file. More information on this parameter is in the Distributed Data Management topic in the Information Center.

***LIBCRTAUT:** The public authority for the DDM file is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the DDM file). The public authority is determined when the DDM file is created. If the CRTAUT value for the library changes after the DDM file is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the DDM file except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the DDM file. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the DDM file.

***USE:** The user can perform basic operations on the DDM file, such as running a program or reading a file. The user cannot change the DDM file. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the DDM file.

authorization-list-name: Specify the name of the authorization list used.

REPLACE

Specifies whether an existing file is replaced by the new DDM file. More information on this parameter is in Commonly used parameters.

***YES:** An existing file is replaced by the DDM file being created.

***NO:** No replacement occurs.

TEXT

Specifies the text that briefly describes the DDM file. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTDDMF

The following examples describe the creation of a DDM file.

Example 1: Creating a DDM File to Access a File at Another iSeries 400

```
CRTDDMF FILE(SOURCE/SALES)
        RMTFILE(REMOTE/SALES)
        RMTLOCNAME(NEWYORK)
```

This command creates a DDM file named SALES, and stores it in the SOURCE library on the source system. This DDM file uses the remote location named NEWYORK to access a remote file named SALES stored in the REMOTE library on an iSeries 400 in New York.

Example 2: Creating a DDM File to Access a File Member at Another IBM iSeries 400

```
CRTDDMF FILE(SOURCE/SALES)
        RMTLOCNAME(NEWYORK)
        RMTFILE(*NONSTD 'REMOTE/SALES(APRIL)')
```

This command creates the same file as in the previous example, except that now it accesses a specific member in the remote SALES file; the member is named APRIL.

Example 3: Creating a DDM File to Access a File on a System/38

```
CRTDDMF FILE(OTHER/SALES)
        RMTLOCNAME(CHICAGO)
        RMTFILE(*NONSTD 'PAYROLL.REMOTE')
```

This command creates a DDM file named SALES, and stores it in the library OTHER on the source system. The remote location CHICAGO is used by the DDM file to access a remote file named PAYROLL in library REMOTE on a System/38.

Example 4: Creating a DDM File to Access a File on a System/36

```
CRTDDMF FILE(OTHER/SALES)
        RMTFILE(PAYROLL)
        RMTLOCNAME(DENVER) LVLCHK(*NO)
```

This command creates a DDM file named SALES, and stores it in the library OTHER on the source system. The remote location DENVER is used by the DDM file to access a remote file named PAYROLL on a System/36 in Denver. No level checking is performed between the PAYROLL file and the application programs that access it. Because the ACCMTH parameter was not specified, the access method for the target system is selected by the source iSeries 400 when the DDM file is opened to access the remote file.

Example 5: Creating a DDM File to Access a File through TCP/IP

```
CRTDDMF FILE(OTHER/SALES)
        RMTFILE(PAYROLL)
        RMTLOCNAME(ROCHESTER.XYZ.COM *IP) PORT(*DRDA)
```

This command creates a DDM file named SALES, and stores it in the library OTHER on the source system. The remote location ROCHESTER.XYZ.COM is used by the DDM file to access a remote file named PAYROLL on a TCP/IP host with the domain name of ROCHESTER.XYZ.COM. The host listens on the standard DRDA port of 446. (Since *DRDA is the default port, the PORT parameter is not actually necessary in this case.)

Example 6: Creating a DDM File to Access a File through TCP/IP using dotted decimal IP address and a numeric port number

```
CRTDDMF FILE(OTHER/SALES)
RMTFILE(PAYROLL)
RMTLOCNAME('9.5.36.17' *IP) PORT(5021)
```

This command creates a DDM file named SALES, and stores it in the library OTHER on the source system. The remote location 9.5.36.17 is used by the DDM file to access a remote file named PAYROLL on a TCP/IP host with an IP address of 9.5.36.17. The host listens on port 5021.

Error messages for CRTDDMF

*ESCAPE Messages

CPF7302


File &1 not created in library &2.

CRTDSTL (Create Distribution List) Command Description

CRTDSTL Command syntax diagram

Purpose

The Create Distribution List (CRTDSTL) command creates a new distribution list. A distribution list is a list of entries from the distribution directory. It can include entries for local, remote, indirect, and independent work station users. It can also include remote distribution lists, but not local distribution lists. More

information about distribution lists is in the SNA Distribution Services  book.

The CRTDSTL command creates the distribution list with no entries. The Add Distribution List Entry (ADDSTLE) command is used to add entries to the distribution list.

Restriction: The list identifier (ID) must be unique to all local user IDs, as well as to other list IDs in the directory. If a list ID is not unique, the list is not created and an error message is returned.

Required Parameters

LSTID Specifies the two-part list identifier of the distribution list that is being created.

Element 1: List Identifier

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

Element 2: List Qualifier

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.

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

Optional Parameter

CMDCHRID

Specifies the character identifier (graphic character set and code page) for data being specified as parameter values on this command. This character identifier (CHRID) is related to the display device used to specify the command. More information about CHRID processing is in the

Application Display Programming  book.

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

***DEV D:** The system determines the graphic character set and code page values for the command parameter from the display device description where the command is entered. This option is valid only when specified from an interactive job. If this value is specified in an interactive CL program or a batch job, an error message is sent.

Element 1: Character Set

graphic-character-set: Specify the graphic character set values used to create the command parameters. Valid values range from 1 through 9999.

Element 2: Code Page

code-page: Specify the code page. Valid values range from 1 through 9999.

Example for CRTDSTL

```
CRTDSTL  LSTID(DEPT48K DLIST)
         LSTD('Department 48K Distribution List')
```

This command creates a distribution list that contains the members of Department 48K. If this list ID is unique, the distribution list is created.

Error messages for CRTDSTL

*ESCAPE Messages

CPF9009

System requires file &1 in &2 be journaled.

CPF905C

Error occurred trying to find a translation table.

CPF9088

List &1 &2 not created in the directory.

CPF9096

Cannot use CMDCHRID(*DEV D), DOCCHRID(*DEV D) in batch job.

CPF9838

User profile storage limit exceeded.

CPF9845

Error occurred while opening file &1.

CPF9846

Error while processing file &1 in library &2.

CRTDOC (Create Document) Command Description

CRTDOC Command syntax diagram

Purpose

The Create Document (CRTDOC) command allows the user to create a new document when using the word processing function of OfficeVision.

First the Create Document Details display is shown. Then, if the Enter key is pressed on this display, the Edit display is shown.

More information on creating documents is in the Using OfficeVision/400 Word Processing book.

Required Parameter

DOC Specifies the name of the document being created. Specify the name of the document. Up to 12 characters can be specified in the required format (document.ext).

Optional Parameters

FLR Specifies the name of the folder to contain the document being created.

***PRV:** The name used in the previous session is used.

folder-name: Specify the name of the folder to contain the document being created.

TXTPRF

Specifies the text profile used as the base for the document.

***DFT:** The default text profile is used.

***SYSTEM:** The system text profile is used.

profile-name: Specify the name of the text profile to use. A maximum of 12 characters can be specified.

TEXT Specifies the text that briefly describes the document description. More information on this parameter is in Commonly used parameters.

***DFT:** A default description is specified for the document.

description: Specify a maximum of 44 characters, enclosed in apostrophes.

DETAILS

Specifies whether to request or bypass the Document Details display.

***YES:** The Document Details display is shown.

***NO:** The Document Details display is not shown.

EDIT Specifies whether document editing is bypassed.

***YES:** The document is edited after being created.

***NO:** The document is not edited after being created.

EXITPNL

Specifies whether the Exit Document display is shown when F3(Exit) or F12(Cancel) is pressed to end the editing.

***YES:** The Exit Document display is shown when F3(Exit) or F12(Cancel) is pressed to end the editing.

***NO:** The Exit Document display is not shown when F3(Exit) or F12(Cancel) is pressed to end the editing.

Example for CRTDOC

```
CRTDOC DOC(NEWDOC) FLR(MYFLR)
```

This command creates a new document called NEWDOC in folder MYFLR.

Error messages for CRTDOC

*ESCAPE Messages

OFCFFFC

User storage capacity exceeded.

OFCFFFD

Damaged object found.

OFC8EA3

OfficeVision for AS/400 editor is not available to resolve to a display.

OFC80B5

OfficeVision for OS/400 editor is not available on the system.

OFC800A

Folder is in use.

OFC800E

&1 already exists as document or folder.

OFC800F

Display does not support text.

OFC8006

Folder not found.

OFC8008

Request not allowed with folder.

OFC801D

Maximum number of text sessions active.

OFC801E

DW editor or text assist cannot be loaded.

OFC8017

Folder directory is full.

OFC8019

Required module not on system.

OFC802E

Request failed for PC editor.

OFC821B

Document &1 needs to be reclaimed.

OFC9811

Folder needs to be reclaimed.

CRTDUPOBJ (Create Duplicate Object) Command Description

CRTDUPOBJ Command syntax diagram

Purpose

The Create Duplicate Object (CRTDUPOBJ) command copies a single object or a group of objects. It does not create an exact duplicate of files. The newly created object must be renamed if it is stored in the same library as the original object. If it is stored in a library other than the one that contains the original object, it can retain the name of the original object. The user can specify a generic object name to copy a group of related objects, and the library in which the newly created objects are stored. The user can also specify

whether data in physical files or save files is copied. The duplicate object is authorized the same as the original object. The user who issues the command owns the duplicate object.

For files, the duplicate object shares the format of the original file. When a logical file is copied into another library, two cases determine the basing for the file. First, if both the logical file and its based-on physical file are originally in the same library, a duplicate of the physical file must be created in the new library before a duplicate of the logical file is created. After these two duplicates are created, the new logical file is based on the new physical file.

Second, if the logical file and its based-on physical file are originally in different libraries, it is not necessary to duplicate the physical file before duplicating the logical file. In this case, the duplicated logical file is based on the same physical file as was the original logical file. Unlike the first case, even if the physical file is copied into the new library before the logical file is copied, the duplicated logical file is based on the original physical file, not on the duplicated physical file.

When the CRTDUPOBJ command creates a file any constraints associated with the from-file are included. When trigger programs are associated with the from-file, there are additional considerations to be aware of. See the Database Programming topic in the Information Center for more information.

When duplicating a file using the CRTDUPOBJ command, the format of the FROM file is shared with the TO (newly created) file. When the maximum number (approximately 32K) for sharing a file's format has been reached, the newly created file will create a new format instead of sharing the FROM file's format.

Note: All of the files that share the same format will be considered related and will be grouped together in the same save list when a save operation is performed.

Restrictions:

1. The user must have *USE authority (includes object operational authority, read authority, and execute authority) and object management authority to the existing object.
2. The user must have both use and add authorities to the library for the new object.
3. ➤ The user must have *USE authority to the auxiliary storage pool (ASP) device if a specific ASP device name is specified on the ASPDEV or TOASPDEV parameter. ⬅
4. The user must have authorization list management authority if the object is an authorization list.
5. The user must have object operational authority to the Create Save File (CRTSAVF) command to create a duplicate save file. The contents of the save file are duplicated when DATA(*YES) is specified.
6. When an object is being duplicated, it is created on the same auxiliary storage pool (ASP) as its target library.
7. If DATA(*YES) is specified when the CRTDUPOBJ command is used to create a copy of a file, the new duplicate file object is seized (similar to an *EXCL lock with no timeout) for the duration of the data copy making access impossible. An attempt to use a function that refers to the new duplicate file object while the data copy is in progress results in a lock up for that work station until the data copy is completed. The following are examples of functions that should not be used on the new duplicate file object until the data copy is completed:
 - WRKACTJOB (Select 11-Locks; Select 8-WRKOBJLCK)
 - DSPDBR
 - DSPFD
 - DSPFFD
 - DSPJOB (Option 12-Locks; F10-Job record locks; Option 14-Open files)
 - DSPLIB (The library containing the new duplicate file)
 - DSPOBJD

- WRKOBJLCK
 - DSPRCDLCK
 - Any other function which refers to the new duplicate file
8. ➤ When duplicating a database file or a save file and storage is allocated for the from library from a primary or secondary auxiliary storage pool (ASP), storage for the to library must either be allocated from an ASP in the same ASP group as the storage for the from library or be allocated from the system ASP (ASP 1) or a basic user ASP (ASPs 2-32). Duplicating a database file or a save file from one ASP group to another ASP group is not supported. ⏪
 9. When creating a duplicate object of type *GSS, *FNTRSC, *FORMDF, *OVL, *CSI, *PAGDFN, or *PAGSEG, the name of the new object cannot exceed 8 characters in length.
 10. The user space (*USRSPC) and user index (*USRIDX) user domain objects can be copied only into libraries that are permitted in the system value QALWUSRDMN (allow user objects in library). However, if the user object was created in the system domain, it is not restricted.

Required Parameters

OBJ Specifies the name of one or more objects that are being duplicated.

***ALL:** All the objects with the value specified for OBJTYPE in the specified library are duplicated.

object-name: Specify the name of the object that is being duplicated.

generic-object-name:* Specify the generic name of the object to be duplicated. 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. See generic names for additional information.

FROMLIB

Specifies the name of the library that contains the object to be duplicated.

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

Note: *LIBL can be specified for a specific object and a single, specific object type.

***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.

library-name: Specify the name of the library to be searched.

OBJTYPE

Specifies the types of OS/400 system objects to be duplicated. More information on this parameter is in Commonly used parameters.

***ALL:** All valid objects in the library are to be duplicated.

object-type: Specify the value for the type of object that is to be duplicated.

Optional Parameters

TOLIB Specifies the name of the library in which the duplicate object is created.

Note:

If the library is in » an auxiliary storage pool (ASP), the object to be duplicated must be a valid object type that can reside in an ASP «. If this object type is not valid, an error message is displayed.

***FROMLIB:** » The library containing the new object has the same name as the library containing the original object. Note that this is not necessarily the same library as the library containing the original object. If the ASPDEV and TOASPDEV parameters describe the same auxiliary storage pool (ASP) device, it is the same library. If it is the same library, a name different from the name of the original object must be assigned to the new object with the NEWOBJ parameter. If the ASPDEV and TOASPDEV parameters describe different ASP devices, it is a different library with the same library name on the different ASP device. «

***SAME:** » See *FROMLIB above. *SAME and *FROMLIB have the same meaning. «

***CURLIB:** » The current library for the thread will contain the new object. If no library is specified as the current library for the thread, the QGPL library is used. If *CURLIB is specified for the TOLIB parameter, either the TOASPDEV parameter must be * or the TOASPDEV parameter must be *ASPDEV and the ASPDEV parameter must be *. «

library-name: » Specify the name of the library to contain the new object. «

NEWOBJ

» Specifies the name of the single duplicated object. A name must be specified if TOLIB(*FROMLIB) or TOLIB(*SAME) is specified and the same auxiliary storage pool device is specified on both the ASPDEV parameter and the TOASPDEV parameter. « The names of members in a database file that is being copied remain the same in the new file.

***OBJ:** The new object has the same name as the original, but it must reside in a different library.

***SAME:** » See *OBJ above. *SAME and *OBJ have the same meaning. «

object-name: Specify the name of the object that is duplicated.

» ASPDEV

Specifies the auxiliary storage pool (ASP) device name where storage is allocated for the library containing the object to be duplicated (FROMLIB parameter). If the library is in an ASP that is not part of the thread's library name space, this parameter must be specified to ensure the correct object is duplicated. ASPDEV(*) is the only valid value if *LIBL or *CURLIB is specified for the FROMLIB parameter.

*****: The ASPs that are currently part of the thread's library name space will be searched to locate the library. This includes the system ASP (ASP 1), all defined basic user ASPs (ASPs 2-32), and, if the thread has an ASP group, the primary and secondary ASPs in the ASP group.

***CURASGRP:** The primary and secondary ASPs in the thread's ASP group will be searched to locate the library. The system ASP (ASP 1) and defined basic user ASPs (ASPs 2-32) will not be searched.

***SYSBAS:** The system ASP (ASP 1) and all defined basic user ASPs (ASPs 2-32) will be searched to locate the library. No primary or secondary ASPs will be searched, even if the thread has an ASP group.

auxiliary-storage-pool-device-name: The device name of the primary or secondary ASP to be searched to locate the library. The primary or secondary ASP must have been activated (by varying on the ASP device) and have a status of 'Available'. The system ASP (ASP 1) and defined basic user ASPs (ASPs 2-32) will not be searched.

TOASPDEV

Specifies the auxiliary storage pool (ASP) device name where storage is allocated for the library to contain the new object (TOLIB parameter). If the library is in an ASP that is not part of the thread's library name space, this parameter must be specified to ensure the object is duplicated into the correct library. If *CURLIB is specified for the TOLIB parameter, either the TOASPDEV parameter must be * or the TOASPDEV parameter must be *ASPDEV and the ASPDEV parameter must be *.

***ASPDEV**: The ASP device specified for the ASPDEV parameter will be searched to locate the library.

*****: The ASPs that are currently part of the thread's library name space will be searched to locate the library. This includes the system ASP (ASP 1), all defined basic user ASPs (ASPs 2-32), and, if the thread has an ASP group, the primary and secondary ASPs in the ASP group.

***CURASPGRP**: The primary and secondary ASPs in the thread's ASP group will be searched to locate the library. The system ASP (ASP 1) and defined basic user ASPs (ASPs 2-32) will not be searched.

***SYSBAS**: The system ASP (ASP 1) and all defined basic user ASPs (ASPs 2-32) will be searched to locate the library. No primary or secondary ASPs will be searched, even if the thread has an ASP group.

auxiliary-storage-pool-device-name: The device name of the primary or secondary ASP to be searched to locate the library. The primary or secondary ASP must have been activated (by varying on the ASP device) and have a status of 'Available'. The system ASP (ASP 1) and defined basic user ASPs (ASPs 2-32) will not be searched. <<

DATA Specifies whether the data records in physical files or save files are copied to the new object. Members of physical files are copied whether or not the data contained in them is copied.

***NO**: The data records in the members of physical files or save files are not copied to the new object.

***YES**: The data records in the members of physical files or save files are copied to the new object.

Notes:

1. A file cannot be duplicated while it is in use for update by another job.
2. The relative record numbers in the new file are the same as those in the original file.

Example for CRTDUPOBJ

```
CRTDUPOBJ OBJ(FILEA) FROMLIB(LIB1)
          OBJTYPE(*FILE) TOLIB(LIB2) DATA(*YES)
```

The file named FILEA in library LIB1 is duplicated and stored in library LIB2. Authorities granted for FILEA are granted to the new FILEA in LIB2, and data associated with FILEA is copied to the newly created FILEA in LIB2.

Error messages for CRTDUPOBJ

*ESCAPE Messages

>> CPFB8ED

Device description &1 not correct for operation. <<

- CPF2105**
Object &1 in &2 type *&3 not found.
- CPF2109**
NEWOBJ must be *SAME when OBJ parameter is *ALL or generic name.
- CPF2110**
Library &1 not found.
- CPF2113**
Cannot allocate library &1.
- CPF2116**
DATA(*YES) specified and *ALL or *FILE not in OBJTYPE list.
- CPF2122**
Storage limit exceeded for user profile &1.
- CPF2123**
No objects of specified name or type exist in library &2.
- CPF2130**
&1 objects duplicated. &2 objects not duplicated.
- CPF2151**
Operation failed for &2 in &1 type *&3.
- CPF2152**
Objects of type *&1 cannot be created into QTEMP.
- » **CPF2155**
*LIBL cannot be specified for FROMLIB. «
- » **CPF216C**
TOASPDEV value not allowed with TOLIB(*CURLIB). «
- » **CPF216D**
TOLIB, NEWOBJ, or TOASPDEV parameter not correct. «
- CPF2160**
Object type *&1 not eligible for requested function.
- CPF2162**
Duplication of all objects in library &1 not allowed.
- » **CPF2173**
Value for ASPDEV not valid with special value for library. «
- CPF2176**
Library &1 damaged.
- » **CPF218C**
&1 not a primary or secondary ASP. «
- CPF2182**
Not authorized to library &1.
- CPF2185**
TOLIB or NEWOBJ parameters not correct
- CPF2186**
Object &1 cannot be created into library &2.
- CPF9806**
Cannot perform function for object &2 in library &3.

» CPF9814

Device &1 not found. «

» CPF9825

Not authorized to device &1. «

CPF9827

Object &1 cannot be created or moved into &2.

» CPF9833 E


*CURASGRP or *CURGRPPRI specified and thread has no ASP group. «

CRTEDTD (Create Edit Description) Command Description

CRTEDTD Command syntax diagram

Purpose

The Create Edit Description (CRTEDTD) command defines an edit mask for the specified edit description and stores it in the QSYS library. As many as five edit descriptions can be defined by the user. They must be identified as edit descriptions 5, 6, 7, 8, or 9. The actual object names for the edit descriptions are *QEDITn*, where *n* is the single-digit identifying code. The OS/400 system supplies a version of each of these edit descriptions in the QSYS library. More information on the IBM-supplied versions is in the

Application Display Programming  book. To create a new version, the IBM-supplied version must first be deleted by the Delete Edit Description (DLTEDTD) command.

Edit descriptions can be used in data description specifications and high-level language programs to edit numeric fields.

Required Parameter

EDTD Specifies a single-digit code (5, 6, 7, 8, or 9) that identifies the user-defined edit description being created. This digit is used in Data Description Specifications (DDS) to refer to the edit mask that is created by this CRTEDTD command. The actual name of the created object (which is stored in the QSYS library) is *QEDITn*, where *n* is the single digit edit code specified in this parameter.

Optional Parameters

INTMASK

Specifies a character string (mask) that describes the editing of the integer portion of a decimal field. Characters other than a blank, a zero, or an ampersand (&) are handled as constants in the editing process. Blank, zero, and ampersand have the following meanings:

- Blank: Each blank is replaced with a fill character or with a digit from the number being edited once zero suppression ends (by a significant digit or by the farthest left zero in the mask).
- Zero (0): The farthest left zero is a digit replacement character and also ends zero suppression. All other zeros in the integer mask are handled as constants.
- Ampersand (&): Blank substitution.

Note:

You cannot specify both INTMASK(*NONE) and FRACMASK(*NONE) on the CRTEDTD command. Instead, specify blanks for INTMASK and FRACMASK, and specify GENLVL(30) on the Create Printer File (CRTPRTF) or Create Display File (CRTDSPF) command, which allows the file to create, but ignores the edit code keyword.

***NONE:** No editing mask is used on the integer portion of decimal fields.

'integer-mask': Specify the character string that is used as the editing mask for the integer portion of a decimal field. Up to 31 characters, enclosed in apostrophes, can be used in the integer mask.

DECPNT

Specifies, for decimal fields, a single character used as a decimal point to separate the integer (INTMASK) and fraction (FRACMASK) portions of the edited result. If the field has no decimal places, this character is not used and is not considered in the width of the edited results.

Note:

If the separator character specified for DECPNT is also used in the INTMASK parameter, it has no special meaning in the integer mask; it is handled only as a constant or as a digit replacement character in the integer mask.

'.': The period (or decimal point) is the separator character. It must be enclosed in apostrophes.

***NONE:** No separator character is specified; a decimal point is not needed in the edited result.

'separator-character': Specify the separator character, such as the comma (,), that is used as a decimal point. Any alphanumeric or special character can be used, but a special character must be enclosed in apostrophes.

FRACMASK

Specifies a character string (mask) that describes the editing of the fraction portion of a decimal field (to the right of the decimal point). The characters have the same meaning as described for the INTMASK parameter except that all zeros are handled as constants and blanks are not replaced with a fill character.

***NONE:** No editing mask is used on the fraction portion of decimal fields.

'fraction-mask': Specify the character string that is used as the editing mask for the fraction portion of a decimal field. Up to 31 characters, enclosed in apostrophes, can be used in the fraction mask.

FILLCHAR

Specifies the character that is used in each position of a result that is zero suppressed. The specified character replaces all leading zeros that are to the left of the first significant digit in the integer mask (or a forced zero).

***BLANK:** The fill character is a blank.

'fill-character': Specify the character that is used as the fill character. Any alphanumeric or special character can be used, but a special character must be enclosed in apostrophes.

CURSYM

Specifies the character string that is used as the floating currency symbol. If CURSYM is specified, the character string appears immediately to the left of the first significant digit (or constant). If the first significant digit is a zero, occurring in the position that ended zero suppression, the CURSYM character string ends in the position occupied by that zero.

***NONE:** No floating currency symbol is specified; none is needed in the edited result.

'floating-currency-symbol': Specify the character string that is used as the floating currency symbol for monetary amount fields. Up to 15 alphanumeric and special characters, enclosed in apostrophes, can be specified.

ZEROBAL

Specifies the editing action for zero values.

***YES:** The normal editing rules are followed. For information on editing rules, refer to “Editing Rules”, following the description of the CRTEDTD command parameters.

***NO:** If the field being edited has a value of zero, the entire field (integer, decimal point, or fraction) is replaced by the fill character, including constants in the edit mask.

NEGSTS

Specifies the character string that immediately follows the body of the edited result if the field status is negative. If the field is positive, blanks are substituted for the length of the string, unless a value for POSSTS is also specified.

***NONE:** No character string is specified; blanks are used to the right of the field in the edited result.

'negative-status-character-string': Specify the character string that immediately follows the edited field when the field is negative in value. Up to 31 characters, enclosed in apostrophes, can be specified as the negative status character string.

POSSTS

Specifies the character string that immediately follows the body of the edited result if the field is positive or zero. If the field is negative, blanks are substituted for the length of the string, unless a value for NEGSTS is also specified.

***NONE:** No character string is specified; blanks are used to the right of the field in the edited result.

'positive-status-character-string': Specify the character string that immediately follows the edited field when the field is positive in value. Up to 31 characters, enclosed in apostrophes, can be specified as the positive status character string.

LFTCNS

Specifies the character string constant that always appears as the farthest left portion of the edited result.

***NONE:** No constant appears on the left side of edited fields.

'left-constant': Specify the character string that always appears on the left side of an edited field. Up to 31 characters, enclosed in apostrophes, can be specified.

RGTCNS

Specifies the character string constant that always appears as the farthest right portion of the edited result.

***NONE:** No constant appears on the right side of edited fields.

'right-constant': Specify the character string that always appears on the right side of an edited field. Up to 31 characters, enclosed in apostrophes, can be specified.

AUT

Specifies the authority given to users who do not have specific authority to the edit description, who are not on an authorization list, and whose user group has no specific authority to the edit description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational 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 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 edit description.

***USE:** The user can perform basic operations on the edit description, such as running a program or reading a file. The user cannot change the edit description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the edit description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the edit description. More information on this parameter is in Commonly used parameters.

***BLANK:** No text is specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTEDTD

The examples assume the following:

FIELD A

Six digits (four integer and two decimal positions) with a value of 001234

FIELD B

Same as FIELD A but with a negative value (-001234)

FIELD C

Same as FIELD A but with a zero value (000000)

DATE Six digits (0 decimal positions) with a value of 091878

The character is used to represent blank spaces.

Example 1

```
CRTEDTD  EDTD(5)
INTMASK('  ,  ,  0')
FRACMASK('  ')
NEGSTS('DB  ') POSSTS('CREDIT')
LFTCNS('$') RGTCNS('**')
```

FIELD A

Logical mask is '\$, 0. DB **' for a negative value or '\$, 0. CREDIT **' for a positive value

Edited result is \$ 12.34CREDIT **

FIELD B

Same logical mask

Edited result is \$ 12.34DB **

FIELD C

Same logical mask

Edited result is \$.00CREDIT ** or, if ZEROBAL(*NO) had been specified,
\$ CREDIT **

Example 2

```
CRTEDTD  EDTD(6)
INTMASK('  .0 ') DECPNT('  ')
FRACMASK('  ') CURSYM('DM') NEGSTS('- **')
```


FIELD A

Logical mask is ' . 0 , - **' with floating DM

Edited result is DM12,34

FIELD B

Same logical mask

Edited result is DM12,34- **

FIELD C

Same logical mask

Edited result is DM0,00 or, if ZEROBAL(*NO) had been specified,

Example 3

```
CRTEDTD EDTD(7)
INTMASK('0 MONTH DAY YEAR')
LFTCNS('DATE IS ')
```

DATE Logical mask is equal to the INTMASK parameter value

Edited result is DATE IS 9MONTH18DAY 78YEAR'

Example 4

```
CRTEDTD EDTD(9) +
INTMASK(' , 0') DECPNT('.')
FRACMASK(' ') FILLCHAR('*') NEGSTS(' ERROR **')
```

FIELD A

Logical mask is ' , 0. ' or ' , 0. ERROR **' (Both use the * as the fill character)

Edited result is ***12.34

FIELD B

Same logical mask

Edited result is ***12.34 ERROR **

FIELD C

Same logical mask

Edited result is *****.00 or, if ZEROBAL(*NO) had been specified, *****

Additional Considerations**Editing Rules**

- The field to be edited is aligned with respect to the two portions of the edit mask (integer and fraction).
- As a result of the number of integer digits in the field to be edited, the integer mask INTMASK is truncated on the left side immediately before the farthest left digit replace character that can be used. If a leading zero occurs in the truncated portion of the integer mask, no zero suppression occurs.
- The separator character used as the decimal point (DECPNT) immediately follows the integer mask.
- The fraction mask (FRACMASK) immediately follows the separator character (or the integer mask if DECPNT(*NONE) is specified). As a result of the number of decimal positions in the field to be edited, the fraction mask is truncated on the right side immediately following the farthest right digit replace character that could be used.
- The width of the edited result can be calculated as follows:

(length of LFTCNS) + (length of CURSYM) +
(length of truncated INTMASK) +
(1 (or 0 if DECPNT equals *NONE)) +
(length of truncated FRACMASK) +
(length of NEGSTS or POSSSTS) +
(length of RGCNS) = width of edited result

- If either the integer mask or the fraction mask does not contain enough digit replacement characters to include the digits that can be contained in the respective portions of the field, editing of the field is diagnosed and ignored, and an error message is sent to the user (or program).
- Changing the edit description has no effect on previously created file formats. These file formats must be recreated if the new edit mask is desired.

Error messages for CRTEDTD

*ESCAPE Messages

CPF9805

Object &2 in library &3 destroyed.

CRTFTR (Create Filter) Command Description

CRTFTR Command syntax diagram

Purpose

The Create Filter (CRTFTR) command creates a filter object of the specified type. Filters contain selection entries and action entries. A filter allows the user to categorize data into groups and specify special actions to be applied to each group. The typical user is a system programmer or operator responsible for system management.

Required Parameters

FILTER

Specifies the qualified name of the filter that is created.

The possible library values are:

***CURLIB:** The current library 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 created.

filter-name: Specify the name of the filter that is to be created.

TYPE Specifies the type of filter being created. The type of filter determines which applications can use the filter and the type of entries that can be placed in the filter.

***ALR:** The filter is an alert filter. The OS/400 Alert Manager can use the filter on alerts that it receives or generates.

***PRB:** The filter is a problem filter. The OS/400 Problem Manager uses the filter on problem entries that are created, changed, or deleted.

Optional Parameters

AUT Specifies the authority given to users who do not have specific authority to the filter, who are not on an authorization list, and whose user group has no specific authority to the filter.

***LIBCRTAUT:** The public authority for the filter is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the filter). The public authority is determined when the filter is created. If the CRTAUT value for the library changes after the filter is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the filter.

***USE:** The user can perform basic operations on the filter, such as running a program or reading a file. The user cannot change the filter. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the filter.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the filter. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTFTR

```
CRTFTR FILTER(MYLIB/MYFILTER) TYPE(*ALR)
      AUT(*CHANGE) TEXT('My filter')
```

This command creates an alert filter called MYFILTER in the library MYLIB. The type is *ALR and the public has *CHANGE authority to the filter, described as 'My filter'.

Error messages for CRTFTR

*ESCAPE Messages

CPF2108

Object &1 type *&3 not added to library &2.

CPF2112

Object &1 in &2 type *&3 already exists.

CPF2113

Cannot allocate library &1.

CPF2151

Operation failed for &2 in &1 type *&3.

CPF2182

Not authorized to library &1.

CPF2283

Authorization list &1 does not exist.

CRTFLR (Create Folder) Command Description

CRTFLR Command syntax diagram

Purpose

The Create Folder (CRTFLR) command creates folders. Folders are used to organize documents and other folders.

Restriction: If the folder is being created and put into an existing folder, *CHANGE authority for the existing folder is required.

Required Parameter

FLR Specifies the name (ranging from 1 to 12 characters, including an optional extension) of the folder being created. If no extension is included, a folder name can have up to 8 characters. If an extension is included, the extension must start with a period and can have 1, 2, or 3 additional characters. An extension in the folder name allows the user to identify the folder by using specific information that can help the user do a selective listing of folders on the system.

The following characters are not allowed in folder names: /, *, and ?.

Optional Parameters

INFLR Specifies the folder that contains the folder being created.

***NONE:** The folder is not created into another folder. This folder is considered a first-level folder.

folder-name: Specify the name (ranging from 1 through 63 characters) of the folder in which the newly created folder is contained.

Note:

Because folders can reside within other folders, and because any given folder name is unique only within its containing folder, it may be necessary to link several folder names together to identify a folder. This is commonly called the path to an object within a folder. When more than one folder name is used to indicate the path to a folder:

- Each folder name is separated by a forward slash (/); backward slashes are not allowed.
- The complete folder name cannot exceed 63 characters in length.

The syntax of a folder name using multiple names is as follows:

folder-1.ext/folder-2.ext/folder-3.ext

The first folder name (folder-1) is known as a first-level folder because it contains the other folders that follow. The second folder name is the second-level folder, and so on.

Examples of valid folder paths:

FOLDER1 (one folder without
 an extension)
F1.EXT/F2.EXT (a folder within a folder)

Examples of invalid folder paths:

F1///F2 ('null' folders
 not allowed)
/F1/F2 (leading slash
 not allowed)
F1/NAMETOOBIG/F3 (invalid folder
 name in path)

AUT Specifies the authority given to users who do not have specific authority to the folder, who are not on an authorization list, and whose user group has no specific authority to the folder. More information on this parameter is in Commonly used parameters.

***INFLR:** The created folder is given the same authority as the folder in which it is included. If **INFLR(*NONE)** is specified, the authority is ***EXCLUDE**.

***EXCLUDE:** The user cannot access the folder.

***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 also can change ownership of the folder.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***USE:** The user can perform basic operations on the folder, such as running a program or reading a file. The user cannot change the folder. ***USE** authority provides object operational authority, read authority, and execute authority.

authorization-list-name: Specify the name of the authorization list. The public authority is set to ***AUTL**, and the authorization list is attached to the created folder.

ASP Specifies the ID of the auxiliary storage pool (ASP) in which to create the folder. This parameter can be specified only when **INFLR(*NONE)** is specified (when you are creating a first level folder).

***INFLR:** The folder is created in the ASP of its parent folder. When INFLR(*NONE) is specified, this is the system ASP.

ASP-ID: Specify the identifier (ID) of the ASP in which to create the folder. Valid values are the numbers 1 through 16, which must designate an ASP that is configured on the system. For information on configuring an ASP, see the Backup, Recovery, and Availability topic in the Information Center.

TEXT Specifies the text that briefly describes the folder object. More information on this parameter is in Commonly used parameters.

***FLR:** The text is the same as the folder name specified in the FLR parameter.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

CMDCHRID

Specifies the character identifier (graphic character set and code page) for data being specified as parameter values on this command. This character identifier (CHRID) is related to the display device used to specify the command. More information about CHRID processing is in the

Application Display Programming  book.

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

***DEVDD:** The system determines the graphic character set and code page values for the command parameter from the display device description where the command is entered. This option is valid only when specified from an interactive job. If this value is specified in an interactive CL program or a batch job, an error message is sent.

Element 1: Character Set

graphic-character-set: Specify the graphic character set of the value supplied in the TEXT parameter. Valid values range from 1 through 999.

Element 2: Code Page

code-page: Specify the code page value used to create the command parameters. Valid values range from 1 through 999.

Examples for CRTFLR

Example 1

```
CRTFLR  FLR(QTR1)  INFLR('PAYROLL/1987')
        AUT(*CHANGE) TEXT('first quarter payroll')
```

This command creates the folder QTR1 in folder PAYROLL/1987. The public is granted *CHANGE authority to the folder, which allows adding a document to the folder, changing the folder description, or showing the contents of the folder. Folder 1987 is in the PAYROLL folder, which is a first-level folder.

Example 2

```
CRTFLR  FLR(MANFCTNG) INFLR(*NONE)
        ASP(2) AUT(*USE) TEXT('Manufacturing')
```

This command creates the folder MANFCTNG as a first level folder in the ASP 2, which has been properly configured on the system. The public is granted *USE authority to the folder, which allows you to show the description or the contents of the folder.

Error messages for CRTFLR

*ESCAPE Messages

CRTFNTRSC (Create Font Resources) Command Description

CRTFNTRSC Command syntax diagram

Purpose

The Create Font Resources (CRTFNTRSC) command creates a font resource object from a physical file. The physical file contains the font resource information. The font resource information, can, for example, come from an S/370 host system and be in the Systems Application Architecture* (SAA) format. Depending on the type of information processed by the CRTFNTRSC command, the results are either a font character set, a code page, or a coded font.

Required Parameters

FNTRSC

Specifies the qualified name of the font resource being created.

The name of the font resource can be qualified by one of the following library values:

***CURLIB:** The font resource is created in the current library for the job. 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 font resource is created.

font-resource-name: Specify the name of the font resource being created.

FILE Specifies the qualified name of the database file in which the font resource data resides.

The name of the database 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.

file-name: Specify the name of the file to create the database file.

Optional Parameters

MBR Specifies the name of the file member used to create the font resource.

***FNTRSC:** The name of the file member that contains the input data is the same as the font resource being created.

member-name: Specify the name of the file member that contains the font resource.

REPLACE

Specifies whether the page definition is replaced.

***YES:** The page definition is replaced.

***NO:** No replacement occurs.

AUT Specifies the authority given to users who do not have specific authority to the font resources, who are not on an authorization list, and whose user group has no specific authority to the font resources.

***LIBCRTAUT:** The public authority for the font resources is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the font resources). The public authority is determined when the font resources is created. If the CRTAUT value for the library changes after the font resources is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the font resources.

***USE:** The user can perform basic operations on the font resources, such as running a program or reading a file. The user cannot change the font resources. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the font resources.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the program and its function. More information on this parameter is in Commonly used parameters.

***MBRTXT:** The text is taken from the file member used to create the font resource. Text can be added or changed for a database source member by using either the Add Physical File Member (ADDPFM) command or the Change Physical File Member (CHGPFM) command. If the source file is an inline file or a device file, the text is blank.

***BLANK:** No text is specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTFNTRSC

```
CRTFNTRSC FNTRSC(MYLIB/GOTHIC12) FILE(*LIBL/FONTRSCS)
  MBR(*FNTRSC) AUT(*USE) TEXT('Gothic Font 12 Pitch')
```

This command creates font resource GOTHIC12 in MYLIB. Source file FONTRSCS, in the user's library list, with member GOTHIC12 is used as input. Specifying *USE for the AUT parameter allows other users to access GOTHIC12, but not to change it. The text describes the font resource.

Error messages for CRTFNTRSC

*ESCAPE Messages

CPF2283

Authorization list &1 does not exist.

CPF8056

File &1 in &2 not a physical file.

CPF88C1

Printer resource type &1 &2 was not created in library &3.

CPF9809

Library &1 cannot be accessed.

CPF9810

Library &1 not found.

CPF9812

File &1 in library &2 not found.

CPF9822

Not authorized to file &1 in library &2.

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.

CPF9870

Object &2 type *&5 already exists in library &3.

CRTFNTTBL (Create Font Table) Command Description

CRTFNTTBL Command syntax diagram

Purpose


The Create Font Table (CRTFNTTBL) command allows the user to create a font mapping table to be used by PSF/400. These tables allow the user to change/add/remove entries in a font table 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 print resident font substitution mapping

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 print 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 Appendix D in the Printer Device Programming  book for more information on font mapping tables.

Restriction: The PSF/400 feature is required to use this command.

Required Parameter

FNTTBL

Specifies the name of the font table to be created. For the first four types of tables listed above, only one of the font mapping types can be created on the system. When one of these tables are created, it will have a system supplied name and will be created in library QUSRSYS. The system supplied names for the first four tables are:

***PHFCS**
QPHFCS

***PHCP**
QPHCP

***HPFCS**
QHPFCS

***HPCP**
QHPCP

For the fifth type of font table (printer resident to printer resident font substitution table), the name of the font table must be specified. Multiple printer resident to printer resident font substitution tables can be created on the system.

To use a printer resident to printer resident font substitution table with a particular 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.

***PHFCS:** The printer resident to host resident font character set mapping table is created. When this table is created, it will be named QPHFCS and will be created in library QUSRSYS.

This table would be used when your application (like Office Vision/400, DDS, etc) references printer resident fonts and the printer (3827, 3825, 3820, 3900 Model 1, etc) does not support resident fonts. PSF/400 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 created. When this table is created, it will be named QPHCP and will be created in library QUSRSYS.

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/400.

***HPFCS:** The host resident to printer resident font character set mapping table is created. When this table is created, it will be named QHPFCS and will be created in library QUSRSYS.

This table is used when your application references host resident fonts (font character sets and code pages) and the printer (4224, 4234, 4230, 64XX, etc) does not support downloading of host resident fonts. PSF/400 must map the references from host resident fonts to printer resident fonts.

***HPCP:** The host resident to printer resident code page mapping table is created. When this table is created, it will be named QHPCP and will be created in library QUSRSYS.

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 down loaded to the printer by PSF/400.

The name of the font table must be specified when a printer resident to printer resident font substitution table is created. This printer resident font substitution table should be used when all three of the following conditions exit.

- You are printing to a PSF/400 attached printer
- Your application specifies a printer resident font which is not supported by the printer you are using.
- 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/400 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.

The name of the printer resident to printer resident font substitution table can be qualified by one of the following library values:

***CURLIB:** The current library is used to store the font table. 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 you want to store the font table.

font-table-name: Specify the name of the printer resident to printer resident font substitution table to be created.

Optional Parameters

AUT Specifies the authority you are giving to users who do not have specific authority to the object, who are not on an authorization list, and whose group profile has no specific authority to the object.

The possible values are:

***LIBCRTAUT:** The system determines the authority for the object by using the value specified on the Create authority prompt (CRTAUT parameter) on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified on the Create authority prompt (CRTAUT parameter) is changed, the new value will not affect any existing objects.

***CHANGE:** Change authority allows the user to change and perform basic functions on the object. Change authority provides object operational authority and all data authorities.

***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 change ownership of the object.

***USE:** Use authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user can not access the object.

authorization-list-name: Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

TEXT ***BLANK**: No text is specified.

'text description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTFNTTBL

```
CRTFNTTBL FNTTBL(*PHFCS)
  TEXT('Printer to Host Font Mapping Table')
```

This command creates a Printer to Host Font Mapping Table. The table will be named QPHFCS and created into library QUSRSYS. The table is created with no entries. Entries are added or changed with the ADDFNTTBLE and CHGFNTTBLE commands.

Error messages for CRTFNTTBL

*ESCAPE Messages

CPF2283

Authorization list &1 does not exist.

PQT0121

Font table &1 not created in library &2.

CPF9810

Library &1 not found.

CPF9820

Not authorized to use library &1.

CPF9845

Error occurred while opening file &1.

CRTFORMDF (Create Form Definition) Command Description

CRTFORMDF Command syntax diagram

Purpose

The Create Form Definition (CRTFORMDF) command creates a form definition from a physical file. The physical file contains the form definition information. The form definition information, can, for example, come from a S/370* host system and be in the Systems Application Architecture (SAA) format.

Restriction: If networking spooled files to a System/370* system, the first two characters of the form definition name must be 'F1'.

Required Parameters

FORMDF

Specifies the qualified name of the form definition being created.

The name of the form definition can be qualified by one of the following library values:

***CURLIB**: The form definition is created in the current library for the job. 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 form definition is created.

form-definition-name: Specify the name of the form definition being created.

FILE Specifies the qualified name of the file being used to create the database file.

The name of the 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.

file-name: Specify the name of the file being used to create the database file.

Optional Parameters

MBR Specifies the name of the file member used to create the database file.

***FORMDF**: The name of the file member that contains the input data is the same as the database file member being created.

member-name: Specify the name of the file member that contains the database file.

REPLACE

Specifies whether the page definition is replaced.

***YES**: The page definition is replaced.

***NO**: No replacement occurs.

AUT Specifies the authority given to users who do not have specific authority to the form definition, who are not on an authorization list, and whose user group has no specific authority to the form definition.

***LIBCRTAUT**: The public authority for the form definition is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the form definition). The public authority is determined when the form definition is created. If the CRTAUT value for the library changes after the form definition is created, the new value does not affect any existing objects.

***CHANGE**: The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the form definition.

***USE**: The user can perform basic operations on the form definition, such as running a program or reading a file. The user cannot change the form definition. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE**: The user cannot access the form definition.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the program and its function. More information on this parameter is in Commonly used parameters.

***MBRTXT:** The text is taken from the source file member being used to create the RPG program. You can add or change text for a database source member by using either the Add Physical File Member (ADDPFM) command or Change Physical File Member (CHGPFM) command. If the source file is an inline file or a device file, the text is blank.

***BLANK:** No text is specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTFORMDF

```
CRTFORMDF FORMDF(*CURLIB/FORMDF1) FILE(*CURLIB/FORMDF)
  MBR(F1A01238) AUT(*EXCLUDE)
  TEXT('Default form definition for AFP printers')
```

This command creates form definition FORMDF1 in the current library, or in the QGPL library if there is no current library. Input is taken from source file FORMDF with member F1A01238, in the current library. Specifying *EXCLUDE for authority restricts the usage of the object to the owner. The text describes what the form definition represents.

Error messages for CRTFORMDF

*ESCAPE Messages

CPF2283

Authorization list &1 does not exist.

CPF8056

File &1 in &2 not a physical file.

CPF88C1

Printer resource type &1 &2 was not created in library &3.

CPF9809

Library &1 cannot be accessed.

CPF9810

Library &1 not found.

CPF9812

File &1 in library &2 not found.

CPF9822

Not authorized to file &1 in library &2.

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.

CPF9870

Object &2 type *&5 already exists in library &3.

CRTFCNARA (Create Functional Area) Command Description

Note: To use this command, you must have the 5722-PT1 (Performance Tools for iSeries) licensed program installed.

CRTFCNARA Command syntax diagram

Purpose

The Create Functional Area (CRTFCNARA) command allows the user to create functional areas on the system. Functional areas are used by Performance Tools for reports and graphics. A functional area is a predefined list of job names or user names that are to be included in a report or graph.

Required Parameter

FCNARA

Specifies the name of the functional area to be created or changed. Enclose the name in apostrophes if it contains any spaces between characters.

Optional Parameters

LIB Specifies the library where the functional area is located.

QPFRDATA: The functional area is located in the IBM-supplied performance data library, QPFRDATA.

library-name: Specify the name of the library where the functional area is located.

TEXT Specifies text that briefly describes the functional area. More information on this parameter is in Commonly used parameters.

***BLANK:** No text is specified.

'description': Specify no more than 30 characters of text, enclosed in apostrophes.

JOB Specifies a list of jobs to include in a functional area. A job identifier is either the special value *NONE or a qualified name with up to two elements, for example:

*NONE
job-name
user-name/job-name

*N may be used in place of an element that follows the values being specified. For example, USER1/*N specifies the user name USER1, regardless of the job name. Without specifying *N, USER1 would have been interpreted as the job name, not the user name.

***NONE:** An empty functional area is created.

job-name: Specify the name of the jobs to include in the functional area. It can be either a specific or generic name.

user-name: Specify the name of the user of the jobs to include in the functional area. It can be either a specific or generic name.

Examples for CRTFCNARA

Example 1: Creating a Functional Area in the Default Library

```
CRTFCNARA FCNARA(PERSONNEL)
JOB(MIKE/*N ROSS/*N QPFR*)
```

This command creates the functional area PERSONNEL with three entries:

- The user MIKE
- The user ROSS
- Any job beginning with QPFR

The functional area is created in the QPFRDATA library.

Example 2: Creating a Functional Area in a Specified Library

```
CRTFCNARA FCNARA('Performance Tools')
LIB(RPFT) JOB(TODD/*N MARTY/*N DEB/QPFRMON)
```

This command creates the functional area 'Performance Tools' with three entries:

- The user TODD
- The user MARTY
- Any QPFRMON job submitted by DEB

The functional area is created in the RPFT library.

Error messages for CRTFCNARA

*ESCAPE Messages

PFR9063

Cannot create functional area &2.

CRTGPHFMT (Create Graph Format) Command Description

Note: To use this command, you must have the 5722-PT1 (Performance Tools for iSeries) licensed program installed.

CRTGPHFMT Command syntax diagram

Purpose

The Create Graph Format (CRTGPHFMT) command creates a graph format used to display performance and historical graphs that are created from performance data members.

Required Parameter

GPHFMT

Specifies the graph format to be created.

The possible library values are:

- **QPFRDATA:** The graph format is located in the IBM-supplied performance data library, QPFRDATA.
- *library-name:* Specify the name of the library where the graph format is located.

format-name: Specify the name of the graph format to be created.

Optional Parameters

TEXT Specifies the user-defined text that briefly describes the graph format or graph package.

***BLANK:** The text description for the graph format or graph package is left blank.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

TITLE Specifies the title for the graph.

***BLANK:** The title for the graph is left blank.

***MBRTEXT:** The text of the database member used in creating the graph with this format is used as the title.

'graph-title': Specify a title of no more than 50 characters for the graph produced using this format. Enclose the user-defined title in apostrophes.

SUBTITLE

Specifies the subtitle for the graph.

***BLANK:** The subtitle for the graph is left blank.

***MBRTEXT:** The text of the database member used in creating the graph with this format is used as the subtitle.

'graph-subtitle': Specify a subtitle of no more than 50 characters for the graph produced using this format. Enclose the user-defined subtitle in apostrophes.

GPHTYPE

Specifies the type of graph to produce.

***SURFACE:** The graph is a surface graph.

***LINE:** The graph is a line graph.

***CBAR:** The graph is a composite bar graph.

***FBAR:** The graph is a floating bar graph.

***SCATTER:** The graph is a scatter diagram.

DATATYPE

Specifies the type of data to include on the graph.

***ALL:** The value puts all of the jobs into one group for graphing.

***FCNARA:** This value puts jobs into each of the functional areas that are to be graphed. Functional areas must be unique over the data that is graphed. For example, if a job exists in more than one of the functional areas selected for the graph, an error message is issued that indicates that the job exists in more than one functional area. In addition, you cannot use functional areas to graph historical data.

***JOBTYPE:** This value includes individual job types, such as interactive, and conglomerate types, such as *ALLINTER (all interactive), *ALLBATCH (all batch), and *ALLSYSTEM (all system). All interactive refers to a job with a job type of I and includes interactive, iSeries Access, System/36, MRT, and display station pass-through.

***PRIORITY:** This value puts jobs into priority ranges. For example, the range 10-20 includes all jobs that have priorities between 10 and 20, inclusive.

***IOP:** This value allows you to graph maximum and average utilization lines for the particular type of input/output processor.

If the user specifies DATATYPE(*IOP), one of the following combinations must be specified:

- YAXIS(*CMNIOP) and XAXIS(*TIME)
- YAXIS(*DSKIOP) and XAXIS(*TIME)
- YAXIS(*LWSIOP) and XAXIS(*TIME)
- YAXIS(*MFCIOP) and XAXIS(*TIME)
- YAXIS(*MFDIOP) and XAXIS(*TIME)

***DISK:** This value allows you to graph maximum and average utilization lines for the disk arms. It also allows maximum and average lines for the percentage of disk occupied.

If the user specifies DATATYPE(*DISK), then one of the following combinations must be specified:

- YAXIS(*DSKARM) and XAXIS(*TIME)
- YAXIS(*PCTDSKOCC) and XAXIS(*TIME)

***CMNLINE:** This value allows you to graph individual communications line use or the maximum use of all communications lines.

This value is valid only if YAXIS(*CMNLINE) and XAXIS(*TIME) are specified.

AREAFILL

Specifies whether areas on the graph are filled in.

***NO:** The areas on the graph are not filled in.

***YES:** The areas on the graph are filled in.

REFLINE

Specifies where to place a reference line on the graph. The reference line is placed on the Y-axis. The line is parallel to the X-axis.

***NONE:** No reference line is placed on the graph.

reference-line-number: Specify the number on the Y-axis on which the reference line is placed.

XAXIS Specifies the list of characteristics that are used for creating the X-axis on the graph.

Element 1: X-axis Variable

***TIME:** Time is mapped along the X-axis.

***CPU:** Use of the CPU is mapped along the X-axis.

***TNS:** The number of transactions per hour is mapped along the X-axis.

***NBRTNS:** The total number of transactions is mapped along the X-axis.

***RSP:** Response time is mapped along the X-axis.

***SYNCIO:** Synchronous disk I/O per second is mapped along the X-axis.

***NBRSYNC:** The total number of synchronous disk I/O operations is mapped along the X-axis.

***ASYNCIO:** Asynchronous disk I/O per second is mapped along the X-axis.

***NBRASYNC:** The total number of asynchronous disk I/O operations is mapped along the X-axis.

***TOTDSKIO:** Total disk I/O per second is mapped along the X-axis.

***NBRDSKIO:** The total number of disk I/O operations is mapped along the X-axis.

Element 2: X-axis Title

***DFT:** The default title is used. This is the value specified for the X-axis variable.

***BLANK:** The title for the X-axis is left blank.

'x-axis-title': Specify a title of no more than 30 characters for the X-axis. Enclose the title in apostrophes.

Element 3: Starting and Ending Range for X-axis

***AUTO:** The X-axis range is automatically calculated. This value must be specified if *TIME is specified for the X-axis variable.

starting-number: Specify the starting number for the range on the X-axis. This value is valid only if an ending number is also specified.

ending-number: Specify the ending number for the range on the X-axis. This value is valid only if a starting number is also specified.

YAXIS Specifies the list of characteristics that are used for creating the Y-axis on the graph.

Element 1: Y-axis Variable

***CPU:** Use of the CPU is mapped along the Y-axis.

***TNS:** The number of transactions per hour is mapped along the Y-axis.

***NBRTRNS:** The total number of transactions is mapped along the Y-axis.

***RSP:** Response time is mapped along the Y-axis.

***SYNCIO:** Synchronous disk I/O per second is mapped along the Y-axis.

***NBRSYNC:** The total number of synchronous disk I/O operations is mapped along the Y-axis.

***ASYNCIO:** Asynchronous disk I/O per second is mapped along the Y-axis.

***NBRASYNC:** The total number of asynchronous disk I/O operations is mapped along the Y-axis.

***TOTDSKIO:** Total disk I/O per second is mapped along the Y-axis.

***NBRDSKIO:** The total number of disk I/O operations is mapped along the X-axis.

***CMNIOP:** Use of the communications input/output processor (IOP) is mapped along the Y-axis. If YAXIS(*CMNIOP) is specified, XAXIS(*TIME) must be specified.

***DSKIOP:** Use of the disk IOP is mapped along the Y-axis. If YAXIS(*DSKIOP) is specified, XAXIS(*TIME) must be specified.

***LWSIOP:** Use of the local work station IOP is mapped along the Y-axis. If YAXIS(*LWSIOP) is specified, XAXIS(*TIME) must be specified.

***MFCIOP:** Use of the multifunction IOP for communications is mapped along the Y-axis. If YAXIS(*MFCIOP) is specified, XAXIS(*TIME) must be specified.

***MFDIOP:** Use of the multifunction IOP for disks is mapped along the Y-axis. If YAXIS(*MFDIOP) is specified, XAXIS(*TIME) must be specified.

***DSKARM:** Use of the disk arm is mapped along the Y-axis. IF YAXIS(*DSKARM) is specified, XAXIS(*TIME) must be specified.

***PCTDSKOCC:** The percentage of information occupying the disk is mapped along the Y-axis. If YAXIS(*PCTDSKOCC) is specified, XAXIS(*TIME) must be specified.

***CMNLIN:** Use of communications lines is mapped along the Y-axis. If YAXIS(*CMNLIN) is specified, XAXIS(*TIME) must be specified.

***LGLDBIO:** The total number of logical database I/O operations is mapped along the Y-axis.

Element 2: Y-axis Title

***DFT:** The default title is used. This is the value specified for the Y-axis variable.

***BLANK:** The title for the Y-axis is left blank.

'y-axis-title': Specify a title of no more than 30 characters for the Y-axis. Enclose the title in apostrophes.

Element 3: Starting and Ending Range for Y-axis

***AUTO:** The Y-axis range is automatically calculated.

starting-number: Specify the starting number for the range on the Y-axis. If you specify a starting number, you must also specify an ending number.

ending-number: Specify the ending number for the range on the Y-axis. If you specify an ending number, you must also specify a starting number.

FCNARA

Specifies the list of characteristics to be used for each functional area on the graph. The FCNARA parameter is valid only when DATATYPE(*FCNARA) is specified. When DATATYPE(*FCNARA) is specified, at least 1 but not more than 16 functional area entries must be specified.

Element 1: Name of Functional Area

***OTHER:** All jobs that do not belong in one of the functional areas specified on the FCNARA parameter are grouped together.

functional-area-name: Specify the name of the functional area.

Element 2: Functional Area Legend Description

***DFT:** The default legend description is used. This is the value or name specified for the functional area name.

***BLANK:** The legend description for the functional area is left blank.

'legend-description': Specify the legend description for the functional area. Enclose the description in apostrophes.

Element 3: Graphic Display Line Type

There are eight types of lines from which the user can choose:

- 1. Dotted
- 2. Short-dashed
- 3. Dash-dot
- 4. Double-dot
- 5. Long-dashed
- 6. Dash-dot-dot
- 7. Solid
- 8. Invisible

7: The solid line is used for the lines representing the functional area on graphic terminals.

line-type-number: Specify the number of the line type to use for lines representing the functional area on graphic terminals.

Element 4: Non-Graphic Work Station Symbol

***:** The asterisk symbol is used for graphic representation of the functional area on non-graphic terminals.

character: Specify a character to use for graphic representation of the functional area on non-graphic terminals.

JOBTYPE

Specifies the list of characteristics to be used for creating job type information on the graph. The

JOBTYPE parameter is valid only when DATATYPE(*JOBTYPE) is specified. When DATATYPE(*JOBTYPE) is specified, at least 1, but not more than 16 job type entries must be specified.

Element 1: Job Type

***ALL:** All job types are grouped together.

***ALLINTER:** All interactive job types include:

- DDM jobs
- Pass-through jobs
- iSeries Access server jobs, except those that process batch activities only.
- Interactive jobs
- System/36 environment jobs
- Multiple requester terminal jobs

***ALLBATCH:** All batch job types include:

- Batch jobs
- iSeries Access server jobs, those that process batch activities only.
- Evoke jobs
- Writer jobs
- Reader jobs
- Prestart jobs
- Autostart jobs
- Print driver jobs

***ALLSYSTEM:** All system jobs include:

- System jobs
- Subsystem monitor jobs

***ASJ:** Autostart jobs.

***BCH:** Batch jobs.

***CA4:** iSeries Access server jobs.

***DDM:** Distributed Data Management (DDM) jobs.

***EVK:** Jobs that are started by a procedure start request.

***INT:** Interactive jobs.

***MRT:** Multiple requester terminal jobs.

***PCS:** iSeries Access server jobs.

***PDJ:** Print Driver jobs.

***PJ:** Prestart jobs.

***PTH:** Pass-through jobs.

***RDR**: Reader jobs.

***S36**: System/36 environment jobs.

***SBS**: Subsystem monitor jobs.

***SYS**: System jobs.

***WTR**: Writer jobs.

***OTHER**: All job types that have not been specified on the JOBTYPED parameter are grouped together.

Element 2: Job Type Legend Description

***DFT**: The default legend description is used. This is the value specified for the job type.

***BLANK**: The legend description for the job type is left blank.

'legend-description': Specify the legend description for the job type. Enclose the description in apostrophes.

Element 3: Graphic Display Line Type

There are eight types of lines from which the user can choose:

- 1. Dotted
- 2. Short-dashed
- 3. Dash-dot
- 4. Double-dot
- 5. Long-dashed
- 6. Dash-dot-dot
- 7. Solid
- 8. Invisible

7: The solid line is used for lines representing the job type on graphic terminals.

line-type-number: Specify the number of the line type to use for lines representing the job type on graphic terminals.

Element 4: Non-Graphic Work Station Symbol

*: The asterisk symbol is used for graphic representation of the job type on non-graphic terminals.

character: Specify a character to use for graphic representation of the job type on non-graphic terminals.

PRIORITY

Specifies the characteristics to be used for creating job priority information on the graph. The PRIORITY parameter is valid only when DATATYPE(*PRIORITY) is specified. When DATATYPE(*PRIORITY) is specified, at least 1 but not more than 16 job priority entries must be specified.

Element 1: Job Priority Boundaries

***ALL:** All job priorities are grouped together.

***OTHER:** All job priorities that do not fall within the job priority boundaries specified on the PRIORITY parameter are grouped together.

lower-priority-boundary: Specify the lower job priority boundary. The user can specify a value ranging from 0 through 99.

upper-priority-boundary: Specify the upper job priority boundary. The user can specify a value ranging from 0 through 99. The upper boundary value must be greater than or equal to the lower boundary value.

Element 2: Job Priority Legend Description

***DFT:** The default legend description is used. This is the value or priority boundaries specified for the job priority boundaries.

***BLANK:** The legend description for the job priority is left blank.

'legend-description': Specify the legend description for the job priority. Enclose the description in apostrophes.

Element 3: Graphic Display Line Type

There are eight types of lines from which the user can choose:

- 1. Dotted
- 2. Short-dashed
- 3. Dash-dot
- 4. Double-dot
- 5. Long-dashed
- 6. Dash-dot-dot
- 7. Solid
- 8. Invisible

7: The solid line is used for lines representing the job priority on graphic terminals.

line-type-number: Specify the number of the line type to use for lines representing the job priority on graphic terminals.

Element 4: Non-graphic Work Station Symbol

*: The asterisk symbol is used for graphic representation of the job priority on non-graphic terminals.

character: Specify a character to use for graphic representation of the job priority on non-graphic terminals.

IOP

Specifies the characteristics to be used for creating input/output processor (IOP) information on the graph. The IOP parameter is valid only when DATATYPE(*IOP) is specified. When DATATYPE(*IOP) is specified, at least 1 but not more than 2 IOP data entries must be specified.

Element 1: Amount of Utilization for IOP Type

***AVG:** The average utilization of the IOP type is presented on the graph.

***MAX:** The maximum utilization of the IOP type is presented on the graph.

Element 2: IOP Type Legend Description

***DFT:** The default legend description is used. This is the value specified for the amount of utilization for the IOP.

***BLANK:** The legend description for the IOP data is left blank.

'legend-description': Specify the legend description for the IOP data. Enclose the description in apostrophes.

Element 3: Graphic Display Line Type for IOP Type

There are eight types of lines from which the user can choose:

- 1. Dotted
- 2. Short-dashed
- 3. Dash-dot
- 4. Double-dot
- 5. Long-dashed
- 6. Dash-dot-dot
- 7. Solid
- 8. Invisible

7: The solid line is used for lines representing the IOP type on graphic terminals.

line-type-number: Specify the number of the line type to use for lines representing the IOP type on graphic terminals.

Element 4: Non-graphic Work Station Symbol

*: The asterisk symbol is used for graphic representation of the IOP type on non-graphic terminals.

character: Specify a character to use for graphic representation of the IOP type on non-graphic terminals.

DISK Specifies the characteristics to be used for creating disk data information on the graph. The DISK parameter is valid only when DATATYPE(*DISK) is specified. When DATATYPE(*DISK) is specified, at least 1 but not more than 2 disk data entries must be specified. The types of disk data are the:

- Disk arm utilization, and
- Percent of disk space that is occupied.

Element 1: Amount of Utilization for Disk Data Type

***AVG:** The average utilization of the disk data type is presented on the graph.

***MAX:** The maximum utilization of the disk data type is presented on the graph.

Element 2: Disk Data Type Legend Description

***DFT:** The default legend description is used. This is the value specified for the amount of utilization for disk data.

***BLANK:** The legend description for the disk data type is left blank.

'legend-description': Specify the legend description for the disk data type. Enclose the description in apostrophes.

Element 3: Graphic Display Line Type

There are eight types of lines from which the user can choose:

- 1. Dotted
- 2. Short-dashed
- 3. Dash-dot
- 4. Double-dot
- 5. Long-dashed
- 6. Dash-dot-dot
- 7. Solid
- 8. Invisible

7: The solid line is used for lines representing the disk data type on graphic terminals.

line-type-number: Specify the number of the line type to use for lines representing the disk data type on graphic terminals.

Element 4: Non-graphic Work Station Symbol

*: The asterisk symbol is used for graphic representation of the disk data type on non-graphic terminals.

character: Specify a character to use for graphic representation of the disk data type on non-graphic terminals.

CMNLINE

Specifies the characteristics used for creating communications line information on the graph. This parameter is valid only if DATATYPE(*CMNLINE) is specified. If DATATYPE(*CMNLINE) is specified, at least 1 but no more than 16 communications line entries must be specified.

Element 1: Communications Line Name

*MAX: The maximum utilization of all the communications lines is presented on the graph.

communications-line-name: Specify the name of the communications line to be presented on the graph.

Element 2: Communications Line Legend Description

*DFT: The default legend description is used. This is the value or name specified for the communications line name.

*BLANK: The legend description for the communications line is left blank.

'legend-description': Specify the legend description for the communications line. Enclose the description in apostrophes.

Element 3: Graphic Display Line Type

Specify the type of line:

1. Dotted
2. Short-dashed
3. Dash-dot
4. Double-dot
5. Long-dashed
6. Dash-dot-dot
7. Solid

8. Invisible

7: The solid line is used for lines representing the communications line on graphic terminals.

line-type-number: Specify the number of the line type to use for lines representing the communications line on graphic terminals.

Element 4: Non-graphic Work Station Symbol

***:** The asterisk symbol is used for graphic representation of the communications line on non-graphic terminals.

character: Specify a character to use for graphic representation of the communications line on non-graphic terminals.

ALLDATA

Specifies the characteristics to be used for creating information on the graph for all jobs. The ALLDATA parameter is valid only when DATATYPE(*ALL) is specified.

Element 1: Legend Description

***DFT:** The default legend description of *ALL is used.

***BLANK:** The legend description for the data is left blank.

'legend-description': Specify the legend description for the data. Enclose the description in apostrophes.

Element 2: Graphic Display Line Type

There are eight types of lines from which the user can choose:

- 1. Dotted
- 2. Short-dashed
- 3. Dash-dot
- 4. Double-dot
- 5. Long-dashed
- 6. Dash-dot-dot
- 7. Solid
- 8. Invisible

7: The solid line is used for lines representing all of the job data on graphic terminals.

line-type-number: Specify the number of the line type to use for lines representing all of the job data on graphic terminals.

Element 3: Non-graphic Work Station Symbol

***:** The asterisk symbol is used for graphic representation of all of the job data on non-graphic terminals.

character: Specify a character to use for graphic representation of all of the job data on non-graphic terminals.

Example for CRTGPHFMT

```
CRTGPHFMT  GPHFMT(FORMAT1)  TITLE(*MBRTEXT)
           DATATYPE(*FCNARA)
           FCNARA((ACCOUNTING 'ACCOUNTING')
                 (SALES 'SALES' 7 #) (OFFICE 'OFFICE' 7 @))
```

This command creates a graph format named FORMAT1 in the QPFRDATA library. The member that is presented on the graph using this format supplies the title for the graph. The graph is a surface graph with no area fill nor a reference line. The jobs presented on the graph are grouped according to three functional areas:

1. ACCOUNTING
2. SALES
3. OFFICE

The functional area of accounting is represented on the graph with a solid line with the label, ACCOUNTING. If the format is displayed on a non-graphics work station, the asterisk (*) symbol is used to graphically represent the functional area of accounting. The functional areas, sales and office, are formatted in the same manner as accounting, except SALES is graphically represented with the # symbol on a non-graphics work station, and OFFICE is graphically represented with the at @ symbol on a non-graphics work station.

Error messages for CRTGPHFMT

***ESCAPE Messages**

CPF0011

Error detected by prompt override program.

PFR9001

DATATYPE(*IOP) must be specified to use IOP variable.

PFR9002

DATATYPE(*DISK) must be specified to use a disk variable.

PFR9003

An IOP variable must be specified for YAXIS.

PFR9004

Disk variable must be specified for YAXIS.

PFR9006

*TIME must be specified for XAXIS.

PFR9007

*TIME must be specified for XAXIS.

PFR9008

Graph format &2 already exists in library &1.

PFR9010

No functional area &2 exists.

PFR9014

Graph axis range specified not correct.

PFR9015

Priority boundaries specified not correct.

PFR9016

Value for FCNARA parameter must be specified.

PFR9017

Value for JOBTYP parameter must be specified.

PFR9018

Value for PRIORITY parameter must be specified.

PFR9019

Value for IOP parameter must be specified.

PFR9020

Value for DISK parameter must be specified.

PFR9021

Both axis variables cannot be the same.

PFR9040

Specify *AUTO for range with *TIME for variable.

PFR9081

Functional area name not valid.

PFR9090

DATATYPE(*CMNLINE) must be specified to use a communications line variable.

PFR9091

Communications line variable must be specified for YAXIS.

PFR9092

Value for CMNLINE parameter must be specified.

PFR9093

Graph format &3 already exists in library &2.

PFR9104

Record length for GDF file &2 not correct.

PFR9106

Too many data lines specified for scatter graph.

PFR9116

*LGLDBIO only valid when *JOBTYPE specified for DATATYPE parameter

PFR9117

*DDM must be specified for Job type parameter.

PFR9804

Library &2 not found.

CRTGPHPKG (Create Graph Package) Command Description

Note: To use this command, you must have the 5722-PT1 (Performance Tools for iSeries) licensed program installed.

CRTGPHPKG Command syntax diagram

Purpose

The Create Graph Package (CRTGPHPKG) command creates a graph package that contains one or more graph formats.

Required Parameter

GPHPKG

Specifies the graph package to create or change.

The possible library values are:

- **QPFRDATA:** The graph package is created in the IBM-supplied performance data library, QPFRDATA.
- ***LIBL:** The library list is used to locate the graph package.
- ***CURLIB:** The graph package is created in the current library for the job. 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 graph package is created.

package-name: Specify the name of the graph package.

Optional Parameters

TEXT Specifies user-defined text that briefly describes the graph format or graph package.

***BLANK:** The text description for the graph format or graph package is left blank.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

GPHFMT

Specifies the graph formats to include in the graph package.

***SELECT:** Shows a list of graph formats to select to be included in the graph package. This value is valid only in an interactive environment.

format-name: Specify the graph format to be included in the graph package. Up to 25 format names can be specified.

Examples for CRTGPHPKG

Example 1: Creating a Package that Contains Three Formats

```
CRTGPHPKG GPHPKG(EXAMPLE)
TEXT('THIS IS AN EXAMPLE')
GPHFMT(GPH1 GPH9 GPH12)
```

This command creates a graph package called EXAMPLE, which contains three formats, GPH1, GPH9, and GPH12. This package is saved in the default library, QPFRDATA.

Example 2: Creating a Package that Contains Two Formats

```
CRTGPHPKG GPHPKG(MYLIB/MYPKG)
TEXT('MY PACKAGE') GPHFMT(MYGPH1 MYGPH2)
```

This command creates a graph package called MYPKG which contains the formats of MYGPH1 and MYGPH2. MYPKG is saved in library MYLIB.

Error messages for CRTGPHPKG

*ESCAPE Messages

PFR9011

Graph package &2 already exists in library &1.

PFR9013

Graph format &2 cannot be added.

PFR9032

Too many formats selected.

CRTGSS (Create Graphics Symbol Set) Command Description

CRTGSS Command syntax diagram

Purpose

The Create Graphics Symbol Set (CRTGSS) command creates a graphics symbol set object from a physical file that contains symbol set data. Depending upon the contents of the file, the CRTGSS command creates either a vector symbol set (mode 3 graphics characters) or an image symbol set (mode 2 graphics characters).

The symbol set object can be used in a graphical data display manager (GDDM*) or presentation graphics routines (PGR) graphics application program or in a Business Graphics Utility chart as an alternative to an IBM-supplied graphics symbol set. More information on the Business Graphics Utility is in the *BGU User's Guide and Reference* book.

Restriction: A physical file used with this command must contain records with no less than 80 bytes and no more than 400 bytes, and a source file must contain no less than 92 bytes and no more than 412 bytes. The contents of the file must be in symbol set format.

Required Parameters

GSS Specifies the qualified name of the graphics symbol set being created. Graphics symbol set names cannot exceed eight characters.

The name of the graphics symbol set can be qualified by one of the following library values:

***CURLIB:** The graphics symbol set is created in the current library for the job. 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 graphics symbol set is created.

graphics-symbol-set-name: Specify the name of the graphics symbol set being created.

FILE Specifies the qualified name of the file being used to create the symbol set.

The name of the 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.

file-name: Specify the name of the file being used to create the graphics symbol set.

Optional Parameters

MBR Specifies the name of the file member being used to create the symbol set.

***GSS:** The name of the file member that contains the input data is the same as the symbol set being created.

member-name: Specify the name of the file member that contains the symbol set input data.

AUT Specifies the authority given to users who do not have specific authority to the graphics symbol set, who are not on an authorization list, and whose user group has no specific authority to the graphics symbol set. More information on this parameter is in Commonly used parameters.

***LIBCRTAUT:** The public authority for the graphics symbol set is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the graphics symbol set). The public authority is determined when the graphics symbol set is created. If the CRTAUT value for the library changes after the graphics symbol set is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the graphics symbol set.

***USE:** The user can perform basic operations on the graphics symbol set, such as running a program or reading a file. The user cannot change the graphics symbol set. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the graphics symbol set.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the symbol set. More information on this parameter is in Commonly used parameters.

***MBRTXT:** The text is taken from the file member being used to create the symbol set.

***BLANK:** No text is specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTGSS

Example 1: Creating Set With Same Name as Source File

```
CRTGSS GSS(GSSLIB/ADMVARP) FILE(GSSLIB/ADMVARP)
```

This command creates a symbol set of the same name and in the same library as the source file.

Example 2: Creating Set From Different Library

```
CRTGSS GSS(*CURLIB/VECTOR1) FILE(GSSLIB/QDATASRC)
  MBR(SCHEM) AUT(*ALL) TEXT('Schematic vector symbols')
```

This command creates a symbol set named VECTOR1 in the QGPL library from member SCHEM in file QDATASRC in library GSSLIB. The public has complete authority over the symbol set. Despite the fact that the symbol set data is stored in source physical file QDATASRC, it cannot be edited or shown by the source entry utility (SEU) because some of the contents of the symbol set data cannot be shown.


Additional Considerations

To use the System/370 symbol sets in iSeries OS/400 system Graphics, you must transport the source data from the System/370 system to the iSeries 400, and then process the CRTGSS command to convert the symbol set source data into an iSeries 400 *GSS object type.

Because System/370 symbol set source data usually has a length of 400, some communications links between the iSeries 400 and System/370 system require that the source data be deblocked into 80-byte records before being sent to the iSeries 400. Other links allow the source data to remain in 400-byte records. However, the CRTGSS command accepts source data with record lengths in the range of 80 through 400 bytes. Symbol set source data with a record length of 400 can be sent back to the System/370 system for modifications, if necessary, while 80-byte data requires blocking again before the symbol editors will accept it.

Symbol set source data can be placed into a physical file of either type *DATA or *SRC. Type *SRC data cannot be edited or browsed, and the record length of the file must be 12 bytes longer than the source data placed into it, to allow for the 12-byte sequence number fields associated with *SRC files. Therefore, the allowable record length range is 92 through 412 bytes for type *SRC files.

Once the symbol set source data is contained as a member in an iSeries 400 database file, it can be used to create a symbol set object (object type *GSS) in the CRTGSS command.

More information on the use of the CRTGSS command and the formats for vector and image symbol set database source files is in the Printer Device Programming  book.

Error messages for CRTGSS

*ESCAPE Messages

CPF8660

Symbol set &1 not created in library &2.

CRTHSTDTA (Create Historical Data) Command Description

Note: To use this command, you must have the 5722-PT1 (Performance Tools for iSeries) licensed program installed.

CRTHSTDTA Command syntax diagram

Purpose

The Create Historical Data (CRTHSTDTA) command creates and adds historical data for a member to the historical data files. Historical data is an ongoing summary of the system that reflects the members that have been summarized with this command.

Required Parameter

MBR Specifies the name of the member used to create the historical data.

Optional Parameters

LIB Specifies the library where the member is located.

The possible library values are:

- **QPFRDATA:** The member is located in the IBM-supplied performance data library, QPFRDATA.
- ***CURLIB:** The current library for the job is used to locate the member. 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 member is located.

REPLACE

Specifies whether to replace the historical data for the member if it already exists.

***NO:** The existing historical data for the member is not replaced with the new historical data.

***YES:** The existing historical data for the member is replaced with the new historical data.

JOB Specifies the job description used to submit jobs for batch processing.

The name of the job description 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.

QPFRJOB: The IBM-supplied Performance Tools job description is used.

job-description-name: Specify the name of an alternate job description.

Other Single Values

***NONE:** A batch job is not submitted; instead, processing continues interactively while the user waits. The user's work station cannot be used during this time. This is something to consider for especially long jobs.

Examples for CRTHSTDTA

Example 1: Creating Files in Default Library

```
CRTHSTDTA MBR(MONDAY)
```

This command creates files that contain historical data with the member named MONDAY.

Example 2: Creating Files in Specified Library

```
CRTHSTDTA MBR(TUESPM) LIB(MYLIB)
```

This command creates files that contain historical data with a member named TUESPM located in library MYLIB.

Error messages for CRTHSTDTA

*ESCAPE Messages

PFR9039

Historical data cannot be created for member &2.

PFR9056

Cannot copy graph format or package.

PFR9061

Cannot create historical data.

PFR9070

Cannot create historical data.

PFR9803

Cannot create historical data.



CRTIMGCLG (Create Image Catalog) Command Description

CRTIMGCLG Command syntax diagram

Purpose

The Create Image Catalog (CRTIMGCLG) command is used to create an image catalog object (*IMGCLG) in library QUSRSYS and associate the image catalog with a target directory.

An image catalog contains information about images that have been added to the image catalog using the Add Image Catalog Entry (ADDIMGCLGE) command. The image catalog contains the following information:

Directory name

The directory where the image files reside

Image file name

The name of the image file

Index number

The order of this image within the image catalog

Status

The status of the image within the virtual optical device

Text A short description of the image

Restrictions:

1. You must have *SECADM and *ALLOBJ special authorities to use this command.
2. A directory can only be associated with a single image catalog.

Required Parameters

IMGCLG

Specifies the name of the image catalog to be created.

image-catalog-name: Specify the name of the image catalog to be created.

DIR Specifies the name of the directory to be associated with this image catalog.

'directory-name': Specify the name of the directory to be associated with this image catalog.

Optional Parameters

CRTDIR

Specifies whether the directory (DIR parameter) should be created if it doesn't exist.

***NO**: The directory will not be created.

***YES**: The directory will be created.

TEXT Specifies the text that briefly describes the image catalog being created.

***BLANK**: The text description will be blank.

'text-description': Specify up to 50 characters of text for this image catalog.

AUT Specifies the authority given to users who do not have specific authority to the library, who are not on an authorization list, and whose user group has no specific authority to the image catalog.

***EXCLUDE**: The user cannot access the image catalog.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***USE:** The user can perform basic operations on the image catalog, such as displaying. The user cannot change the image catalog. *USE authority provides object operational authority, read authority, and execute authority.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove user ids.

***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 also can change ownership of the image catalog.

authorization-list-name: Specify the name of the authorization list used.

Examples for CRTIMGCLG

Example 1: Creating an Image Catalog

```
CRTIMGCLG IMGCLG(MYCLG) DIR('/MyDir')
```

This command creates image catalog **MYCLG** in library QUSRSYS and associates directory **/Mydir** with it.

Error messages for CRTIMGCLG

*ESCAPE Messages

CPFBC00

Image catalog &1 not created.

CPFBC40

Not authorized to command &1.

CPFBC41

&1 command failed.



CRTICFF (Create Intersystem Communications Function File) Command Description

CRTICFF Command syntax diagram

Purpose

The Create Intersystem Communications Function File (CRTICFF) command creates an intersystem communications function (ICF) device file used to communicate with program-to-program devices.

Required Parameter

FILE Specifies the qualified name of the file being created. If the file is used by a high-level language (HLL) program, the file name must be consistent with the naming rules of that language; otherwise, the file must be renamed in the program.

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

***CURLIB:** The ICF file is created in the current library for the job. 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 ICF file is created.

file-name: Specify the name of the file.

Optional Parameters

SRCFILE

Specifies the qualified name of the source file that contains the data description specifications (DDS) used to create the ICF file. The source file contains the specifications that describe the record formats and their fields.

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.

QDDSSRC: The source file, QDDSSRC, contains the DDS used to create the ICF file.

source-file-name: Specify the name of the source file that contains the DDS used to create the ICF file.

SRCMBR

Specifies the name of the source file member that contains the DDS for this ICF file; the member is in the source file specified in the SRCFILE parameter (or its default, QDDSSRC).

***FILE:** The member name of the source file is the same as the ICF file name specified in the FILE parameter.

source-file-member-name: Specify the name of the member in the source file that contains the DDS used to create the ICF file.

OPTION

Specifies the type of printout produced when the file is created. Up to three of the following values can be specified in any order on this parameter. If neither or both of the values in each group are specified, the underlined value will be used.

Note:

The underlined values for this parameter are *similar* to, but not *actually* default values, and therefore, cannot be changed with the CHGCMDDFT (Change Command Default) command.

Program Creation Options

***SRC** or ***SOURCE**: A printout is created of the source statements used to create the file and any 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 record format containing the error.

Source Listing Options

***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**: An expanded source printout is not created.

Second Level Message Text Options

***NOSECLVL**: The messages section of the DDS printout does not contain the second-level message text for errors found during DDS processing.

***SECLVL**: Second-level message text is included in the source listing.

GENLVL

Specifies the severity level at which the create operation fails. If errors occur that have a severity level greater than or equal to this value, the operation ends.

20: The file is not created if a DDS error message with a severity level of 20 or greater occurs.

severity-level: Specify a severity level ranging from 0 through 30. The file is not created if the severity level specified for this parameter equals 0 or is less than the severity level that occurs in the data description specifications (DDS) source. This value must be greater than or equal to value specified on the FLAG parameter.

FLAG Specifies the minimum severity level of messages to be listed in the DDS source listing.

0: The spooled file is owned by the original user profile of the job. If the job has switched to a new user profile, the original user profile is still the owner of the spooled file.

severity-level: Specify the minimum severity level of messages to be listed. Valid values range from 0 through 30. The severity level specified must be less than or equal to the severity level specified on the GENLVL parameter.

ACQPGMDEV

Specifies which program device is acquired when the file is opened.

***NONE**: The file is opened without any program device acquired. All program devices used with this file are explicitly acquired before input/output operations can be used with them.

program-device-name: Specify the name of the first program device acquired when the file is opened. The program device is defined to the file when the file is opened. The name must be specified on the PGMDEV parameter on an ADDICFDEVE, CHGICFDEVE, or OVRICFDEVE command before the file is opened.

MAXPGMDEV

Specifies the maximum number of program devices used with this ICF file. The program devices are defined using the Add Intersystem Communications Function (ICF) Device Entry (ADDICFDEVE), Change ICF Device Entry (CHGICFDEVE), or Override ICF Device Entry (OVRICFDEVE) command. This number also determines the maximum number of program devices that can be added to the ICF file by the ADDICFDEVE command.

1: Only one program device is used with this ICF file.

number-of-program-devices: Specify the maximum number of program devices used with this ICF file. Valid values range from 1 through 256.

MAXRCLEN

Specifies the maximum record length used when the file is opened.

***CALC:** The length calculated for the largest record in the file is used when the file is opened.

record-length: Specify the maximum record length (in bytes) used when the file is opened. Valid values range from 1 through 32767.

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 those resources are not allocated within the specified wait time, an error message is sent to the program. More information on this parameter is in Commonly used parameters.

Note:

An immediate allocation of the device by the device resource is required when an acquire operation is performed to the file.

***IMMED:** The program does not wait; when the file is opened, an immediate allocation of the file resources is required.

***CLS:** The job default wait time is used as the wait time for the file resources being allocated.

number-of-seconds: Specify the maximum number of seconds (ranging from 1 through 32767) the program waits for the resources being allocated.

WAITRCD

Specifies the number of seconds the program waits for the completion of a read-from-invited-device operation to a multiple device file in a high-level language program. Refer to the appropriate 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 input from all invited devices currently accessing the file. If a record is not returned from an invited device 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 specific device.


Note:

This parameter is also used to specify the time (seconds) that a CL program waits to complete a WAIT command. If a record is not returned from any of the devices that should return a record, an escape message is sent to the CL program. More information on the WAITRCD parameter is in the Receive File (RCVF), Send File (SNDF), Send/Receive File (SNDRCVF), and WAIT (Wait) command descriptions.

***NOMAX:** There is no limit on the time the system waits for the completion of the operation.

***IMMED:** The program does not wait for the read-from-invited-device operation for the completion of the file. A record must be available from an invited program device when the read-from-invited-program-device operation is performed. If a record is not already available when the read-from-invited-program-device operation is performed, a notify message is sent to the program.

number-of-seconds: Specify the maximum number of seconds, ranging from 1 through 32767, that the program waits for the completion of the read-from-invited-program-devices operation.

DTAQ Specifies the name of the data queue that receives an entry from the system when a data-available event is signaled from an invited display device. The data queue need not exist when the display file is created since the name specified on this parameter is not evaluated until the file is used. More information on the data queue function is in the CL Programming  book.

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.

***NONE:** A data queue does not receive an entry from the system.

The name of the data queue 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.

data-queue-name: Specify the name of the data queue that is to receive an entry from the system when the data-available event is signaled.

SHARE

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

More information on shared database files is in the Database Programming topic in the Information Center.

***NO:** The ODP created by the program with this attribute is not shared with other programs in the routing step. Every time a program opens the file with this attribute, a new ODP to the file is created and activated.

***YES:** The ODP created with this attribute is shared with each program in the routing step that also specifies SHARE(*YES) when it opens the file.

Note:

When SHARE(*YES) is specified and control is passed to a program, a read operation in that program retrieves the next input record. A write operation produces the next output record.

LVLCHK

Specifies whether the record format level identifiers in the program are checked against those in the device file when the file is opened. 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.

***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 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 are not checked when the file is opened.

AUT Specifies the authority given to users who do not have specific authority to the ICF file, who are not on an authorization list, and whose user group has no specific authority to the ICF file. More information on this parameter is in Commonly used parameters.

***LIBCRTAUT:** The public authority for the ICF file is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the ICF file). The public authority is determined when the ICF file is created. If the CRTAUT value for the library changes after the ICF file is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the ICF file except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the ICF file. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the ICF file.

***EXCLUDE:** The user cannot access the ICF file.

***USE:** The user can perform basic operations on the ICF file, such as running a program or reading a file. The user cannot change the ICF file. *USE authority provides object operational authority, read authority, and execute authority.

authorization-list-name: Specify the name of the authorization list used.

REPLACE

Specifies whether an existing file is replaced by the new ICF file. More information on this parameter is in Commonly used parameters.

***YES:** An existing file is replaced by the ICF file being created.

***NO:** No replacement occurs.

TEXT Specifies the text that briefly describes the ICF file. More information on this parameter is in Commonly used parameters.

***SRCMBRTXT:** The text is taken from the source member used to create the ICF file.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTICFF

```
CRTICFF FILE(QGPL/ICFTEST) SRCFILE(QGPL/QDDSSRC)
        MAXPGMDEV(5) ACQPGMDEV(DENVER)
```

This command creates the file ICFTEST in the QGPL library. The DDS source used to create the file is in member ICFTEST from file QDDSSRC in the QGPL library. Up to five program devices can be used with the file. The program device DENVER is acquired when the file is opened.

Error messages for CRTICFF

*ESCAPE Messages

CPF7302

File &1 not created in library &2.

CRTJVAPGM (Create Java Program) Command Description

CRTJVAPGM Command syntax diagram

Purpose

The Create Java Program (CRTJVAPGM) creates an iSeries 400 Java program from a Java class file, or one or more Java programs from a Java archive (JAR) file. A file is assumed to be a JAR file if the file name ends with '.jar' or '.zip'. The resulting Java program object(s) become part of the class file or JAR file object. The Java program(s) run when started by the JAVA (Run Java Program) command. The size and performance of the Java program(s) can be controlled through use of the OPTIMIZE and LICOPT parameters.

Restrictions: The file must be in one of the following file systems: QOpenSys, "root", or a user-defined file system.

Required Parameter

CLSF Specifies the class file or Java archive (JAR) file name from which to create iSeries 400 Java program(s). 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 to match the name(s) of the class file 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 a pattern for identifying JAR 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'.

Optional Parameters

CLASSPATH

Specifies the path used to locate classes for inter-JAR binding. Directories are separated by colons.

***NONE:** No additional directories or JAR files are added to the classpath for locating classes.

***ENVVAR:** The classpath is determined by the environment variable CLASSPATH.

class-path: Path used to locate classes. An example class path is '/directory1/directory2:/QIBM/UserData/Java400'.

Either CLASSPATH or JDKVER must be specified along with OPTIMIZE(40) for inter-JAR binding to occur. CLASSPATH must be *NONE when CLSF is a class file.

JDKVER

Specifies the Java Development Kit (JDK) version to add to the classpath for locating classes for inter-JAR binding.

***NONE:** No additional directories for this JDK version are added to the classpath for locating classes.

Java-Development-Kit version: The jar files and directories for this JDK version are added to the classpath for locating classes. An example JDK version is '1.2'.

Either CLASSPATH or JDKVER must be specified for inter-JAR binding to occur. JDKVER must be *NONE when CLSF is a class file.

OPTIMIZE

Specifies the optimization level of each iSeries 400 Java program attached to the class object or the JAR file object. For OPTIMIZE(*INTERPRET), the resulting Java program(s) will interpret the class file byte codes when invoked. For other optimization levels, the Java program(s) will contain machine instruction sequences that are run when the Java program(s) are invoked.

OPTIMIZE(*INTERPRET) Java programs will be smaller but will run slower than Java programs created with higher optimization levels. As you increase the optimization level beyond 10, the Java program performance will generally improve, but the time required to create the Java program will increase and you will have less ability to debug the Java program. Typically, *INTERPRET is a good option during development and early testing, because quick edit, compile turnaround, and quality debug functions are important. As the program moves toward release, the level of optimization often increases.

10: The Java program(s) created will contain a compiled version of the class file byte codes but will have only minimal additional compiler optimization. Variables can be displayed and modified while debugging.

***INTERPRET:** The Java program(s) created will not be optimized. When invoked, the Java program(s) will interpret the class file byte codes. Variables can be displayed and modified while debugging.

20: The Java program(s) will contain a compiled version of the class file byte codes and will have some additional compiler optimization performed. Variables can be displayed but not modified while debugging.

30: The Java program(s) will contain a compiled version of the class file byte codes and will have more compiler optimization performed 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 value of the variable.

40: The Java program(s) will contain a compiled version of the class file byte codes and will have more compiler optimization performed than optimization level 30. In addition, it includes optimization that disables call and instruction tracing. Optimization level 40 includes cross-class optimizations. In a small number of cases, the order in which static initializers are run for unrelated classes (not related by inheritance nor containment) may be different than outlined in the static initialization specification. In addition, it includes optimization that disables call and instruction tracing.

If your Java program fails to optimize or throws an exception at optimization level 40, use optimization level 30.

REPLACE

Specifies whether existing Java program(s) are replaced by new Java program(s).

***YES:** Forces all of the Java programs that are associated with the class file or JAR file to be re-created for your selected optimization level. For large JAR files, this could be time consuming, but it creates the highest performing code generation and uses the minimum amount of space on the disk.

***NO:** Recreates the minimum number of required Java programs that are associated with the class file or JAR file. If classes have been modified, no Java program is associated with one or

more classes. If the Java program is at a different optimization level that you had specified with the OPTIMIZE parameter, new Java programs are created.

ENBPFRCOL

Specifies whether collection of performance data is enabled.

***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.

USRPRF

Specifies whether the authority checking done while this program is running should include only the user who is running the program (*USER) or both the user who is running the program and the Java program owner (*OWNER). The owner of the Java program(s) for a class file or JAR file is the same as the owner of the class or JAR file. The profiles of the program user or both the program user and the program owner are used to control which objects can be used by the program, including the authority the program has for each object. Only the program owner or a user with QSECOFR authority can change the user profile attribute.

Integrated file system functions that the program might use, such as File.delete(), do not recognize adopted authority. Integrated file system functions only use the authority from the user who is running the program.

***USER:** The program runs under the user profile of the program's user.

***OWNER:** The user profiles of both the program's owner and the program's user are used when the program is processed. The collective sets of object authority in both user profiles are used to find and access objects during program processing. Authority from the owning user profile's group profile is not used.

USEADPAUT

Specifies whether program adopted authority from previous programs in the call stack will be used as a source of authority when this program is running.

Integrated file system functions that the program might use, such as File.delete(), do not recognize adopted authority. Integrated file system functions only use the authority from the user who is running the program.

***NO:** Program adopted authority from previous call levels is not used when this program is running. If an authorization list is specified for the QUSEADPAUT system value and the user performing CRTJVAPGM is not included in that authorization list, then the value *NO is automatically supplied for the parameter.

***YES:** Program adopted authority from previous call levels is used when this program is running.

➤ PRFDTA

Specifies whether profiling data will be enabled to be collected on the Java program(s) that are created.

***NOCOL:** Java program(s) created will not be enabled to collect profile data.

***COL:** Java program(s) created will be enabled to collect profile data. Specifying *COL will remove all applied profiling data if the Java programs(s) have profiling data applied. *COL is not supported for a .class file. <<

SUBTREE

Specifies whether subdirectories are processed when looking for files that match the name pattern specified on the CLSF parameter.

***NONE:** Only the files that match the CLSF name pattern are 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 for the CLSF parameter is processed to create Java programs for files matching the name pattern specified on the CLSF parameter.

LICOPT

Specifies one or more Licensed Internal Code compile-time optimization options.

***OPTIMIZE:** Use the set of compile-time optimization which are implicitly associated with the optimization level specified on the OPTIMIZE parameter. If OPTIMIZE(*INTERPRET) is specified, no compile-time optimization will be performed.

options-string: Use the selected licensed internal code compile-time optimization options when creating the Java program object. Certain optimization options may reduce your ability to debug the Java program that was created.

LICOPTFILE

Specifies a file containing one or more Licensed Internal Code compile-time optimization options. These options are prepended to the beginning of any options provided on the LICOPT parameter. For any options specified more than once, the last occurrence takes precedence.

The file specified must be a text file with one LICOPT per line.

***NONE:** No file will be processed.

file-name: The file name containing the Licensed Internal Code compile-time optimization options.

TGTRLS

Specifies the release of the operating system on which you intend to use the object being created. When specifying the target-release, the format VxRxMx is used to specify the release, where Vx is the version, Rx is the release, and Mx is the modification level. For example, V4R5M0 is version 4, release 5, modification level 0.

Valid values depend on the current version, release, and modification level, and they change with each new release.

***CURRENT:** The object is to be used on the release of the operating system currently running on your system. The object can also be used on a system with any subsequent release of the operating system installed.

target-release: Specify the release in the format VxRxMx. The object can be used on a system with the specified release or with any subsequent release of the operating system installed.

Valid values depend on the current version, release, and modification level, and they change with each new release. Press F4 to see a list of valid target release values.

Examples for CRTJVAPGM

Example 1: Create Interpreted Java Program

```
CRTJVAPGM CLSF('/projectA/team2/myJavaclassname.class')
          OPTIMIZE(*INTERPRET)
```

This command will create a Java program and associate it with the class file myJavaclassname. The Java program will interpret the class file byte codes when invoked via the RUNJVA (Run Java) or JAVA CL command.

Example 2: Create Optimized Java Program

```
CRTJVAPGM CLSF('/projectB/myJavaclassfile.class')
          OPTIMIZE(10)
```

This command will create a Java program and associate it with the class file myJavaclassfile. The Java program will contain compiled machine instruction sequences which will be run when the Java program is invoked via the RUNJVA (Run Java) or JAVA CL command.

Example 3: Create Java Program using inter-JAR binding

```
CRTJVAPGM CLSF('/projectB/myJavaclassfile.class')
          CLASSPATH('/projectB/myJavaclassfile.jar')
          JDKVER('1.2.2')
          OPTIMIZE(40)
```

This command will create a Java program and associate it with the Java class file myJavaclassfile.class. The Java program will contain compiled machine instruction sequences for all classes which could be located in the classpath using inter-JAR binding.

Example 4: Create Java Program Specifying a LICOPT File

```
CRTJVAPGM CLSF('/projectB/myJavaclassfile.class')
          LICOPTFILE('/projectB/mylicoptfile.txt')
```

This command will create a Java program and associate it with the class file myJavaclassfile. The command will read the Licensed Internal Code options contained in the text file mylicoptfile.txt and prepend them to the default Licensed Internal Code options.

Error messages for CRTJVAPGM

*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.

CRTJOBDB (Create Job Description) Command Description

CRTJOBDB Command syntax diagram

Purpose

The Create Job Description (CRTJOBDB) command creates a job description object that contains a specific set of job-related attributes that can be used by one or more jobs. The attributes determine how each job is run on the system. The same job description can be used by multiple jobs. The values in the job

description are usually used as the default values of the corresponding parameters in the Batch Job (BCHJOB) and Submit Job (SBMJOB) commands when their parameters are not specified.

The values in the job description can be overridden by the values specified in the BCHJOB and SBJOB commands.

Restrictions:

1. To use this command, the user must have object operational authority for the user profile specified on the USER parameter (if any); that is, the user must have the authority to start a job on behalf of that user.
2. The user must also have *ADD authority for the library where the job description is placed. To create a job description with an accounting code (ACGCDE) parameter other than *USRPRF, the user must have *USE authority to the Change Accounting Code (CHGACGCDE) command.

Required Parameter

JOB Specifies the qualified name of the job description being created.

The name of the job description can be qualified by one of the following library values:

***CURLIB:** The job description is created in the current library for the job. 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 job description is created.

job-description-name: Specify the name of the job description being created.

Optional Parameters

USER Specifies the name of the user profile associated with this job description. The names QSECOFR, QSPL, QDOC, QDBSHR, QRJE, QTSTRQS, and QDFTOWN are not valid entries for this parameter.

***RQD:** A user name is required to use the job description. For work station entries, you must enter your password when you sign 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 job entries that start automatically, or for those used by the BCHJOB command. It is valid on the SBJOB command only if USER(*CURRENT) is specified.

user-name: Specify the user name that identifies the user profile associated with batch jobs that use this job description. For interactive jobs, this is the default user name used when signing on without entering a password.

JOBQ Specifies the qualified name of the job queue on which this job is placed.

The name of the job queue 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.

QBATCH: The QBATCH job queue is the queue on which the jobs are placed.

job-queue-name: Specify the qualified name of the job queue that is associated with this job description.

If the job queue does not exist when the job description is created, a library qualifier must be specified because the name of the qualified job queue is retained in the job description.

JOBPTY

Specifies the scheduling priority for each job that uses this job description. The highest priority is 1 and the lowest priority is 9. More information on this parameter is in Commonly used parameters.

5: The scheduling priority that any job using this job description is 5.

scheduling-priority: Specify the scheduling priority for any job using this job description. Valid values range from 1 through 9.

OUTPTY

Specifies the output priority for spooled files that are produced by jobs using this job description. The highest priority is 1 and the lowest priority is 9. More information on this parameter is in Commonly used parameters.

5: The output priority for spooled files produced using this job description is 5.

output-priority: Specify the priority of spooled files produced using this job description. Valid values range from 1 through 9.

PRTTXT

Specifies up to 30 characters of text to be printed at the bottom of each page of output. More information on this parameter is in Commonly used parameters.

***SYSVAL**: The system value, QPRTTXT, is used.

***BLANK**: Text is not specified.

'print-text': Specify the character string that is printed at the bottom of each page. Up to 30 characters can be entered, enclosed in apostrophes.

ACGCDE

Specifies the accounting code used when logging system resource use for a job having this job description. To specify an accounting code other than *USRPRF, the user must have *USE authority for the Change Accounting Code (CHGACGCDE) command.

Note:

If the job is submitted by the SBMJOB command, the submitter's accounting code is used.

***USRPRF**: The accounting code for jobs using this job description is obtained from the job's user profile.

***BLANK**: An accounting code of 15 blanks is assigned to jobs that use this job description.

accounting-code: Specify the character string that is used as the accounting code for jobs that use this job description and have accounting statistics logged in the system accounting journal QSYS/QACGJRN. If less than 15 characters are entered, the string is padded on the right with blanks. Note that the character string '*USRPRF' is considered a special value, and cannot be used as an accounting code on this command.

RTGDTA

Specifies the routing data that is used with this job description to start jobs. The routing data is used to determine the routing entry in the subsystem description that identifies the program where the job runs.

QCMDI: The default routing data QCMDI is used by the IBM-supplied interactive subsystem to route the job to the IBM-supplied control language processor QCMD in the QSYS library.

***RQSDTA:** Up to the first 80 characters of the request data specified in the RQSDTA parameter are used as the routing data for the job.

'routing-data': Specify the character string, enclosed in apostrophes, that is used as the routing data for jobs that use this job description. For example, the value QCMDI is the routing data used by the IBM-supplied interactive subsystem (QINTER) to route interactive jobs to the IBM-supplied control language processor QCMD. Up to 80 characters can be entered.

RQSDTA

Specifies the request data that is placed as the last entry in the job's message queue for jobs using this job description. For example, when a CL command is supplied as request data on a Submit Job (SBMJOB) command, it becomes a message that can be read by the control language processor, QCMD (if the submitted job is routed to QCMD).

***NONE:** No request data is placed in the job's message queue.

***RTGDTA:** The routing data specified in the RTGDTA parameter is placed as the last entry in the job's message queue.

'request-data': Specify the character string that is placed as the last entry in the job's message queue as a single request. Up to 256 characters can be entered, enclosed in apostrophes. When a CL command is entered, it must be enclosed in single apostrophes, and where apostrophes would normally be used *inside* the character string, double apostrophes must be used instead.

SYNTAX

Specifies whether requests placed on the job's message queue are checked for syntax as CL commands. When syntax checking is specified, the commands are checked for syntax as they are submitted rather than 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. More information on this parameter is in Commonly used parameters.

***NOCHK:** The request data is not checked for syntax as CL commands. If the message severity is specified, it is used only when the job description is used by a job command that also has RQSDTA(*) specified and the requests are CL commands.


message-severity: Specify a value, ranging from 00 through 99, that specifies the lowest message severity that can cause running of a job to end. The request data is checked for CL command syntax; if a syntax error occurs that has severity equal to or greater than the error message severity specified here, the running of the job is suppressed.

INLLIBL

Specifies the first user portion of the library list that is used for jobs using this job description.

Note:

Duplicating libraries in the library list is not allowed.

More information on the use of library lists is in the CL Programming  book.

***SYSVAL:** The system default user library list is used for jobs that use this job description. The default user library list contains the library names that were specified in the system value QUSRLIBL at the time that a job using this job description is started.

***NONE:** The user portion of the first library list is empty; only the system portion is used.

library-name: Specify the names of one or more libraries that are in the user portion of the library list for jobs that use this job description. No more than 250 names can be specified; the libraries are searched in the same order as they are listed here.

ENDSEV

Specifies the message severity level of escape messages that can cause a batch job to end. The batch job is ended when a request in the batch input stream sends an escape message whose severity code is greater than or equal to that specified here to the request processing program. This parameter value is compared with the severity of any unmonitored escape message that occurs as a result of running a noncompiled CL command in a batch job. More information on message severity is in Commonly used parameters.

30: An escape message resulting from a request in the batch input stream whose severity is equal to or greater than 30 causes the job to end.

message-severity: Specify a value, ranging from 00 through 50, for the message severity of an escape message that results from a request in the batch input stream and that causes the job using this job description to end. Because escape messages typically go up to a severity level of 50, a value of 50 or lower must be specified for a job to end 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 end. More information on message severity is in Commonly used parameters.

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 specified in the job description associated with this job are used.

Note: If no values are specified for the LOG parameter, the values 4, 0, and *NOLIST are assumed by the system.

Element 1: Message Level

The message level specifies the type of information that is logged.

Notes:

1. 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.
2. Several system displays provide a retrieve function (the F9 key) which gets a logged command into a command line. Commands are not necessarily logged unless the logging level is set to 3 or 4. If the logging level is set to 0, 1, or 2, each command that is completed cannot be retrieved into a command line because the logging level causes the command to be removed from the job log. When each command is completed, it cannot be retrieved into a command line if the message logging level for the job causes the command to be removed from the job log.

The logging levels are described below:

- 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.
- 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.

4: A message logging level of 4 is used for jobs that use this job description.

message-level: Specify the message logging level used for jobs that use this job description.

Valid values range from 0 through 4.

Element 2: Message Severity

The severity level that is used in conjunction with the logging level to determine which error messages are logged in the job log of jobs using this job description. More information on this parameter is in Commonly used parameters.

0: A message severity level of 0 is used for jobs that use this job description.

message-severity: Specify a value, ranging from 00 through 99, that is used in conjunction with the logging level to determine which error messages are logged in the job log.

Element 3: Message Text Level

The level of message text that is written to the job log when a message is logged according to the logging level and the logging severity.

***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.

***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.

For an interactive job, the LOG parameter value on the SIGNOFF command takes precedence over the LOG parameter value specified for the job.

LOGCLPGM

Specifies whether the loggable 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 *NO is specified, the logging flag status is off and CL commands are not logged. If *YES is specified and the LOG (*JOB) value is specified in the Create CL Program (CRTCLPGM) command, all commands in the CL program that can be logged are logged to the job log.

For more information on request logging, refer to the LOG parameter in the CRTCLPGM command description.

***NO:** Commands in a CL program are not logged to the job log.

***YES:** Commands in a CL program are logged to the job log.

INQMSGRPY

Specifies the way that inquiry messages are answered for jobs that use this job description. The user 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; refer to the Add Reply List Entry (ADDRPYLE) command description for more information.

***RQD:** An answer is required for any inquiry message that occurs while a job is running under this job description.

***DFT:** The default reply to the inquiry message is sent. If no default reply is specified in the message description of the inquiry message, the system default reply, *N, is used.

***SYSRPLY:** The system reply list is checked to determine whether there is an entry for any inquiry message issued as a result of running a job under this job description. If a match occurs, the reply value in that entry is used. If no entry exists for that message, the inquiry is issued.

PRTDEV

Specifies the 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 OUTQ parameter for the printer file, job description, user profile and workstation.

***USRPRF:** The printer device name for jobs using this description is obtained from the user profile of the job at the time the job is started.

***SYSVAL:** The value specified in the system value QPRTDEV is used.

***WRKSTN:** The output queue assigned to the user's work station is used.

printer-device-name: Specify the name of the printer device that is used with this job description.

OUTQ Specifies the qualified name of the output queue.

***USRPRF:** The output queue name for jobs using this job description is obtained from the user profile of the job at the time the job is started.

***DEV:** The output queue specified on the PRTDEV parameter is used.

***WRKSTN:** The output queue assigned to the user's work station is used.

The name of the output queue 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.

output-queue-name: Specify the qualified name of the default output queue that is used with this job description.

If the output queue does not exist when the job description is created, a library qualifier must be specified because the output queue name is retained in the job description.

HOLD Specifies whether jobs using this job description are placed on the job queue in the hold condition. A job placed on the job queue in the hold condition is held until it is either released by the Release Job (RLSJOB) command or canceled by the End Job (ENDJOB) or Clear Job Queue (CLRJOBQ) command. If the job is not run before the next power-down of the system, the job queue can be cleared (and the job ended) when the next initial program load (IPL) is done.

***NO:** Jobs using this job description are not held when they are put on the job queue.

***YES:** The spooled file is held until released by the Release Spool File (RLSSPLF) command.

DATE Specifies the date that is assigned to the job that uses this job description when the job is started.

***SYSVAL:** The value in the QDATE system value at the time the job is started is used as the job date.

job-date: Specify the value that is used as the job date for the job being started. The format that is currently specified for the system value QDATFMT must be used. The QDATFMT system value is

in the Work Management  book.

SWS Specifies the initial settings for a group of eight job switches used by jobs that use this job description. Only zeros (off) and ones (on) can be used. These switches can be set or tested in a CL program and used to control the flow of the program. For example, if a certain switch is on, another program could be called. The job switches may also be valid in other high-level language (HLL) programs.

00000000: The first setting for the job switches is all zeros for jobs that use this job description.

switch-settings: Specify any combination of eight zeros and ones that is used as the first switch setting for jobs using this job description.

DEVRCYACN

Specifies the recovery action to take for the job when an input/output error is encountered on the *REQUESTER device for interactive jobs that use this job description.

Note: This attribute is ignored for non-interactive jobs.

***SYSVAL:** The system value, QDEVRCYACN, is used as the device recovery action for this job description.

***MSG:** The application program requesting the input/output operation receives an error message that indicates the input/output operation has failed.

***DSCMSG:** The job is automatically disconnected. After the job is reconnected, it receives an error message indicating that an input/output error has occurred, and that the device has been recovered. Even though the device has been recovered, the contents of the screen prior to the error must be redisplayed.

***DSCENDRQS:** The job is automatically disconnected. After the job is reconnected, the ENDRQS command is issued specifying the processor that made the previous request. If no request processor is available, the ENDRQS command fails, and the message issued during the DSCMSG case is signaled.

***ENDJOB:** The job is ended with the *IMMED option. A job log is produced for the job.

***ENDJOBNOLOG:** The job is ended with the *IMMED option. No job log is produced for the job.

TSEPOOL

Specifies whether interactive jobs are moved to another main storage pool when they reach the end of the time slice.

***SYSVAL:** The value in QTSEPOOL (system value) at the time the job is started is 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 end of the time slice is reached.

AUT

Specifies the authority given to users who do not have specific authority to the job description, who are not on an authorization list, and whose user group has no specific authority to the job description. More information on this parameter is in Commonly used parameters.

***LIBCRTAUT:** The public authority for the job description is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the job description). The public authority is determined when the job description is created. If the CRTAUT value for the library changes after the job description is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the job description.

***USE:** The user can perform basic operations on the job description, such as displaying its contents or using the job description to start a job. The user cannot change the job description.

*USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the job description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the job description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

JOBMSGQMX

Specifies the maximum size of the job message queue.

***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.

maximum-size-of-job-message-queue: Specify a value in the range of 2 to 64 megabytes.

JOBMSGQFL

Specifies the action that should be taken when the job message queue is full.

***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.

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.

***NO:** The job cannot run with multiple user threads.

***YES:** The job can run with multiple user threads.

» 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 Auxiliary Storage Pool 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.

***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.

auxiliary-storage-pool-group-name: Specify 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.

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.

***SYSVAL:** The value specified in the system value QSPLFACN is used.

***KEEP:** When the job ends, the spooled files are kept with the job and the status of the job is updated to indicate that the job has completed.

***DETACH:** When the job ends, the spooled files are detached from the job and the job is removed from the system.◀

Examples for CRTJOBDD

Example 1: Creating a Job Description for Interactive Jobs

```
CRTJOBDD JOBDD(INT4) USER(*RQD)
RTGDITA(QCMDI) INQMSGRPY(*SYSRPLY)
TEXT('Interactive #4 job description
for Department 127')
```

This command creates a job description named INT4 in the user's current library. This job description is for interactive jobs and is used by Department 127. When you sign on, you must type your password. The

characters QCMDI are used as routing data that is compared with the routing table of the subsystem where the job is run. All inquiry messages are compared to the entries in the system reply list to determine whether a reply is issued automatically.

Example 2: Creating a Job Description for Jobs on a Specified Queue

```
CRTJOBQ JOBQ(BATCH3) USER(*RQD)
        JOBQ(NIGHTQ) JOBPTY(4) OUTPTY(4)
        ACGCDE(NIGHTQ012345)
        RTGDTA(QCMDB) TEXT('Batch #3 job
        description for high pty night work')
```

This command creates a job description named BATCH3 in the user's current library. The jobs using this description are placed on the job queue NIGHTQ. The priority for jobs using this description and their spooled output is 4. QCMDB is the routing data that is compared with entries in the routing table of the subsystem where the job runs. The accounting code of NIGHTQ012345 is used when recording accounting statistics for jobs that use this job description.

Example 3: Specifying Request Data

```
CRTJOBQ JOBQ(PAYWK) USER(QPGMR) RTGDTA(QCMDB)
        RQSDTA('CALL PAY025 PARM(WEEKLY UNION)')
```

This command creates a job description named PAYWK in the user's current library. Jobs using this job description run under the IBM-supplied user profile for the programmer, QPGMR, and use the accounting code found in that user profile. If the job is started via the SBMJOB command, the accounting code of the person submitting the command is automatically used. The routing data QCMDB is compared with entries in the routing table of the subsystem where the job is run. The request data passed to the command processing program is a CALL command that names the application program that is run and passes a parameter to it.

Error messages for CRTJOBQ

*ESCAPE Messages

CPF1621

Job description &1 not created in library &2.

CRTJOBQ (Create Job Queue) Command Description

CRTJOBQ Command syntax diagram

Purpose

The Create Job Queue (CRTJOBQ) command creates a new job queue. A job queue contains entries for jobs submitted by using the following commands that are being processed by the system:

- Start Database Reader (STRDBRDR)
- Start Diskette Reader (STRDKTRDR)
- Start Printer Writer (STRPRTWTR)
- Start Diskette Writer (STRDSKWTR)
- Submit Job (SBMJOB)
- Submit Database Jobs (SBMDBJOB)
- Submit Diskette Jobs (SBMDKTJOB)
- Transfer Job (TFRJOB)

To add an entry for this job queue to a subsystem description, use the Add Job Queue Entry (ADDJOBQE) command.

Required Parameter

JOBQ Specifies the qualified name of the job queue being created.

The name of the job queue can be qualified by one of the following library values:

***CURLIB:** The job queue is created in the current library for the job. 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 job queue is created.

Note: The temporary library QTEMP is not a valid library name. Job queues must be in permanent libraries.

job-queue-name: Specify the name of the job queue being created

Optional Parameters

OPRCTL

Specifies whether a user who has job control authority is allowed to control this job queue.

***YES:** A user with job control authority can control the queue.

***NO:** This queue cannot be controlled by users with job control authority unless they have some other special authority.

AUTCHK

Specifies whether the commands that check the requester's authority to the job queue also check for ownership authority or data authority.

***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 job queue owner, or running a program that adopts the job queue owner's authority.

***DTAAUT:** The requester who does not have the appropriate data authority to the job queue (*READ, *ADD, and *DELETE) cannot pass the job queue authorization test.

AUT Specifies the authority given to users who do not have specific authority to the job queue, who are not on an authorization list, and whose user group has no specific authority to the job queue.

***USE:** The user can perform basic operations on the job queue, such as running a program or reading a file. The user cannot change the job queue. *USE authority provides object operational authority, read authority, and execute authority.

Note: The user can control jobs submitted by other users if AUTCHK(*DTAAUT) is specified.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational 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 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 job queue.

***EXCLUDE:** The user cannot access the job queue.

***LIBCRTAUT:** The public authority for the job queue is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the job queue). The public authority is determined when the job queue is created. If the CRTAUT value for the library changes after the job queue is created, the new value does not affect any existing objects.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the job queue. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTJOBQ

```
CRTJOBQ JOBQ(DEPTA) AUT(*EXCLUDE)
      TEXT('Special queue for Dept A jobs')
```

This command creates a job queue named DEPTA and puts it in the current library. Because AUT(*EXCLUDE) is specified and OPRCTL(*YES) is assumed, the job queue is used and controlled only by the user who created the queue and by users with job control authority (*JOBCTL). Also, users with spool control authority (*SPLCTL) can control the queue.

Error messages for CRTJOBQ

*ESCAPE Messages

CPF2182

Not authorized to library &1.

CPF2192

Object &1 cannot be created into library &3.

CPF2207

Not authorized to use object &1 in library &3 type *&2.

CPF3323

Job queue &1 in &2 already exists.

CPF3351

Temporary library &1 invalid for job queue &2.

CPF3354

Library &1 not found.

CPF3356

Cannot allocate library &1.

CPF3371

Spool user profile QSPL damaged or not found.

CPF9818

Object &2 in library &3 not created.



CRTJRN (Create Journal) Command Description

CRTJRN Command syntax diagram

Purpose

The Create Journal (CRTJRN) command creates a journal as a local journal with the specified attributes, and attaches the specified journal receiver to the journal. Once a journal is created, object changes can be journaled to it or user entries can be sent to it. The journal state of the created journal is *ACTIVE.

Restrictions:

1. A journal cannot be created in the library QTEMP.
2. 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).
3. This command cannot be used to create a remote journal. See the ADDRMTJRN (Add Remote Journal) command description or the Add Remote Journal (QjoAddRemoteJournal) API in the Application Program Interfaces (APIs) topic in the Information Center.
4. If RCVSIZOPT(*MAXOPT1 or *MAXOPT2) 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.
5.  If the library to contain 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 to contain the journal is not on an independent ASP, then the journal receiver specified cannot be located on an independent ASP.
6. If the library to contain the journal is on an independent ASP then ASP(*LIBASP) must be specified.
7. 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. 

Required Parameters

JRN Specifies the qualified name of the journal to be created.

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

***CURLIB:** The journal is created in the current library for the job. 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 journal is created.

journal-name: Specify the name of the journal to be created.

JRNRCV

Specifies the qualified name of the journal receiver to be attached to the specified journal.

The name of the journal receiver 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.

receiver-name: Specify the name of the journal receiver.

The journal receiver must not have been previously attached to a journal or have been in the process of being attached to a journal.

Up to 2 journal receivers can be specified, but the second journal receiver is ignored.

Optional Parameters

ASP Specifies the auxiliary storage pool (ASP) from which the system allocates storage for the journal.

***LIBASP**: The storage space for the journal is allocated from the same ASP as the storage space of the journal's library. >> Use this value if you want the journal in a library user ASP. <<

ASP-identifier: Specify a value ranging from 1 through 32 to specify the identifier of the ASP from which to have the storage space of the journal allocated. Valid values depend on how ASPs are defined on the system. >> Specify an ASP number only if you want to place the journal in a basic non-library user ASP. <<

Note: The value of 1 is the system ASP, any other value indicates a user ASP.

MSGQ

Specifies the qualified name of the message queue associated with this 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 ten minutes >> (or as often as requested via the MNGRCVDLY parameter) << until the change journal operation is successful.
- When a journal receiver's sequence number exceeds 2,147,000,000, the message CPI70E7 is sent. 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.
- 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 article in the Information Center.
- 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 CRTJRNRCV (Create Journal Receiver) command description.

Note:

A message queue that is in the library QTEMP cannot be specified on this parameter.

The name of the journal message queue 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.

QSYSOPR: The message is sent to the QSYSOPR message queue.

journal-message-queue: Specify the name of the message queue 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.

MNGRCV

Specifies how the changing of journal receivers (detaching the currently attached journal receiver and attaching a new journal receiver) is managed.

***USER:** The user manages the changing of journal receivers by issuing the Change Journal (CHGJRN) command to attach a new receiver and detach the old receiver.

***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. Additionally, during an initial program load (IPL), 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. 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. For all other journal receivers, the system attempts this CHGJRN when the sequence number exceeds 2,147,000,000.

Notes:

1. The storage space threshold value must be specified on the Create Journal Receiver (CRTJRNRCV) command before this value is specified.
2. Specifying MNGRCV(*SYSTEM) does not prevent you from using the CHGJRN command to manage journal 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.

***NO:** The journal receivers are not deleted by the system.

***YES:** The journal receivers are deleted by the system.

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 to the journal message queue, 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.

RCVSIZOPT

Specifies the options that affect the size of the receiver attached to the journal.

***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. These journal receivers cannot be saved and restored to any releases prior to V4R5M0 nor can they be replicated to any remote journals on any systems at releases prior to V4R5M0.

***NONE:** No options affect the size of the journal entries attached to the receiver. All journal entries placed on the receiver are permanent.

***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) 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. <<

***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. These journal receivers cannot be saved and restored to any releases prior to V5R1M0 nor can they be replicated to any remote journals on any systems at releases prior to V5R1M0.

AUT Specifies the authority given to users who do not have specific authority to the journal, who are not on an authorization list, and whose user group has no specific authority to the journal.

***LIBCRTAUT:** The public authority for the journal is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the journal). The public authority is determined when the journal is created. If the CRTAUT value for the library changes after the journal is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the journal.

***USE:** The user can perform basic operations on the journal, such as running a program or reading a file. The user cannot change the journal. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the journal.

authorization-list-name: Specify the name of the authorization list used.

MINENTDTA

Specifies which object types allow journal entries to have minimized entry specific data.

Journal receivers with object types allowing minimized entry specific data cannot be saved and restored to any release prior to V5R1M0 nor can they be replicated to any remote journal on a system at a release prior to V5R1M0. See the Journal management article in the Information Center for restrictions and usage of journal entries with minimized entry specific data.

***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.

***DTAARA:** Journaled data areas may have journal entries deposited with minimized entry specific data.

» JRNCACHE

Specifies whether journal entries will be cached before being written out to disk.

***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 using journaling.

Note:

Applications using commitment control will likely see less performance improvement because commitment control already performs some journal caching.

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)).

10: When the system cannot allocate an object needed to attach a new journal receiver to this journal, it will wait 10 minutes before trying again.

manage-receiver-delay-time: 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. Valid values range from 1 through 1440.

DLTRCVDLY

Specifies the time (in minutes) to be used to delay the next attempt to delete a journal receiver associated with this journal if the journal has DLTRCV(*YES) specified.

10: When the system cannot allocate an object needed to delete a journal receiver associated with this journal, it will wait 10 minutes before trying again.

delete-receiver-delay-time: When the system cannot allocate an object needed to delete a journal receiver associated with this journal, it will wait the specified number of minutes before trying again. Valid values range from 1 through 1440.

FIXLENTA

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.

***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. <<

TEXT Specifies the text that briefly describes the journal. More information on this parameter is in Commonly used parameters.

***BLANK**: Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTJRN

```
CRTJRN JRN(MYLIB/JRNLA) JRNRCV(MYLIB/RCV01) ASP(3)
```

This command creates a journal named JRNLA in library MYLIB. Storage space for the journal is allocated from user auxiliary storage pool (ASP) 3. Journal receiver RCV01 in library MYLIB is attached to journal JRNLA. The public authority for the journal is taken from the CRTAUT parameter for library MYLIB.

Error messages for CRTJRN

***ESCAPE Messages**

>> CPF70A0

FIXLENTA parameter not allowed.

CPF70A1
FIXLENTA parameter not allowed with RCVSIZOPT(*MINFIXLEN).

CPF70E0
Operation on &1 not allowed.

CPF70E2
DLTRCV(*YES) not allowed.

◀ **CPF70E5**
RCVSIZOPT values specified not allowed.

CPF70F1
Journal receiver threshold too big for journal.

CPF70F5
Receiver threshold value is not valid.

CPF7003
Entry not journaled to journal &1. Reason code &3.

CPF701A
Journal receiver not eligible for operation.

CPF7010
Object &1 in &2 type *&3 already exists.

CPF7011
Not enough storage.

CPF7012
Auxiliary storage pool &4 not found for object &1.

CPF7015
Error on JRNRCV specifications.

CPF7017
Library QTEMP not valid for message queue parameter.

CPF704E
RCVSIZOPT(*MINFIXLEN) not allowed.

CPF708A
Journal QAUDJRN in QSYS not created or restored.

CPF708D
Journal receiver found logically damaged.

CPF708E
Journal receiver not allowed with *MAXOPT1 or *MAXOPT2.

▶ **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.

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.

CPF9839

Object &1 not created.

CPF9840

Object &1 not created.

» CPF9873

ASP status is preventing access to object.

CPF9875

Resources exceeded on ASP &1.◀◀

CRTJRNRCV (Create Journal Receiver) Command Description

CRTJRNRCV Command syntax diagram

Purpose

The Create Journal Receiver (CRTJRNRCV) command creates a journal receiver. Once a journal receiver is attached to a journal (with the Create Journal (CRTJRN) or Change Journal (CHGJRN) command), journal entries can be placed in it. A preferred auxiliary storage pool (ASP) and a storage space threshold value can be specified for the journal receiver.

Restrictions:

1. A journal receiver cannot be created in library QTEMP.
2. This command cannot be used to create a journal receiver for a remote journal.
3. » If the library to contain the journal receiver is on an independent ASP then ASP(*LIBASP) must be specified.◀◀

Required Parameter

JRNRCV

Specifies the qualified name of the journal receiver to be created.

The possible library values are:

***CURLIB:** The journal receiver is created in the current library. 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 journal receiver is to be created.

receiver-name: Specify the name of the journal receiver to be created.

Optional Parameters

ASP Specifies the ASP from which the system allocates storage for the journal receiver.

***LIBASP:** The storage space for the journal receiver is allocated from the same ASP as the storage space of the journal receiver's library.

ASP-identifier: Specify a value ranging from 1 through 32 to specify the identifier of the ASP from which to have the storage space of the journal receiver allocated. Valid values depend on how ASPs are defined on the system.

Note: The value of 1 is the system ASP, any other value indicates a user ASP.

THRESHOLD

Specifies a storage space threshold value (in KB) for the journal receiver. 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 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 the CRTJRN (Create Journal) or CHGJRN (Change Journal) command.

Note: The value for the MNGRCV parameter is specified for the journal on the CRTJRN or CHGJRN command. If you have not specified system change-journal management (*SYSTEM), and the threshold value is exceeded, you may want to take some action, such as issuing a CHGJRN command.

***NONE:** No threshold value is specified. The message CPF7099 is not sent and MNGRCV(*SYSTEM) cannot be specified when attaching this receiver to a journal.

threshold-value: Specify a value ranging from 1 through 1,000,000,000 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 attach this journal receiver to a journal that does not have RCVSIZOPT(*MAXOPT1 or *MAXOPT2) specified, the maximum threshold you should specify is 1,919,999 in kilobytes.
2.  If you specify a value less than 100,000, the value will automatically be reset to 100,000. Otherwise, you may see the threshold exceeded message too frequently. Also, if the threshold

value is too small, the threshold exceeded message may occur when the journal receiver is attached to a journal either with the Create Journal (CRTJRN) command or the Change Journal (CHGJRN) command. <<

AUT Specifies the authority given to users who do not have specific authority to the journal receiver, who are not on an authorization list, and whose user group has no specific authority to the journal receiver.

***LIBCRTAUT:** The public authority for the journal receiver is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the journal receiver). The public authority is determined when the journal receiver is created. If the CRTAUT value for the library changes after the journal receiver is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the journal receiver.

***USE:** The user can perform basic operations on the journal receiver, such as running a program or reading a file. The user cannot change the journal receiver. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the journal receiver.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the journal receiver. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

UNIT This parameter is no longer supported. It has been kept strictly for syntactic compatibility with releases prior to Version 1 Release 3 Modification 0 of the AS/400 system.

To isolate the journal receiver to a disk arm, use the ASP parameter. More information on using user ASPs is in the Journal management article in the Information Center.

You can specify either *ANY or a value from 1 through 255 for this parameter.

Example for CRTJRNRCV

```
CRTJRNRCV  JRNRCV(MYLIB/JRNRCCLA)  ASP(3)
           THRESHOLD(100000)  AUT(*ALL)
           TEXT('RECEIVER FOR WEEK 37')
```

This command creates a journal receiver named JRNRCCLA in library MYLIB. Storage space for the journal receiver is allocated from user auxiliary storage pool (ASP) 3. When the size of JRNRCCLA is larger than >> 100000 KB (102,400,000 bytes), << the message CPF7099 is sent to the journal message queue, if the journal to which this receiver is attached has the MNGRCV(*USER) attribute. The public authority to the journal receiver is *ALL.

Error messages for CRTJRNRCV

*ESCAPE Messages

CPF2283

Authorization list &1 does not exist.

» CPF70FD

Internal system journal status object recreated.◀◀

CPF7010

Object &1 in &2 type *&3 already exists.

CPF7011

Not enough storage.

CPF7012

Auxiliary storage pool &4 not found for object &1.

» CPF9801

Object &2 in library &3 not found.◀◀

CPF9802

Not authorized to object &2 in &3.

CPF9810

Library &1 not found.

CPF9820

Not authorized to use library &1.

CPF9830

Cannot assign library &1.

CPF9839

Object &1 not created.

CPF9840

Object &1 not created.

» CPF9873

ASP status is preventing access to object.

CPF9875

Resources exceeded on ASP &1.◀◀

CRTLIB (Create Library) Command Description

CRTLIB Command syntax diagram

Purpose

The Create Library (CRTLIB) command adds a new library to the system. The library must have been created before any objects can be placed into it. When the library is created, it is actually stored as part of the internal system. However, although it is a separate library, it appears as though it exists in the QSYS (system) library.

Restrictions:

1. You must have *AUDIT special authority to specify a value other than *SYSVAL on the CRTOBJAUD parameter.
2. » You must have *USE authority to the auxiliary storage pool (ASP) device if a specific ASP device name is specified on the ASPDEV parameter.◀◀
3. » Library QRCL or QRPLOBJ can only be created in the system ASP (ASP 1).◀◀
4. » Library QRCLxxxxx or QRPLxxxxx can only be created in the ASP for which the ASP number corresponds to 'xxxxx' (where 'xxxxx' is the number of a primary ASP right adjusted and padded on the left with zeros).◀◀

5. >> You cannot create a library with the name QSYSxxxxx, QSYS2xxxxx, or SYSIBxxxxx (where 'xxxxx' is a number).<<<

Required Parameter

LIB Specifies the name of the library being created.

Note: Do not use a name that begins with the character Q. The system assumes that libraries with those names are system libraries.

Optional Parameters

TYPE Specifies the type of library being created.

***PROD:** This is a production library. Database files in production libraries cannot be opened for updating if a user is in debug mode and requests that production libraries be protected. A user can protect all database files in production libraries by specifying UPDPROD(*NO) 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 can be updated during testing, even if special protection is requested for production libraries.

AUT Specifies the authority given to users who do not have specific authority to the library, who are not on an authorization list, and whose user group has no specific authority to the library.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***USE:** The user can perform basic operations on the library, such as running a program or reading a file. The user cannot change the library. *USE authority provides object operational authority, read authority, and execute authority.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove user ids.

***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 also can change ownership of the library.

***EXCLUDE:** The user cannot access the library.

authorization-list-name: Specify the name of the authorization list used.

CRTAUT

Specifies, when an object is created in this library, the authority given to users who do not have specific authority to an object (public authority), who are not on the authorization list, and whose user groups have no specific authority to an object.

***SYSVAL:** The QCRTAUT system value is used.

***USE:** The user can perform basic operations on the library, such as running a program or reading a file. The user cannot change the library. *USE authority provides object operational authority, read authority, and execute authority.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***ALL:** The user can perform all operations on the object 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 cannot transfer ownership of the object. If the object is an authorization list, the user cannot add, change, or remove user IDs.

***EXCLUDE:** The user cannot access the library.

authorization-list-name: Specify the name of the authorization list whose authority is used for the object.

CRTOBJAUD

Specifies the auditing value for objects created in this library.

***SYSVAL:** The value specified in the system value QCRTOBJAUD is used.

***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 for this access. The OBJAUD keyword of the CHGUSRAUD command is used to turn on auditing 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.

ASP

➤ Specifies the number of the auxiliary storage pool (ASP) from which the system allocates storage for the library. For libraries created in an ASP, all objects in the library must be in the same ASP as the library. When a value other than *ASP is specified for the ASPDEV parameter, *ASPDEV is the only valid value for ASP, if specified.

1: The storage is allocated for the library from the system ASP (ASP 1).

***ASPDEV:** The storage is allocated for the library from the ASP specified for the ASPDEV parameter.

auxiliary-storage-pool-number: Specify a value ranging from 1 through 32 for the ASP number. These values depend on how ASPs are defined on the system. ⏪

➤ **ASPDEV**

Specifies the auxiliary storage pool (ASP) device name where storage is allocated for the library. When a value other than *ASPDEV is specified for the ASP parameter, *ASP is the only valid value for ASPDEV, if specified.

***ASP:** The storage is allocated for the library from the ASP specified for the ASP parameter.

***ASPGRPRI:** The storage is allocated for the library from the primary ASP of the thread's ASP group.

***SYSTEM:** The storage is allocated for the library from the system ASP (ASP 1).

auxiliary-storage-pool-device-name: The storage is allocated for the library from the primary or secondary ASP. The primary or secondary ASP must have been activated (by varying on the ASP device) and have a status of 'Available'. ⏪

TEXT Specifies the text that briefly describes the library. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTLIB

Example 1: Adding a Production Library

```
CRTLIB LIB(MYLIB) TEXT('My Production Library')
```

The library MYLIB is added to the system. The library is a production library; only the owner has object existence and object management authority for it. The authority for other users to library MYLIB is determined by the create authority of library QSYS, since *LIBCRTAUT was assumed for the AUT parameter. The text, 'My Production Library', is displayed whenever the library description for MYLIB is displayed.

Example 2: Adding a Test Library

```
CRTLIB LIB(Z) TYPE(*TEST) AUT(*EXCLUDE)  
TEXT('This is a test library')
```

Test library Z is added to the system. Only the owner of Z can use it because no other users have been granted any authority. The specified text ('This is a test library') is displayed whenever the library description for Z is displayed.

Error messages for CRTLIB

*ESCAPE Messages

» CPF8ED

Device description &1 not correct for operation. <<

CPF21A0

*AUDIT required to create or change libraries.

CPF210E

Library &1 not available.

CPF2111

Library &1 already exists.

CPF2122

Storage limit exceeded for user profile &1.

CPF2138

Creation of library &3 not allowed.

» CPF2166

Library name &1 not valid. <<

» CPF2172

ASPDEV value not valid with value specified for ASP. <<

» CPF218A

Library &1 cannot be created into ASP &2. <<

» CPF218B

Library &1 cannot be created into ASPDEV &2. <<

CPF2197

Library &1 cannot be created into user ASP &2.

CPF2283

Authorization list &1 does not exist.

CPF7012

Auxiliary storage pool &4 not found for object &1.

CPF8D05

Library &1 already exists.

» CPF9814

Device &1 not found. «

» CPF9825

Not authorized to device &1. «

» CPF9833

*CURASGRP or *ASPGRPPRI specified and thread has no ASP group. «

CRTLINASC (Create Line Description (Async)) Command Description

CRTLINASC Command syntax diagram

Purpose

The Create Line Description (Async) (CRTLINASC) command creates a line description for an asynchronous line. More information about using this command is in the Communications Configuration



book.

Required Parameters

LIND Specifies the name of the line description being created.

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 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 two, then the resource name would be LIN012.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

INTERFACE

Specifies the type of physical interface on the input/ output adapter (IOA) port. The valid interface types are:

***RS232V24:** The RS232/V.24 interface is used.

***INTMODEM:** The integrated modem is used.

CNN Specifies the type of line connection used.

***NONSWTPP:** A nonswitched point-to-point line is used.

***SWTPP:** A switched 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.

Note: *NONSWTCAL and *NONSWTANS valid only when INTERFACE(*INTMODEM) is specified.

SNBU Specifies, for controllers attached to nonswitched lines only, whether the switched network backup (SNBU) feature is activated or deactivated. This feature lets the user bypass a broken nonswitched connection by establishing a switched connection. This parameter applies only if SWITCHED(*NO) and SNBU(*YES) are specified when the controller description is created.

Note: The Change Line Description (Async) (CHGLINASC) and Change Controller Description (Async) (CHGCTLASC) commands must be used to activate the switched backup feature. Switched network backup (SNBU) is valid only if the local modem and remote modem both support the SNBU feature.

***NO:** The remote modem does not have the switched network backup (SNBU) feature.

***YES:** The modem has the SNBU feature.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

AUTOCALL

Specifies, for SNBU, whether the line has an associated autocal unit which performs automatic calling to the remote system.

***NO:** This switched line does not have an autocal unit.

***YES:** This switched line has an autocal unit.

CTL Specifies the name of the controller description to which this object is attached.

Note: The controller description must already exist. Do not use this parameter when following the normal procedure of creating descriptions for lines first, controllers second, and devices last. Use this parameter only when the associated controller descriptions have been created before this line description.

SWTCTLLST

Specifies the names of up to 64 controllers that can establish a connection with the switched line. The controller descriptions must already exist.

Note: Do not use this parameter when following the normal procedure of creating descriptions for lines first, controllers second, and devices last. Use this parameter only when the associated controller descriptions have been created before this line description.

BITSCHAR

Specifies the number of data bits per character (excluding the parity bit, if any).

8: The default value is eight data bits per character.

7: The format of this tape is FMT3570E. The data format is written on the tape volume with a 3570E device.

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 type of parity specified by the PARITY parameter.

***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.

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. The remote system must use the same number of stop bits as specified by the STOPBITS parameter for the local system.

Note: At line speeds of 300 bps or lower, two stop bits are recommended.

1: The default value adds one stop bit to each character.

2: The page width is 132 printed characters per line.

DUPLEX

Specifies whether request-to-send (RTS) is permanently turned on (for full-duplex modems) or turned on only when data transmission is required (for half-duplex modems).

***FULL:** Request-to-send (RTS) is permanently turned on (for full-duplex modems).

***HALF:** RTS is turned on only when transmission is required (for half-duplex modems).

ECHO Specifies whether the system sends back (echoes) all characters it receives to the remote system, or echoes all characters except end-of-record (EOR) characters, or if echo is inhibited.

***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 EOR characters are echoed to the remote system.

Note:

Specify *ALL or *CNTL when communicating with a remote system that requires echo. If *ALL or *CNTL are specified for the echo prompt, *FULL must also be specified for the duplex prompt.

LINESPEED

Specifies the line speed in bits per second (bps).

1200: The default value is 1200 bps.

line-speed: Specify the line speed (bps). Valid lines speeds are: 50, 75, 110, 150, 300, 600, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 28800, 38400, 57600, 76800, and 115200 bps.

MODEM

Specifies the type of modem supported on the communications line. Refer to the modem documentation to determine the appropriate value.

***NORMAL:** No attempt is made to run diagnostic tests on the modem.

***V54:** A certain type of diagnostic test (as defined by the CCITT recommendations) is run to the modem. The iSeries 400 supports CCITT V.54 loop 3 (local loop back) and loop 2 (remote loop back).

***IBMWRAP:** An IBM modem with wrap test capabilities is used on the communications line.

MODEMRATE

Specifies the speed at which the line operates if the modem has the data rate select feature.

Note:

The user is responsible for ensuring that the line speed corresponds to the actual modem rate.

***FULL:** The line operates at the full rate of the modem.

***HALF:** The line operates at one-half the full rate, or at the alternate rate, of the modem.

SWTCNN

Specifies, for the switched line and the SNBU line, whether the line is used for incoming calls, outgoing calls, or both incoming and outgoing calls.

***BOTH:** The line is used for both incoming and outgoing calls.

***ANS:** The line is used for incoming calls only.

***DIAL:** The local system starts the call.

AUTOANS

Specifies, for switched or switched network backup (SNBU) lines, whether the system automatically answers a call from a remote system to establish the connection or whether the user must manually answer the call and place the modem in data mode.

***YES:** The system automatically answers incoming calls.

***NO:** The system operator must manually answer incoming calls.

Note:

*YES is valid only if the modem has the automatic answer feature.

AUTODIAL

Specifies, for switched or switched network backup (SNBU) lines, whether the system automatically calls a remote system to establish a connection or whether the system operator must manually place the call.

***NO:** The iSeries 400 does not automatically call a remote system.

***YES:** The iSeries 400 automatically calls a remote system.

Note:

*YES is valid only if the system is using an autocal unit or if the modem being used is capable of calling through a command interface.

DIALCMD

Specifies the type of dial command used to establish a switched connection with a remote system.

***NONE:** No dial command type is specified. An automatic call unit establishes the connection.

***V25BIS:** The use of one physical interface for call establishment and data transmission is allowed. It is sometimes referred to as a serial automatic call interface because the digits are presented serially on the link from the system (DTE) to the modem (DCE).

***OTHER:** The IBM command set is one example of another command type that is used by asynchronous protocols.

SETMDMASC

Specifies the V25BIS command string to send to the modem to set the modem to ASYNC mode.

***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: 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:

Table 1. Special characters

Character	Description
.	Period
<	Less than sign
(	Left parenthesis
+	Plus sign
&	Ampersand
*	Asterisk
)	Right parenthesis
;	Semicolon
-	Minus sign

Character	Description
/	Slash
,	Comma
_	Underline
>	Greater than sign
?	Question mark
:	Colon
=	Equal sign

MDMINZCMD

Specifies the modem initialization command string sent to set the modem.

Note: Valid only when INTERFACE(*INTMODEM) is specified.

***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:

Table 2. Special characters

Character	Description
.	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 mark
@	At sign
^	Circumflex
%	Percent
[	Left square bracket
]	Right square bracket
\	Back slash
\$	Dollar sign

Note: The first two characters of the modem initialization command string must begin with 'AT'. These first two characters must be in uppercase.

ACRSRCNAME

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 LIN02 and the port is 1, the resource name is LIN021.

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.

***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.

INACTTMR

Specifies the time (in tenths of a second) that the system waits for activity on a switched line before disconnecting.

300: The default value is 30 seconds.

***NOMAX:** There is no disconnect limit.

inactivity-timer: Specify a value ranging from 150 through 4200 in 0.1-second intervals.

MAXBUFFER

Specifies the maximum size (number of characters) of inbound and outbound data buffers.

896: The default value is 896 characters.

buffer-size: Specify a value ranging from 128 through 4096 characters.

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.

***OFF:** No monitoring of errors occurs.

***MIN:** The error threshold is set at a minimum monitoring level.

***MED:** Error thresholding is set to a medium monitoring level.

***MAX:** The error threshold is set at a maximum monitoring level.

FLOWCNTL

Specifies whether the hardware controls the data flow.

***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. The system uses the RTS/CTS signals to control the data flow. 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 able to receive characters again, 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 capable of receiving characters. When the hardware is able to receive characters again, it raises the RTS signal to the modem. Also, the hardware monitors the CTS and RTS signals 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.

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.

11: The default value is hexadecimal 11.

XON-character: Specify the XON-character, which can be any value ranging from hexadecimal 01 through FF; however, choose a character that does not appear in the normal data stream, such as hexadecimal 20 (ASCII blank).

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.

13: The default value is hexadecimal 13.

XOFF-character: The XOFF-character can be any value ranging from hexadecimal 01 through FF; however, choose a character that does not appear in the normal data stream, such as hexadecimal 20 (ASCII blank).

EORTBL

Specifies the EOR table which allows the system to recognize logical records when receiving data. Define a line feed (LF) as an 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 pairs. The first element of a pair is the EOR character and the second element specifies the number of characters that follow the EOR character.

Element 1: EOR Character

00: The default is 00.

EOR-character: Valid EOR characters are in the range hexadecimal 01 through 7F (if 7 bits-per-character) or hexadecimal 01 through FF (if 8 bits-per-character). EOR characters are specified as they appear on the line after any translation by the asynchronous communications support.

Element 2: Trailing Characters

0: The default is 0.

trailing-character-count: Specify the number of additional characters received after the EOR character is detected. The number of trailing characters can range from 0 through 4.

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.

1: The default value is 0.5 seconds.

idle-timer: Specify a value ranging from 1 through 254 in 0.5-second intervals, or specify 0 to indicate no timer.

Note:

Idle timer is also referred to as inter-character timer.

DSRDRPTMR

Specifies the amount of time the system waits for the modem to exit the Data Set Ready (DSR) state before signaling an error.

6: Character density is 16.7 characters per inch.

DSR-drop-timer: Specify a value ranging from 3 through 60 seconds.

AUTOANSTYP

Specifies the method the system uses to answer incoming calls.

***DTR:** The system enters the Data Terminal Ready (DTR) state, signals the modem to answer calls, and waits for the modem to enter the 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.

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.

25: The system waits up to 25 seconds for the CTS state to begin or end.

>> *CTS-timer:* Specify a value ranging from 10 through 120 seconds. **<<**

RMTANSTMR

Specifies the amount of time the system waits for the modem to enter the DSR state after dialing before signaling an error.

60: The system waits 60 seconds before signaling an error.

answer-timer: Specify a value ranging from 30 through 120 seconds.

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.

Element 1: Maximum Recovery Limit

2: Two recovery attempts are made within the interval specified.

count-limit: Specify the number of second-level recovery attempts to be made. Valid values range from 0 through 99.

Element 2: Recovery Time Interval

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.

Other Single Values:

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT

Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the line description.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLINASC

```
CRTLINASC LIND(ITF) RSCRNAME(LIN031)
```

This command creates an asynchronous line description named ITF with a resource name of LIN031.

Error messages for CRTLINASC

*ESCAPE Messages

CPF2718

Line description &1 not created due to errors.

CRTLINBSC (Create Line Description (BSC)) Command Description

CRTLINBSC Command syntax diagram

Purpose

The Create Line Description (BSC) (CRTLINBSC) command creates a line description for a Binary Synchronous Communications (BSC) line. More information about using this command is in the

Communications Configuration  book.

Required Parameters

LIND Specifies the name of the line description being created.

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 a "Token-ring port".

The value specified on the RSRNAME parameter cannot be changed from *NWID to another value or from another value to *NWID.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

APPTYPE

Specifies the application type being used.

***PGM:** This BSC line is used by a user-written program, not by the Remote Job Entry (RJE) function of the AS/400 Communications Utilities Program or 3270 device emulation.

***RJE:** This BSC line is used by the RJE function.

***EML:** This BSC line is used by the 3270 device emulation.

INTERFACE

Specifies the type of physical interface used on the input/ output adapter (IOA) port.

***RS232V24:** The RS-232/V.24 interface is used.

***V35:** The V.35 interface is used.

***X21BISV24:** The X.21 bis/V.24 interface is used.

***X21BISV35:** The X.21 bis/V.35 interface is used.

***RS449V36:** The RS-449/V.36 interface is used.

CNN

Specifies the type of line connection used.

***NONSWTPP:** A BSC nonswitched point-to-point line is used.

Note:

This value cannot be selected if *EML is specified on the APPTYPE parameter.

***SWTPP:** A BSC switched point-to-point line is used.

Note:

This value cannot be selected if *EML is specified on the APPTYPE parameter.

***MPTRIB:** A BSC multipoint tributary line is used.

Note:

This value cannot be selected if *RJE is specified on the APPTYPE parameter. This value must be specified when APPTYPE(*EML) is specified.

SNBU Specifies, for controllers attached to nonswitched lines only, whether the switched network backup

(SNBU) feature is activated or deactivated. This feature lets the user bypass a broken nonswitched connection by establishing a switched connection. This parameter applies only if SWITCHED(*NO) and SNBU(*YES) are specified when the controller description is created.

Note:

The Change Line Description (BSC) (CHGLINBSC) command and Change Controller Description (BSC) (CHGCTLBSC) command must be used to actually activate the SNBU feature. SNBU is valid only if both local and remote modems support this feature.

***NO:** The remote modem does not have the switched network backup (SNBU) feature.

***YES:** The modem has the SNBU feature.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

AUTOCALL

Specifies, for switched lines and switched network backup lines, whether the line has an associated autocall unit which performs automatic calling to the remote system.

***NO:** This switched line does not have an autocall unit.

***YES:** This switched line has an autocall unit.

CTL Specifies the name of the controller description to which this object is attached.

Note:

The controller description must already exist. Do not use this parameter when following the normal procedure of creating descriptions for lines first, controllers second, and devices last. Use this parameter only when the associated controller descriptions already exist before this line description is created.

SWTCTLLST

Specifies the names of up to 64 controllers that can establish a connection with the switched line. The controller descriptions must already exist.

Note:

Do not use this parameter when following the normal procedure of creating descriptions for lines first, controllers second, and devices last. However, once the controller descriptions are created, specify the list by using the CHGLINBSC command.

STNADR

Specifies, for multipoint tributary lines, the EBCDIC hexadecimal address by which the local system is known to the remote system. The hexadecimal address is the polling address assigned to this iSeries 400.

CLOCK

Specifies that the clocking function for the line is provided by the modem (*MODEM), which is the default on this parameter.

DUPLEX

Specifies whether request-to-send (RTS) is permanently turned on (for full-duplex modems) or turned on only when data transmission is required (for half-duplex modems).

***HALF:** RTS is turned on only when transmission is required (for half-duplex modems).

***FULL:** Request-to-send (RTS) is permanently turned on (for full-duplex modems).

LINESPEED

Specifies the line speed in bits per second (bps).

9600: The default value is 9600 bps.

line-speed: Specify the line speed. Valid line speeds are: 600, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, and 57600 bps.

MODEM

Specifies the type of modem supported on the communications line. Refer to the modem documentation to determine the appropriate value.

***NORMAL:** No attempt is made to run diagnostic tests on the modem.

***V54:** A certain type of diagnostic test (as defined by CCITT recommendations) is run to the modem. The iSeries 400 system supports CCITT V.54 loop 3 (local loop back) and loop 2 (remote loop back).

Note:

Loop 2 diagnostic support is available on nonswitched lines only.

***IBMWRAP:** An IBM modem with wrap test capabilities is used on the communications line.

MODEMRATE

Specifies the speed (bits per second) at which the line operates if the modem has the data rate select feature.

***FULL:** The line operates at the full rate of the modem.

***HALF:** The line operates at one-half the full rate, or at the alternate rate, of the modem.

SWTCNN

Specifies, for the switched and switched network backup, whether the line is used for incoming calls, outgoing calls, or both.

***BOTH:** The line is used for both incoming and outgoing calls.

***ANS:** The line is used for incoming calls only.

***DIAL:** The local system starts the call.

AUTOANS

Specifies, for switched or switched network backup (SNBU) lines, whether the system automatically answers a call from a remote system to establish the connection or whether the user must manually answer the call and place the modem in data mode.

***YES:** The system automatically answers incoming calls.

***NO:** The system operator must manually answer incoming calls.

Note:

*YES is valid only if the modem has the automatic answer feature.

AUTODIAL

Specifies, for switched or switched network backup (SNBU) lines, whether the system automatically calls a remote system to establish a connection or whether the system operator must manually place the call.

***NO:** The system operator must manually call a remote system.

***YES:** The iSeries 400 automatically calls a remote system.

Note:

*YES is valid only if the system is using an autocal unit and AUTOCALL was specified as *YES.

DIALCMD

Specifies the type of dial command used to establish a switched connection with a remote system.

***NONE:** No dial command type is specified. An automatic call unit establishes the connection.

***V25BIS:** The use of one physical interface for call establishment and data transmission is allowed. It is sometimes referred to as a serial automatic call interface because the digits are presented serially on the link from the system data terminal equipment (DTE) to the modem data circuit-terminating equipment (DCE).

*V25BIS is valid only for INTERFACE(RS232V24).

ACRSRCNAME

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 LIN02 and the port is 1, the resource name is LIN021.

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.

***NONE:** Specifies that the 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.

INACTTMR

Specifies the time (in tenths of a second) that the system waits for activity on a switched line before disconnecting.

300: The default value is 30 seconds.

***NOMAX:** There is no disconnect limit.

inactivity-timer: Specify a value ranging from 150 through 4200 in 0.1-second intervals.

MAXBUFFER

Specifies the maximum size (in bytes) of inbound and outbound data buffers.

1024: The default buffer size is 1024 bytes.

buffer-size: Specify a buffer size ranging from 8 through 8192 bytes.

CODE Specifies the character code used. The code can be either extended binary-coded decimal interchange code (*EBCDIC) or the American National Standard Code for Information Interchange (*ASCII).

***EBCDIC:** The extended binary-coded decimal interchange code (EBCDIC) character set code is used.

***ASCII:** The ASCII character set code is used.

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.

2: The synchronization pattern consists of two consecutive SYN characters.

4: The synchronization pattern consists of four consecutive SYN characters.

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.

***OFF:** No monitoring of errors occurs.

***MIN:** The error threshold is set at a minimum monitoring level.

***MED:** Error thresholding is set to a medium monitoring level.

***MAX:** The error threshold is set at a maximum monitoring level.

STXLRC

Specifies whether the start of text (STX) control character is included in the longitudinal redundancy check (LRC) calculation. This only applies to lines using the ASCII character code.

***NO:** The STX control character is not included in the LRC calculation.

***YES:** The STX control character is included in the LRC calculation. The 9404 system unit always includes STX.

RCVTMR

Specifies the number of seconds the system waits for data from the remote system before a receive timeout occurs.

30: The default value is three seconds.

receive-timer: Specify a value ranging from 30 through 254 in 0.1-second intervals.

CONTTMR

Specifies the number of seconds the system waits before sending a control character that prevents the line from being dropped when the system is not ready to transmit or receive data.

20: The default value is 20 seconds.

continue-timer: Specify a value ranging from 16 through 24 in 0.1-second intervals.

CTNRTY

Specifies the number of contention state retries to attempt before indicating an 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).

7: Seven retries are attempted.

contention-state-retry: Specify a value ranging from 0 through 21 for the number of contention state retries.

DTASTRTY

Specifies the number of data state retries to attempt before indicating the error and making the line inoperative.

For BSC, the data state is a time during which BSC is sending or receiving text on the communications line.

7: Seven retries are attempted.

data-state-retry: Specify a value ranging from 0 through 255 for the number of data state retries.

TMTRTY

Specifies the number of retries for transmitting temporary-text-delay (TTD) or wait-before-transmitting positive acknowledgement character (WACK) to keep the line operative before indicating the error and ending the session. If the application type is RJE, this parameter cannot be specified.

60: The default value is 60.

***NOMAX:** There is no disconnect limit.

transmit-TTD-or-WACK-retry: Specify a value ranging from 0 through 65534 for the number of retries.

RCVRTY

Specifies the number of retries for receiving TTD or WACK before indicating the error and failing the session. This parameter can only be specified if the application type is *PGM.

45: The default value is 45 retries.

***NOMAX:** There is no disconnect limit.

receive-TTD-or-WACK-retry: Specify a value ranging from 0 through 65534 for the number or retries.

DSRDRPTMR

Specifies the amount of time the system waits for the modem to exit the Data Set Ready (DSR) state before signaling an error.

6: Character density is 16.7 characters per inch.

DSR-drop-timer: Specify a value ranging from 3 through 60 seconds.

AUTOANSTYP

Specifies the method the system uses to answer incoming calls.

***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.

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.

25: The system waits up to 25 seconds for the CTS state to begin or end.

CTS-timer: Specify a value ranging from 10 through 60 seconds.

RMTANSTMR

Specifies the amount of time the system waits for the modem to enter the Data Set Ready (DSR) state after dialing before signaling an error.

60: The system waits 60 seconds before signaling an error.

answer-timer: Specify a value ranging from 30 through 120 seconds.

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.

Element 1: Maximum Recovery Limit

2: Two recovery attempts are made within the interval specified.

count-limit: Specify the number of second-level recovery attempts to be made. Valid values range from 0 through 99.

Element 2: Recovery Time Interval

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.

Other Single Value:

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT

Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the line description.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLINBSC

```
CRTLINBSC LIND(BRANCHES) RSRNAME(LIN021)
          ONLINE(*NO) CNN(*SWTPP) AUTOCALL(*YES)
          ACRSRNAME(LIN032) SWTCTLLST(BRANCH1 BRANCH2)
```

This command creates a BSC line description for the first port on the second IOA. It is set up to autodial on the second port of the third IOA, or to automatic answer. The controller descriptions in the SWTCTLLST already exist.

Error messages for CRTLINBSC

*ESCAPE Messages

CPF2718


Line description &1 not created due to errors.

CRTLINDDI (Create Line Description (DDI Network)) Command Description

CRTLINDDI Command syntax diagram

Purpose

The Create Line Description (Distributed Data Interface) (CRTLINDDI) command creates a line description for a data-description interface line such as an FDDI (Fiber Distributed Data Interface) local area network.

More information about using this command is in the Communications Configuration  book.

Required Parameters

LIND Specifies the name of the line description being created.

RSRNAME

Specifies the resource name that identifies the hardware that the description represents.

Note:

Use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified on 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.

***NWID:** The resource name specified on the attached frame relay network interface description is used.

resource-name: Specify a resource name.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

MAXCTL

Specifies the maximum number of controllers that the line supports.

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.

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.

Note:

The MAXFRAME value is provided by your telephone carrier from which you should subtract 44 bytes for the size of the header.

4105: The maximum frame size is 4105 bytes.

Note: This value changes to 1556 when RSRNAME(*NWID) is specified.

maximum-frame-size: Specify the maximum frame size. Valid values range from 265 through 4444 bytes.

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 RSRNAME(*NWID) is specified.

***OFF:** Errors are not monitored.

***ERRORS:** Logs LAN manager error messages only.

***ALL:** Logs LAN manager error messages and informational messages.

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 RSRNAME(*NWID) or LOGLVL(*OFF) is specified.

***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.

NWI Specifies an attached nonswitched frame relay NWI.

Note: NWI(*NONE) must be specified when RSRNAME(*NWID) is not specified. Otherwise, NWI(*NONE) can be specified only when NWIDLCL(*NONE) is also specified.

***NONE:** No network interface is specified.

NWI-name: Specify an attached nonswitched frame relay NWI.

NWIDLCI

Specifies the data link control identifier (DLCI) for the network interface.

Note: NWIDLCI(*NONE) must be specified when RSRCTYPE(*NWID) is not specified. Otherwise, NWIDLCI(*NONE) can be specified only when NWI(*NONE) is also specified.

***NONE:** A DLCI is not specified for the network interface.

data-link-connection-ID: Specify the DLCI for the network interface to which this line permanently attaches. Valid values range from 1 through 1018.

ADPTADR

Specifies the 12-character hexadecimal adapter address.

Note: ADPTADR(*ADPT) cannot be specified when RSRCTYPE(*NWID) is specified.

***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 7FFFFFFFFFFFFF.

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.

***SYSGEN:** The iSeries 400 generates the exchange identifier.

exchange-identifier: Specify an exchange identifier composed of eight hexadecimal digits starting with 056.

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.

***SYSGEN:** The system automatically creates three SSAPs, hex 04 for SNA, and hex AA for TCP/IP applications.

Element 1: SSAPs

source-service-access-point: Specify up to 24 SSAPs using valid SSAP values.

Element 2: Frame Size for SSAPs

***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.

Element 3: SSAP Type

***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.

NETCTL

Specifies the name of an existing network controller.

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 FFFFFFFF0000.

***NONE:** No group addresses are specified.

group-address: Specify the group addresses to be used.

TKNRTTIME

Specifies the token rotation time requested. This value is used when the station bids on the network. The lowest value of all attached stations on a ring determines the value the ring uses.

Note:

TKNRTTIME(*CALC) must be specified when
RSRCNAME(*NWID) is specified.

***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.

LINKSPEED

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN* support is used on the system.

***MAX:** The maximum link speed is used.

4M: A link speed of 4 million bits per second is used (Mbps).

***MIN:** The minimum link speed 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.

COSTCNN

Specifies the relative cost of being connected on the line. This parameter is required only if APPN* support is used on the system.

0: The format of this tape is QIC5010, which is used for 1/4 inch cartridge tapes that can hold 13.5 gigabytes of data.

cost-per-connect-time: Specify a value ranging from 0 through 255.

COSTBYTE

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN* support is used on the system.

0: The cost per byte is 0.

cost-per-byte: Specify a value ranging from 0 through 255.

SECURITY

Specifies the security level of the physical line.

***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.

PRPDLY

Specifies the level of propagation delay on the line. This parameter is valid only if APPN* support is used on the system. The order of the values from shortest to longest delay is *MIN, *LAN, *TELEPHONE, *PKTSWTNET, and *SATELLITE.

***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.

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* support is used on the system.

128: The value 128 is used.

user-defined-1: Specify a value ranging from 0 through 255.

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* support is used on the system.

128: The value 128 is used.

user-defined-2: Specify a value ranging from 0 through 255.

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.

128: The value 128 is used.

user-defined-3: Specify a value ranging from 0 through 255.

AUTOCRTCTL

Specifies whether the system automatically creates controller descriptions when calls are received from adjacent systems on the local area network (LAN).

***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.

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.

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.

MSGQ

Specifies the qualified name of the message queue to which messages are sent. More information about using this parameter is in the Communications Management  book.

Single Values

***SYSVAL:** Messages are sent to the message queue defined in the system value QCFGMSGQ.

***SYSOPR:** Messages are sent to the system operator message queue (QSYS/QSYSOPR).

library-name/message-queue-name: Specify the library-qualified name of the message queue to which operational messages are sent.

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.

Element 1: Maximum Recovery Limit

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.

Element 2: Recovery Time Interval

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.

Other Single Value

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT

Specifies the authority the user is granting to a user who does not have specific authority to an object, who is not on the authorization list, or whose user groups have no specific authority to the object.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***ALL:** The user can control the object's existence, specify the security for the object, change the object, change the owner for the object, and perform basic functions on the object. All authority allows the user to perform all operations on the object except those limited to the owner, or controlled by authorization list management authority.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLINDDI

```
CRTLINDDI LIND(DDILAN1) RSRCNAME(LIN011)
TEXT('Fiber Distributed Data Interface (FDDI) Line')
```

This command creates a DDI line description named DDILAN1 for an FDDI line installed on adapter LIN011 on the system.

Error messages for CRTLINDDI

*ESCAPE Messages

CPF2718

Line description &1 not created due to errors.

CRTLINETH (Create Line Description (Ethernet)) Command Description

CRTLINETH Command syntax diagram

Purpose

The Create Line Description (Ethernet) (CRTLINETH) command creates a line description for an Ethernet Local Area Network (LAN) line. More information about using this command is in the Communications

Configuration  book.

Required Parameters

LIND Specifies the name of the line description being created.

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.

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 would be LIN011.

***NWID:** The resource name is determined by the network interface used.

***NWSD:** The resource name is determined by the network server used.

resource-name: Specify a resource name.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

NETCTL

Specifies the name of an existing network controller. This parameter can be specified for lines attached to a TCP/IP network.

LINESPEED

Specifies the line speed in bits per second (bps).

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). Gigabit ethernet will only run on the TCP/IP protocol.



Note: Line speed must be 1G for NWS *VRTETHxxx ports.



***AUTO:** The line speed value will be determined by the hardware using auto-negotiation.

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, one cable is dedicated to send data and another cable is dedicated to receive data. Therefore, data can be sent and received simultaneously. A hub is required for full duplex.

***HALF:** The line communicates using half duplex mode.

***FULL:** The line communicates using full duplex mode.



Note: DUPLEX must be *FULL for NWS *VRTETHxxx ports.



***AUTO:** The duplex value will be determined by the hardware using auto-negotiation.

MAXFRAME

Specifies the maximum frame size that can be transmitted and received on this line.

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 RSRCTYPE(*NWID) or RSRCTYPE(*NWSD) is specified, the only valid value for this parameter is 1496 bytes. When ETHSTD(*ALL) or ETHSTD(*IEEE8023) is specified, the valid values can range from 1496 bytes to 8996 bytes. However, if the maximum frame size is greater than 1496 bytes, LINESPEED(1G), DUPLEX(*FULL) or DUPLEX(*AUTO) must be specified.

NWI Specifies the network interface description to be used.

Note: NWI(*NONE) must be specified when RSRCTYPE(*NWID) is not specified. Otherwise, NWI(*NONE) can be specified only when NWIDLCI(*NONE) is also specified.

***NONE:** A network interface description is not specified.

NWI-name: Specify the name of the network interface description to be used.

NWIDLCI

Specifies the frame relay network interface data link connection identifier to be used.

Note:

NWIDLCI(*NONE) must be specified when RSRCTYPE(*NWID) is not specified. Otherwise, NWIDLCI(*NONE) can be specified only when NWI(*NONE) is also specified.

***NONE:** A DLCI is not specified for the network interface.

data-link-connection-ID: Specify the DLCI for the network interface to which this line permanently attaches. Valid values range from 1 through 1018.

NWITYPE

Specifies the network interface type.

***FR:** The network interface type is frame relay.

***ATM:** The network interface type is Asynchronous Transfer Mode (ATM).

NWS Specifies the network server description to which this nonswitched line is attached.

Note:

NWS can only be specified when RSRCTYPE(*NWSD) is specified.

» ***NONE:** No network server description is specified.

Element 1: Network Server Description

network-server-description: Specify the name of an existing network server description to be used.

Element 2: Network Server Port

***VRTETHPTP:** The network server point to point ethernet port is configured.

***VRTETHn:** The network server virtual ethernet port 'n' is configured, where 'n' has a value of 0 through 9. Line speed must be 1G (one gigabit per second). «

network-server-port: Specify the network server port to which the line is attached. Valid values are 1 and 2.


ADPTADR

Specifies the 12-character hexadecimal adapter address.

***ADPT:** The preset Ethernet adapter address is used as the local adapter address. The adapter address can be displayed (DSPLIND) after the line description has been successfully varied on.

» **Notes:**

1. This value is not valid when RSRCTYPE(*NWID) and NWITYPE(*FR) is specified, or when RSRCTYPE(*NWSD) is specified with a Network server port of 1 or 2.

2. When RSRCTYPE(*NWSD) is specified and the Network server port is *VRTETHn where 'n' has a value of 0 through 9, the value must be *ADPT.
3. When RSRCTYPE(*NWSD) is specified and the Network server port is *VRTETHPTP, the value must be *ADPT. 

local-adapter-address: Specify the local Ethernet 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 FFFFFFFF in hexadecimal format. The second digit (from the left) of the address must be 2, 6, A, or E.

GRPADR

Specifies whether an Ethernet group address is used.

***NONE**: A group address is not used.

group-address: Specify the address to which a subset of units on the Ethernet line responds in addition to their local adapter address. Valid values range from 010000000000 through FFFFFFFF in hexadecimal format. The second digit (from the left) must be odd. All group addresses must be unique.

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.

***SYSGEN**: This value allows the iSeries 400 to create the exchange identifier. Use the Display Line Description (DSPLIND) command to see the resulting exchange identifier.

exchange-ID: Specify an 8-character (four hexadecimal bytes) exchange identifier ranging from 05600000 through 056FFFFF.

ETHSTD

Specifies the Ethernet standard frame type that is used on this line.

***ALL**: All Ethernet standards can be used. However, SNA data will be placed in IEEE 802.3 frames.

***ETHV2**: Ethernet Version 2 frames are used for all data.

***IEEE8023**: IEEE 802.3 frames are used for all data.

MAXCTL

Specifies the maximum number of system network architecture (SNA) controllers that the line supports.

40: The default number of controllers is 40.

maximum-controllers: Specify the maximum number of controllers supported by the line. This should be a number large enough to account for all of the controllers that are currently attached to this line, and for those controllers to be attached in the near future. The range is from 1 through 256.

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.

Note:

It is recommended that SSAPs F0, F8 and FC are not used for lines attached to network server descriptions.

***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 C8.

Element 1: SSAPs

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 an SSAP value of 12 and an SSAP type of *NONSNA.

Element 2: Frame Size for SSAPs

***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 the maximum frame size for each SSAP. Valid values for the maximum frame size range from 265 through 8996.

Note:

When RSRCTYPE(*NWID) and ETHSTD(*ETHV2) are specified, the valid values for this parameter range from 265 through 1486 bytes. When RSRCTYPE(*NWID) and ETHSTD(*ALL) or ETHSTD(*IEEE8023) are specified, the valid values for this parameter range from 265 through 1489 bytes. Maximum frame size that is greater than 1486 or greater than 1489 is valid only when AA SSAP for TCP/IP is specified.

Element 3: SSAP Type

***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 non-SNA communications. Valid values range from 02 through FE and must be divisible by 2.

***HPR:** The SSAP is used for HPR communications. It also can be used for SNA applications. The valid value is hex C8.

THRESHOLD

This parameter, and its values ***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.

ACCTYPE

Specifies the type of access to the ATM network.

***SVC:** This line represents a LAN emulation client using switched virtual circuits.

***PVC:** This line represents a LAN emulation client using a permanent virtual circuit.

PVCID

Specifies the virtual path identifier and virtual circuit identifier pairs associated with this permanent virtual circuit.

Note: PVCID required if ACCTYPE(*PVC) is specified.

Element 1: Virtual Path Identifier

virtual-path-id: Specify a number that represents the virtual path identifier. This number must be in the range of 0 to 7.

Element 2: Virtual Circuit Identifier

virtual-circuit-id: Specify a number that represents the virtual circuit identifier. This number must be in the range of 32 to 4095.

USELECSADR

Specifies whether the LAN emulation configuration server (LECS) should be connected to request the remote LAN emulation server (LES) address.

***YES:** The LECS address is used.

***NO:** The LECS address is not used.

LESATMADR

Specifies the ATM network address of the remote LAN emulation server.

Note: This parameter must be other than ***NONE** if USELECSADR(*NO) is specified.

Single Value

***NONE:** ATM network address is not used.

Element 1: Network prefix

network-prefix: Specify the network prefix of the ATM address of the remote server. This is a 26 digit hexadecimal value.

Element 2: End system identifier

end-system-identifier: Specify the end system identifier of the remote server. This is a 12 digit hexadecimal value.

Element 3: Selector byte

selector byte: Specify the selector byte of the remote server. This is a two digit hexadecimal value.

EMLLANNAME

Specifies the emulated LAN name.

***NONE**: Emulated LAN name not used.

emulated-LAN-name: Specify the emulated LAN name. A maximum of 32 characters may be specified.

LECDSTIMO

Specifies the amount of time in minutes a LAN emulation (LE) client will wait before disconnecting an idle virtual circuit connection to another client.

10: The LE client will wait 10 minutes.

***NOMAX**: The LE client will wait indefinitely.

LEC-disconnect-timeout: Specify the number of minutes the LE client will wait before disconnecting an idle virtual circuit connection to another client. The value must be in the range of 1 to 30 minutes.

GENTSTFRM

Specifies whether the system will automatically generate test frames to determine network availability.

***YES**: The system will generate test frames.

***NO**: The system will not generate test frames.

LINKSPEED

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN* support is used on the system.

10M: The link speed is 10 million bits per second.

4M: A link speed of 4M is used.

100M: A link speed of 100M is used.

***MIN**: The minimum link speed is used.

***MAX**: The maximum link speed is used.

link-speed: Specify the link speed. Valid values range from 1200 to 603979776000.

COSTCNN

Specifies the relative cost of being connected on the line. This parameter is required only if APPN* support is used on the system.

0: The cost per byte is 0.

cost-per-connect-time: Specify a value ranging from 0 through 255.

COSTBYTE

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN* support is used on the system.

0: The cost per byte is 0.

cost-per-byte: Specify a value ranging from 0 through 255.

SECURITY

Specifies the security level of the line.

***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.

PRPDLY

Specifies the level of propagation delay on the line. This parameter is valid only if APPN* support is used on the system. The order of the values from shortest to longest delay is *MIN, *LAN, *TELEPHONE, *PKTSWTNET, and *SATELLITE.

***LAN:** The local area network propagation delay is used.

***MIN:** The minimum propagation delay is used.

***TELEPHONE:** The telephone propagation delay is used.

***PKTSWTNET:** The packet switched network propagation delay is used.

***SATELLITE:** The satellite propagation delay is used.

***MAX:** The maximum propagation delay is used.

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* support is used on the system.

128: The value 128 is used.

user-defined-1: Specify a value ranging from 0 through 255.

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* support is used on the system.

128: The value 128 is used.

user-defined-2: Specify a value ranging from 0 through 255.

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.

128: The value 128 is used.

user-defined-3: Specify a value ranging from 0 through 255.

AUTOCRTCTL

Specifies whether the system will automatically create controller descriptions when calls are received from adjacent systems on the local area network (LAN).

***NO:** The system will not automatically create a controller description when incoming calls are received.

***YES:** The system will automatically create a controller description when incoming calls are received.

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.

1440: The controller description can be idle for 1440 minutes (24 hours).

***NONE:** The system will 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.

MSGQ

Specifies the qualified name of the message queue to which messages are sent. More information about using this parameter is in the Communications Management  book.

Single Values

***SYSVAL:** Messages are sent to the message queue defined in the system value QCFGMSGQ.

***SYSOPR:** Messages are sent to the system operator message queue (QSYS/QSYSOPR).

library-name/message-queue-name: Specify the library-qualified name of the message queue to which operational messages are sent.

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.

Element 1: Maximum Recovery Limit

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.

Element 2: Recovery Time Interval

5: The specified number of recovery attempts is made within a 5-minute interval.

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.

AUT

Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***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 also can change ownership of the line description.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTLINETH

Example 1: Creating an Ethernet Line Description

```
CRTLINETH LIND(BOSTON) RSRNAME(LIN041)
```

This command creates an Ethernet line description named BOSTON with a resource name of LIN041.

Example 2: Creating an Ethernet Line Description

```
CRTLINETH LIND(ETHLIN) RSRNAME(*NWS) NWS(REMODEL 1)
```

This command creates an Ethernet line description named ETHLIN that is attached to port 1 of the network server REMODEL.

Example 3: Creating an Ethernet Line Description

```
CRTLINETH LIND(GIGETH) RSRNAME(LIN041) LINESPEED(1G)
          DUPLEX(*FULL) MAXFRAME(8996)
```

This command creates an Ethernet line description using the the maximum gigabit ethernet connectivity configuration.

Error messages for CRTLINETH

*ESCAPE Messages

CPF2718

Line description &1 not created due to errors.

CRTLINFAX (Create Line Description (Fax)) Command Description

CRTLINFAX Command syntax diagram

Purpose

The Create Line Description (Fax) (CRTLINFAX) command creates a line description for a facsimile (fax) line.

Required Parameters

LIND Specifies the name of the line description being created.

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.

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.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

CTL Specifies the name of the controller description to which this object is attached.

Note:

This parameter is valid only when the associated controller description has been created before this line description.

AUT Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the line description.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLINFAX

```
CRTLINFAX LIND(FAXLINE) RSRNAME(LIN041 LIN042)
```

This command creates fax line description named FAXLINE with resource names of LIN041 and LIN042.


Error messages for CRTLINFAX***ESCAPE Messages****CPF2718**

Line description &1 not created due to errors.

CRTLINFR (Create Line Description (Frame Relay Network)) Command Description

CRTLINFR Command syntax diagram

Purpose

The Create Line Description (Frame-Relay Network) (CRTLINFR) command creates a line description for a frame-relay network (FR) line. More information about using this command is in the Communications Configuration  book.

Required Parameter

LIND Specifies the name of the line description being created.

line-description-name: Specify the name of a line description.

Optional Parameters

NWI Specifies, for a nonswitched connection, the frame relay network interface description containing the DLCI to which this line permanently attaches. If a DLCI is not specified for the network interface, a description cannot be specified. If a DLCI is specified for the network interface, a description must be specified.

***NONE:** A network interface description is not specified.

NWI-name: Specify the name of the network interface to which this line permanently attaches.

NWIDLCI

Specifies the data link control identifier (DLCI) number for the network interface, which is supplied by the network provider. Valid DLCI values range from 1 through 1018.

***NONE:** A DLCI is not specified for the network interface.

data-link-connection-ID: Specify the DLCI for the network interface to which this line permanently attaches.

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

MAXCTL

Specifies the maximum number of controllers supported by a line.

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.

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.

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.

LINKSPEED

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN* support is used on the system.

64000: The link speed is 64000 bps.

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.

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.

***SYSGEN:** The iSeries 400 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 Specifies the source service access point (SSAP). The most commonly used SNA SSAP is hex 04. All SSAP values must be unique.

***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.

Element 1: SSAPs

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).

Element 2: Frame Size for SSAPs

***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.

Element 3: SSAP Type

***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.

NETCTL

Specifies the name of an existing network controller.

COSTCNN

Specifies the relative cost of being connected on the line. This parameter is required only if APPN* support is used on the system.

0: The format of this tape is QIC5010, which is used for 1/4 inch cartridge tapes that can hold 13.5 gigabytes of data.

cost-per-connect-time: Specify a value ranging from 0 through 255.

COSTBYTE

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN* support is used on the system.

0: The cost per byte is 0.

cost-per-byte: Specify a value ranging from 0 through 255.

SECURITY

Specifies the security level of the physical line. This parameter is valid only if APPN* support is used on the system.

***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.

PRPDLY

Specifies the level of propagation delay on the line. This parameter is valid only if APPN* support is used on the system. The order of the values from shortest to longest delay is *MIN, *LAN, *TELEPHONE, *PKTSWTNET, and *SATELLITE.

***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.

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* support is used on the system.

128: The value 128 is used.

user-defined-1: Specify a value ranging from 0 through 255.

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* support is used on the system.

128: The value 128 is used.

user-defined-2: Specify a value ranging from 0 through 255.


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.

128: The value 128 is used.

user-defined-3: Specify a value ranging from 0 through 255.

MSGQ

Specifies the qualified name of the message queue to which messages are sent. More information about using this parameter is in the Communications Management  book.

Single Values

***SYSVAL:** Messages are sent to the message queue defined in the system value QCFGMSGQ.

***SYSOPR:** Messages are sent to the system operator message queue (QSYS/QSYSOPR).

library-name/message-queue-name: Specify the library-qualified name of the message queue to which operational messages are sent.

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.

Element 1: Maximum Recovery Limit

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.

Element 2: Recovery Time Interval

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.

Other Single Value

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the line description.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLINFR

```
CRTLINFR LIND(FRLIN) NWI(NEWONE) NWIDL(1001)
          ONLINE(*YES) VRYWAIT(*NOWAIT) MAXFRAME(1600)
          LINKSPEED(2400)
```

This command creates frame relay line FRLIN. FRLIN is attached to a frame relay NWI named NEWONE using DLCI number 1001. FRLIN is automatically varied on at initial program load (IPL). The system does not wait for the vary on to complete; therefore, the line is varied on asynchronously. The maximum frame size for this line is 1600 and the link speed is 2400 bits per second (bps).

Error messages for CRTLINFR

*ESCAPE Messages

CRTLINIDLC (Create Line Description (IDLC)) Command Description

CRTLINIDLC Command syntax diagram

Purpose

The Create Line Description (IDLC) (CRTLINIDLC) command creates a line description for an integrated services digital network (ISDN) data link control (IDLC) line.

Required Parameter

LIND Specifies the name of the line description.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

CNN Specifies whether this line description is switched or nonswitched. If *SWT is specified, the line description is attached to one of the Network Interface descriptions specified on the SWTNWILST parameter at the time an incoming or outgoing call is processed. If *NONSWT is specified, the line description is permanently attached to the Network Interface description specified on the NWI parameter. Once a line is permanently attached, the attachment cannot be changed with a change command; it must be changed by deleting and then recreating the line description or the network interface description.

***SWT:** The line is not permanently attached to a network interface description. The network interface description is determined by the value specified on the SWTNWILST parameter.

***NONSWT:** The line is permanently attached to the network interface description specified on the NWI parameter.

NWI Specifies, for a nonswitched connection, the ISDN network interface description containing the channel to which this line permanently attaches.

NWICHLTYPE

Specifies, for nonswitched connections, the type of integrated services digital network (ISDN) channels that this line description uses. This parameter is preset to use one ISDN B-channel of the Network Interface description.

***B:** The B channel is used.

NWICHLNBR

Specifies, for a nonswitched connection, the channel number of the network interface description that is used by this line description. Two channels are available for each network interface description, but only one line description can be permanently attached to a channel. The Display Network Interface Description (DSPNWID) command is used to display information about the channel numbers.

SWTNWILST

Specifies, for ISDN switched connections, a list of network interface descriptions to which this line can be attached. The first available line description is chosen from the list at the time an incoming or outgoing call is processed.

***NONE:** No network interface description is specified.

Element 1: Network Interface Description Name

NWI-description-name: Specify, for switched connections, the name of the network interface description to which this line attaches.

Element 2: Network Interface Channel Type

***B:** The B channel is used.

Element 3: Network Interface Channel-Number

***CALC:** The system selects one of the two 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 or 2). Specifying a channel number restricts the line description to that channel.

SWTCNN

Specifies whether the switched line is used for incoming calls, outgoing calls, or both.

***BOTH:** The line is used for both incoming and outgoing calls.

***ANS:** The line is used for incoming calls only.

***DIAL:** The local system starts the call.

CNNLSTIN

Specifies the name of the connection list that is used to retrieve call information (or connection) for identifying authorized incoming calls.

***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 that is used.

connection-list-name: Specify the name of the connection list used for this line description.

EXCHID

Specifies the hexadecimal character exchange identifier that is used to identify the local system to

the remote system. The 8-digit hexadecimal exchange identifier contains 3 digits for the block number and 5 digits for the identifier of this system.

***SYSGEN:** The system generates the exchange identifier.

exchange-identifier: Specify an exchange identifier of 8 hexadecimal digits ranging from 05600000 through 056FFFFF.

THRESHOLD

Specifies the threshold for the number of errors beyond which a message is sent informing the user that errors have occurred. All error threshold parameters are set to the value specified, unless *SELECT is specified, in which case each error threshold parameter is set individually. The next five parameters are the threshold parameters. They are: CRCRCV, OVERRUN, UNDERRUN, ABORTS, and SHORTFRAME.

***OFF:** No monitoring of errors occurs.

***MIN:** The error threshold is set at a minimum monitoring level.

***MED:** The system performs a medium amount of error threshold monitoring for all types of errors.

***MAX:** The error threshold is set at a maximum monitoring level.

***SELECT:** The threshold for the number of errors beyond which a message is sent informing the user that errors have occurred is set individually for each parameter.

CRCRCV

Specifies the level of error threshold monitoring done by the system for Cyclic Redundancy Check (CRC) errors.

***OFF:** No monitoring of errors occurs.

***MIN:** The system performs a minimum amount of error threshold monitoring for CRC errors: 6 errors in the first 30 seconds or 180 errors in any 15 minutes. The system is more tolerant of errors than if *MED or *MAX is specified.

***MED:** The system performs a medium amount of error threshold monitoring for CRC errors: 2 errors in the first 30 seconds or 60 errors in any 15 minutes.

***MAX:** The system performs the maximum amount of error threshold monitoring for CRC errors received.

threshold-value: Specify a number, ranging from 1 through 10000, that corresponds to the number of errors allowed in a 15-minute interval.

SHORTFRAME

Specifies the threshold for the level of errors for short frame errors received.

***OFF:** No monitoring of errors occurs.

***MIN:** A minimum of monitoring is done: 6 X.25 or SDLC frames received in the first 30 seconds or 1 received every second for 14 minutes. The system is more tolerant of errors than if *MED or *MAX is specified.

***MED:** A medium amount of monitoring is done: 3 X.25 or SDLC frames received in the first 30 seconds or 1 received every 3-4 seconds for 10-14 minutes.

***MAX:** A maximum amount of monitoring is done.

threshold-value: Specify a threshold level. Valid values range from 1 through 10000.

OVERRUN

Specifies the level of error threshold monitoring done by the system for buffer overrun errors.

***OFF:** No monitoring of errors occurs.

***MIN:** The system performs a minimum amount of error threshold monitoring for buffer overrun errors: 2 errors in the first 90 seconds or 20 errors in any 15 minutes. The system is more tolerant of errors than if *MED or *MAX is specified.

***MED:** The system performs a medium amount of error threshold monitoring for buffer overrun errors: 2 errors in the first 300 seconds or 6 errors in any 15 minutes.

***MAX:** The system performs the maximum amount of error threshold monitoring for buffer overrun errors.

threshold-value: Specify a value ranging from 1 through 3000.

UNDERRUN

Specifies the level of error threshold monitoring done by the system for buffer underrun errors.

***OFF:** No monitoring of errors occurs.

***MIN:** The system performs a minimum amount of error threshold monitoring for buffer overrun errors: 2 errors in the first 90 seconds or 20 errors in any 15 minutes. The system is more tolerant of errors than if *MED or *MAX is specified.

***MED:** The system performs a medium amount of error threshold monitoring for buffer overrun errors: 2 errors in the first 300 seconds or 6 errors in any 15 minutes. The system is more tolerant of errors than if *MED or *MAX is specified.

***MAX:** The system performs the maximum amount of error threshold monitoring for buffer underrun errors.

threshold-value: Specify a value ranging from 1 through 3000.

ABORTS

Specifies the level of error threshold monitoring done by the system for frames aborted.

***OFF:** No monitoring of errors occurs.

***MIN:** The system performs a minimum amount of error threshold monitoring for aborted frames received: 6 errors in the first 30 seconds or 180 errors in any 15 minutes. The system is more tolerant of errors than if *MED or *MAX is specified.

***MED:** The system performs a medium amount of error threshold monitoring for aborted frames received: 2 errors in the first 30 seconds or 60 errors in any 15 minutes.

***MAX:** The system performs the maximum amount of error threshold monitoring for aborted frames received.

threshold-value: Specify a value ranging from 1 through 5000.

RETRANSMIT

Specifies the threshold for the number of frame retransmissions beyond which a message is sent informing the user that errors have occurred.

***OFF:** Error threshold monitoring is turned off for retransmitted frames.

***MIN:** The system performs the minimum amount of error threshold monitoring for retransmitted frames: 5 errors in the first 30 seconds or 150 errors in any 15 minutes. The system is more tolerant of errors than if *MED or *MAX is specified.

***MED:** The system performs a medium amount of error threshold monitoring for retransmitted frames: 2 errors in the first 60 seconds or 30 errors in any 15 minutes.

***MAX:** The system performs the maximum amount of error threshold monitoring for retransmitted frames.

threshold-value: Specify a number, ranging from 1 through 10000, that corresponds to the number of errors allowed in a 15-minute interval.

FRMSEQERR

Specifies the threshold for the number of frame sequence errors beyond which a message is sent informing the user that errors have occurred.

***OFF:** Error threshold monitoring is turned off for frame sequence errors.

***MIN:** The system performs the minimum amount of error threshold monitoring for frame sequence errors: 2 errors in the first 90 seconds or 20 errors in any 15 minutes. The system is more tolerant of errors than if *MED or *MAX is specified.

***MED:** The system performs a medium amount of error threshold monitoring for frame sequence errors: 2 errors in the first 300 seconds or 6 errors in any 15 minutes.

***MAX:** The system performs the maximum amount of error threshold monitoring for frame sequence errors.

threshold-value: Specify a number, ranging from 1 through 3000, that corresponds to the number of errors allowed in a 15-minute interval.

CTL Specifies, for nonswitched lines, the name of the controller to which this line is attached. The controller description must already exist. However, this parameter is automatically updated if a controller description is created after this line description is created and if it is attached to this line description.

IDLCWDWSIZ

Specifies the default window size.

***CNN:** The value is determined according to the value specified on the CNN parameter.

default-window-size: Specify a value ranging from 1 through 31.

IDLCFRMRTY

Specifies the maximum number of retransmissions before reporting an error.

***CNN:** The value is determined according to the value specified on the CNN parameter.

frame-retry: Specify a value ranging from 0 through 100.

IDLCRSPTMR

Specifies the amount of time to wait before retransmitting a frame if an acknowledgement has not been received.

***CNN:** The value is determined according to the value specified on the CNN parameter.

response-timer: Specify a value ranging from 10 through 100 tenths of seconds. For example, 100 tenths of seconds equals 10 seconds.

IDLCCNNRTY

Specifies the number of times a transmission can be retried at connection time.

***CNN:** The value is determined according to the value specified on the CNN parameter.

***NOMAX:** There is no disconnect limit.

connect-retry-count: Specify a value ranging from 1 through 100.

MAXFRAME

Specifies the maximum frame size that can be transmitted and received on this line description.

2048: The default size is 2048.

max-frame: Specify a value ranging from 265 through 8196.

INFTRFTYPE

Specifies the information transfer type. The information transfer type determines the layer 1 protocol.

***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.

LINKSPEED

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN* support is used on the system.

64000: The link speed is 64,000 bps.

***MIN:** The minimum link speed is used.

***MAX:** The maximum link speed 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, 2048000, 4M, 10M, 16M and 100M.

SWTNWISLCT

Specifies the method used to select network interfaces from the switched network interface list.

***FIRST:** Selection begins with the first network interface specified in the switched network interface list.

***CALC:** The system calculates which network interface is selected.

COSTCNN

Specifies the relative cost of being connected on the line. This parameter is required only if APPN* support is used on the system.

***CNN:** The cost per connection time is 0 for nonswitched connections, and 128 for switched connections.

cost-per-connect-time: Specify a value ranging from 0 through 255.

COSTBYTE

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN* support is used on the system.

***CNN:** The cost per connection time is 0 for nonswitched connections, and 128 for switched connections.

cost-per-byte: Specify a value ranging from 0 through 255.

SECURITY

Specifies the security level of the physical line. This parameter is valid only if APPN* support is used on the system.

***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.

PRPDLY

Specifies the level of propagation delay on the line. This parameter is valid only if APPN* support is used on the system. The order of the values from shortest to longest delay is *MIN, *LAN, *TELEPHONE, *PKTSWTNET, and *SATELLITE.

***TELEPHONE:** The telephone propagation delay is used.

***LAN:** The local area network propagation delay is used.

***MIN:** The minimum propagation delay is used.

***PKTSWTNET:** The packet switched network propagation delay is used.

***SATELLITE:** The satellite propagation delay is used.

***MAX:** The maximum propagation delay is used.

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* support is used on the system.

128: The value 128 is used.

user-defined-1: Specify a value ranging from 0 through 255.

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* support is used on the system.

128: The value 128 is used.

user-defined-2: Specify a value ranging from 0 through 255.

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.

128: The value 128 is used.

user-defined-3: Specify a value ranging from 0 through 255.

CMNRCLMT

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.

Element 1: Maximum Recovery Limit

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.

Element 2: Recovery Time Interval

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.

Other Single Value

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT Specifies the authority the user is granting to a user who does not have specific authority to an object, who is not on the authorization list, or whose user group has no specific authority to the object.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***ALL:** The user can control the object's existence, specify the security for the object, change the object, change the owner for the object, and perform basic functions on the object. All authority allows the user to perform all operations on the object except those limited to the owner, or controlled by authorization list management authority.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLINIDLC

```
CRTLINIDLC LIND(IDLCLINE)
```

This command creates an IDLC line description named IDLCLINE.

Error messages for CRTLINIDLC

*ESCAPE Messages


CPF2718

Line description &1 not created due to errors.

CRTLINET (Create Line Description (Network)) Command Description

CRTLINET Command syntax diagram

Purpose

The Create Line Description (Network) (CRTLINET) command creates a line description for a network line. More information about using this command is in the Communications Configuration  book.

Required Parameter

LIND Specifies the name of the line description being created.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

NWI Specifies the name of the ISDN network interface to which this line is attached. The network interface description must already exist. The line description attaches to the D channel of the NWI.

CTL Specifies the name of the controller that is attached to this line. The controller description must already exist.

AUT Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the line description.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** Other users are prevented from accessing the object.

authorization-list-name: Specify the name of the authorization list whose authority is used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** No text is specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLINNET

```
CRTLINNET LIND(LIN0A) NWI(NWI01)
```

This command creates a network line description named LIN0A. An existing network interface, NWI01, is specified as the network interface for the line.

Error messages for CRTLINNET

*ESCAPE Messages

CPF2718

Line description &1 not created due to errors.

CRTLINPPP (Create Line Description (PPP)) Command Description

CRTLINPPP Command syntax diagram

Purpose

The Create Line Description (Point-to-Point Protocol (PPP)) (CRTLINPPP) command creates a line description for a PPP line. More information about using this command is in the Communications

Configuration  book.

Restriction: You must have *IOSYSCFG special authority to use this command.

Required Parameters

LIND Specifies the name of the line description being created.

RSRCNAME

Specifies the resource name that identifies the hardware that the description represents.

***NWID:** The resource name specified on the attached network interface description is used.

Note:

Use the Work With Hardware Resources (WRKHDWRSC) command with *CMN specified for the TYPE parameter to help determine the resource name.

Optional Parameters

FRAMING

Specifies whether the line uses asynchronous or synchronous framing.

Note:

Not valid when RSRCNAME(*NWID).

***ASYNC:** Asynchronous frames are used.

***SYNC:** Synchronous frames are used.

CNN Specifies the type of line connection used.

Note:

*NONSWTCAL and *NONSWTANS valid only when INTERFACE(*INTMODEM), or INFTRFTYPE *FAXMODEM, *ASYNCMODEM or *SYNCMODEM.

***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.

NWI Specifies, for a nonswitched connection, the network interface description containing the channel to which this line permanently attaches.

Note: Valid only when RSRCTYPE(*NWID) and CNN is not *SWTPP.

INTERFACE

Specifies the type of physical interface on the IOA port.

Note: Not valid when RSRCTYPE(*NWID).

***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.

NWICHLNBR

Specifies, for a nonswitched connection, the channel number (1 through 30) of the network interface description that is used by this line description. 2, 23 or 30 channels are available for each network interface description, depending on whether the network interface is basic or primary rate and what the network type is, but only one line description can be permanently attached to a channel. The Display Network Interface Description (DSPNWID) command is used to display information about the channel numbers for a given NWID.

Note: Valid only when RSRCTYPE(*NWID) and CNN(*NONSWTPP), CNN(*NONSWTCAL) or CNN(*NONSWTANS).

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 RSRCTYPE(*NWID) and CNN(*SWTPP).

***NONE:** No network interface description is specified.

Element 1: Network Interface Description Name

NWI-description-name: Specify, for switched connections, the name of the network interface description to which this line attaches.

Element 2: Network Interface Channel Type

***B:** The B channel is used.

Element 3: Network Interface Channel-Number

***CALC:** The system selects one of the 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 23). Specifying a channel number restricts the line description to that channel.

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***NO:** This line is not automatically varied on at IPL.

***YES:** The line is automatically varied on at IPL.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

Note: Valid only when CNN(*SWTPP).

***NOWAIT:** The system does not wait for the vary on to complete. 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.

LINESPEED

Specifies the line speed in bits per second (bps).

115200: The default value is 115200 bps.

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 with INTERFACE(*RS232V24). With FRAMING(*ASYNC) and an interface value of *V35 or *RS449V36, line speeds of 157600 and 230400 may be specified.

INFTRFTYPE

Specifies the information transfer type. The information transfer type determines the layer 1 protocol.

Note:

Valid only when RSRNAME(*NWID) and CNN is not *SWTPP.

***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.

***FAXMODEM:** Allows Facsimile (FAX) data from the integrated fax modem to be transferred over an ISDN voice call. This option should be used to connect to a remote location that is using a fax device on an analog telephone line or to another ISDN device that has Group 3 FAX modem capabilities. Data is transferred at fax speeds up to 14.4Kbps.

***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.

MDMINZCMD

Specifies the command string to send to set the modem.

Note:

Valid only when INTERFACE(*INTMODEM) or INFTRFTYPE *FAXMODEM, *ASYNCMODEM and *SYNCMODEM.

***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:

Table 1. Special characters

Character	Description
.	Period
<	Less than sign
(	Left parenthesis
+	Plus sign
&	Ampersand

Character	Description
*	Asterisk
)	Right parenthesis
;	Semicolon
-	Minus sign
/	Slash
,	Comma
_	Underline
>	Greater than sign
?	Question mark
:	Colon
=	Equals sign
	Spaces
#	Number sign
"	Double quote
!	Exclamation point
@	At sign
^	Hat symbol
%	Percent
[	Left square bracket
]	Right square bracket
\	Back slash
\$	Dollar sign

Note: The first two characters of the modem initialization command string must begin with 'AT'. These first two characters must be in uppercase.

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.

2048: The maximum frame size is 2048 bytes.

maximum-frame-size: Specify the maximum frame size (in bytes). Valid maximum frame sizes range from 1500 to 4096 bytes.

SWTCNN

Specifies, for the switched line, whether the line is used for incoming calls, outgoing calls, or both incoming and outgoing calls.

Note: Valid only when CNN(*SWTPP).

***BOTH:** The line is used for both incoming and outgoing calls.

***ANS:** The line is used for incoming calls only.

***DIAL:** The local system starts the call.

SWTNWISLCT

Specifies the method used to select network interfaces from the switched network interface list.

Note: Valid only when RSRcname(*NWID) and CNN(*SWTPP).

***FIRST:** Selection begins with the first network interface specified in the switched network interface list.

***CALC:** The system calculates which network interface is selected.

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 RSRCTYPE(*NWID) and CNN(*SWTPP).

connection-list-name: Specify the name of the connection list for dial out operations.

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 RSRCTYPE(*NWID) and CNN(*SWTPP).

connection-list-name: Specify the entry name of the connection list for dial out operations.

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 RSRCTYPE(*NWID) and CNN(*SWTPP).

***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.

connection-list-name: Specify the name of the connection list used for this line description.

MSGQ

Specifies the qualified name of the message queue to which messages are sent. More information about using this parameter is in the Communications Management  book.

Single Values

***SYSVAL:** Messages are sent to the message queue defined in the system value QCFGMSGQ.

***SYSOPR:** Messages are sent to the system operator message queue (QSYS/QSYSOPR).

library-name/message-queue-name: Specify the library-qualified name of the message queue to which operational messages are sent.

CLOCK

Specifies how the clocking function for the line is provided.

Note: Not valid when RSRCTYPE(*NWID) or INTERFACE(*INTMODEM).

***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. 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.

DIALCMD

Specifies the type of dial command used to establish a switched connection with a remote system.

Note: Not valid when RSRCTYPE(*NWID).

***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.

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 RSRCTYPE(*NWID) or INTERFACE(*INTMODEM).

***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:

Table 2. Special characters

Character	Description
.	Period
<	Less than sign
(	Left parenthesis
+	Plus sign
&	Ampersand
*	Asterisk
)	Right parenthesis
;	Semicolon

Character	Description
-	Minus sign
/	Slash
,	Comma
_	Underline
>	Greater than sign
?	Question mark
:	Colon
=	Equals sign

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 RSRCTYPE(*NWID) and CNN(*NONSWTPP), CNN(*NONSWTCAL) or CNN(*NONSWTANS).

***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.

FLOWCNTL

Specifies whether the system controls the data flow.

Note: Only valid when FRAMING(*ASYNC).

***HARDWARE:** Hardware flow control is performed using the Request to Send (RTS) and Clear To Send (CTS) flow control signals.

***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.

NETCTL

Specifies the name of an existing network controller to which this line is attached.

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.

Note: Not valid when RSRCTYPE(*NWID) or INTERFACE(*INTMODEM).

25: The system waits up to 25 seconds for the CTS state to begin or end.

timer-value: Specify a value ranging from 10 through 60 seconds.

INACTTMR

Specifies the time (in seconds) that the system waits for user data activity on a switched line before disconnecting. This timer is started once LCP (Link Control Protocol) and NCP (Network Control Protocol) negotiations have completed successfully and restarted when user data are sent or received. LCP and NCP packets do not cause this timer to be restarted.

***NOMAX:** The inactivity timer is disabled.

timer-value: Specify a value ranging from 15 through 65535 seconds.

RMTANSTMR

Specifies the amount of time the system waits for the modem to enter the DSR state after dialing before signaling an error.

Note:

Not valid when RSRNAME(*NWID) and CNN(*NONSWTPP), CNN(*NONSWTCAL) or CNN(*NONSWTANS).

60: The system waits 60 seconds before signaling an error.

timer-value: Specify a value ranging from 30 through 120 seconds.

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.

***NO:** NRZI data encoding is not used.

***YES:** NRZI data encoding is used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

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.

The iSeries 400 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 iSeries 400 as a 2-byte escape sequence. Any characters specified in this map that are not escaped are discarded by iSeries 400.

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.

00000000: No ASCII control characters between '00'X and '1F'X are escaped.

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.

LCPAUT

Specifies values controlling how the Link Control Protocol layer of iSeries 400 PPP authenticates a remote peer.

Element 1: Remote peer challenge timer

Specifies the interval, in minutes, to periodically issue an authentication challenge to the remote peer.

***NONE:** The remote peer is authenticated only once when the PPP link is initially opened. No additional authentication challenges are issued.

challenge-interval: Specify the interval, in minutes, to re-validate the remote peer's authentication.

Element 2: Maximum authentication attempts

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 iSeries 400 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 iSeries 400 responds when a peer fails authentication. iSeries 400 always terminates communication without any retry if a response from the remote peer fails authentication.

5: If the remote peer does not respond after iSeries 400 has sent five authentication challenges, iSeries 400 terminates communication.

maximum-number-of-attempts: Specifies the maximum number of unacknowledged challenges sent to a remote peer before communication is terminated.

LCPCFG

Specifies values controlling how the Link Control Protocol layer of iSeries 400 PPP negotiates mutually acceptable link configuration values with a remote peer.

Warning:

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.

Element 1: Configuration retry timer

Specifies the interval, in seconds, that iSeries 400 waits before resending an unacknowledged configuration, termination, or authentication challenge request to a remote peer.

3.0: Unacknowledged configuration requests are resent every 3 seconds.

retry-interval: Specify the time interval after which unacknowledged requests are resent.

Element 2: Maximum configuration failures

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.

5: If the configuration does not converge after 5 attempts, iSeries 400 terminates communication.

maximum-number-of-attempts: Specifies the maximum number of attempts made to negotiate a mutually acceptable configuration.

Element 3: Maximum configuration requests

Specifies the maximum number of unacknowledged configuration requests sent to a remote peer before assuming that the peer is unable to respond.

10: If iSeries 400 transmits ten configuration requests to the remote peer but does not receive a response, iSeries 400 terminates communication.

maximum-number-of-attempts: Specifies the maximum number configuration attempts made before iSeries 400 terminates communication.

Element 4: Maximum termination requests

Specifies the maximum number of unacknowledged termination request packets sent to a remote peer before assuming that the peer is unable to respond.

2: If no response is received after sending two termination requests, iSeries 400 terminates communication immediately.

maximum-number-of-attempts: Specifies the maximum number of attempts made to notify the remote peer that communication will be terminated.

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 iSeries 400 and the remote peer iSeries 400 connects to agree to use the specified compression protocol.

This parameter is ignored if RSRNAME(*NWID) is not specified or when a INTERFACE is *INTMODEM, or INFTRFTYPE is *FAXMODEM or *ASYNCMODEM or *SYNCMODEM.

***STACLZS:** The iSeries 400 is allowed to negotiate the use of STAC LZS data compression.

***NONE:** The iSeries 400 is not allowed to negotiate or use any Point-to-Point Compression protocol.

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.

Element 1: Maximum Recovery Limit

2: Two recovery attempts are made within the interval specified.

count-limit: Specify the number of second-level recovery attempts to be made. Valid values range from 0 through 99.

Element 2: Recovery Time Interval

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.

Other Single Values:

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT

Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the line description.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

Example for CRTLINPPP

```
CRTLINPPP LIND(PPP01) RSCRNAME(LIN031)
```

This command creates a PPP line description named PPP01 with a resource name of LIN031.

Error messages for CRTLINPPP

*ESCAPE Messages

None.

CRTLINS DLC (Create Line Description (SDLC)) Command Description

CRTLINS DLC Command syntax diagram

Purpose

The Create Line Description (SDLC) (CRTLINS DLC) command creates a line description for a synchronous data link control (SDLC) line. More information about using this command is in the

Communications Configuration  book.

Required Parameters

LIND Specifies the name of the line description being created.

RSCRNAME

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.

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 two, then the resource name would be LIN012.

Up to six resource names can be specified if CNN(*SHM) is specified (X.21 short-hold mode). All lines specified must be attached to the same input/output processor. If ROLE(*SEC) and SHMNODE(*T20) are specified, only one resource name can be used.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

ROLE Specifies whether the system is the primary station, the secondary station, or whether the two systems dynamically negotiate the primary and secondary roles.

The primary station is the controlling station and the secondary station is the responding station. The primary station controls the communications link by sending commands to the secondary station, and the secondary station responds to the commands.

***NEG:** Allows the iSeries 400 and the remote system to negotiate which station is primary.

***PRI:** The iSeries 400 is the primary station on this communications line.

***SEC:** The iSeries 400 is a secondary station on this communications line.

INTERFACE

Specifies the type of physical interface on the Input/ Output Adapter (IOA) port.

***RS232V24:** The RS-232/V.24 interface is used.

***V35:** The V.35 interface is used.

***X21:** The X.21 interface is used.

***X21BISV24:** The X.21bis/V.24 interface is used.

***X21BISV35:** The X.21bis/V.35 interface is used.

***RS449V36:** The RS-449/V.36 interface is used.

***INTMODEM:** The integrated modem interface is used.

CNN Specifies the type of line connection used.

***NONSWTPP:** A nonswitched point-to-point line is used.

***SWTPP:** A switched point-to-point line is used.

***MP:** A nonswitched multipoint line is used.

***SHM:** An X.21 short hold mode 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.

Note: *NONSWTCAL and *NONSWTANS are valid only when INTERFACE(*INTMODEM) is specified.

SNBU Specifies, for controllers attached to nonswitched lines only, whether the switched network backup (SNBU) feature is activated or deactivated. This feature lets the user bypass a broken nonswitched connection by establishing a switched connection. This parameter applies only if SWITCHED(*NO) and SNBU(*YES) are specified when the controller description is created.

Note: The Change Line Description (SDLC)(CHGLINSDLC) and appropriate Change Controller commands must be used to activate the SNBU feature. Switched network backup is valid only if the local modem and remote modem both support this feature.

***NO:** The remote modem does not have the switched network backup (SNBU) feature.

***YES:** The modem has the SNBU feature.

SHMNODE

Specifies, for X.21 short-hold mode lines only, the physical unit type of the controllers using the line. This parameter is valid only if CNN(*SHM) is specified.

***T21:** Physical unit type 2.1 controllers are used. ROLE(*NEG) must also be specified.

***T20:** Physical unit type 2.0 controllers are used. ROLE must be specified as *PRI or *SEC.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

AUTOCALL

Specifies, for both a switched line and a switched network backup (SNBU) line, whether the line has an associated automatic call unit that performs automatic calling to the remote system.

***NO:** This switched line does not have an automatic unit.

***YES:** This switched line has an automatic call unit.

CTL Specifies the name of the controller description to which this object is attached.

Note:

The controller descriptions must already exist. Do not use this parameter when following the normal procedure of creating descriptions for lines first, controllers second, and devices last. Use this parameter only when the associated controller descriptions have already been created before this line description.

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.

***SYSGEN:** The iSeries 400 creates the exchange identifier. Use the Display Line Description (DSPLIND) command to see the resulting exchange identifier.

exchange-identifier: Specify an exchange identifier. If the *SYSGEN value is not used, specify an exchange identifier containing eight hexadecimal digits starting with 056.

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.

Note: All data communications equipment on the line must use the same data transmission coding method.

***YES:** NRZI data encoding is used.

***NO:** NRZI data encoding is not used.

MAXCTL

Specifies the maximum number of controllers that the line supports.

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 the maximum number of controllers supported by the line, a number large enough to account for all of the controllers that are currently attached to this line, and for those controllers to be attached in the near future. Valid values range from 1 through 254.

CLOCK

Specifies how the clocking function for the line is provided.

***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. 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.

LINESPEED

Specifies the line speed in bits per second (bps).

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

Specifies the type of modem supported on the communications line.

The modem manual has information to determine the appropriate value for the modem.

***NORMAL:** No attempt is made to run diagnostic tests on the modem.

***V54:** Certain types of diagnostic tests (as defined by the CCITT recommendations) are run to the modem. The iSeries 400 supports CCITT V.54 loop three (local loop back) and loop two (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.

MODEMRATE

Specifies the speed at which the line operates if the modem has the data rate select feature.

***FULL:** The line operates at the full rate of the modem.

***HALF:** The line operates at one-half the full rate, or at the alternate rate, of the modem.

SWTCNN

Specifies, for the switched line and the switched network backup (SNBU) line, whether the line is used for incoming calls, outgoing calls, or both.

***BOTH:** The line is used for both incoming and outgoing calls.

***ANS:** The line is used for incoming calls only.

***DIAL:** The local system starts the call.

AUTOANS

Specifies, for switched or switched network backup (SNBU) lines, whether the system automatically answers a call from a remote system to establish the connection or whether the user must manually answer the call and place the modem in data mode.

***YES:** The system automatically answers incoming calls.

Note:

*YES is valid only if the modem has the automatic answer feature or an X.21 circuit switched interface is used.

***NO:** The system operator must manually answer incoming calls.

AUTODIAL

Specifies, for switched or switched network backup (SNBU) lines, whether the system automatically calls a remote system to establish a connection or whether the system operator must manually place the call.

Note:

For an X.21 circuit switched interface, automatic dialing must be specified.

***NO:** The system operator must manually call a remote system.

***YES:** The system automatically calls a remote system.

Note:

*YES is valid only if the system is using an automatic call unit or an X.21 circuit switched interface, or if the modem can call through a command interface.

MDMINZCMD

Specifies the modem initialization command string sent to set the modem.

Note: Valid only when INTERFACE(*INTMODEM) is specified.

***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:

Table 1. Special characters

Character	Description
.	Period
<	Less than sign
(	Left parenthesis
+	Plus sign
&	Ampersand
*	Asterisk
)	Right parenthesis
;	Semicolon
-	Minus sign
/	Slash
,	Comma
_	Underline
>	Greater than sign
?	Question mark
:	Colon
=	Equals sign
	Spaces
#	Number sign
"	Double quote
!	Exclamation mark
@	At sign
^	Circumflex
%	Percent
[	Left square bracket
]	Right square bracket
\	Back slash
\$	Dollar sign

Note: The first two characters of the modem initialization command string must begin with 'AT'. These first two characters must be in uppercase.

DIALCMD

Specifies the type of dial command used to establish a connection with a remote system.

***NONE:** No dial command type (automatic call unit or X.21 circuit switched interface) is specified.

***V25BIS:** The use of one physical interface for call establishment and data transmission is allowed. It is sometimes referred to as a serial automatic call interface because the digits are presented serially on the link from the system data terminal equipment (DTE) to the modem data circuit-terminating equipment (DCE).

ACRSRCNAME

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 LIN02 and the port is 1, the resource name is LIN021.

SHMCALLTMR

Specifies the interval at which a connection is reestablished on an X.21 short-hold mode line to verify the state of the remote system even if no normal data traffic has occurred in the specified interval.

Note: This parameter is valid only if CNN(*SHM) is specified.

***NONE:** No call is made to verify the connection.

call-timer: Specify an interval, ranging from 1 through 60 minutes, after which a call is made to verify the connection.

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, delay further calls for the amount of time specified on the SHMANSPLY parameter, and then make 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 ROLE parameter and *SHM is specified on the CNN parameter.

8: The system waits 8 seconds before checking for other controllers.

***NOMAX:** The timer is disabled.

mxcnct-timeout: Specify a value ranging from 1 through 254 seconds.

SHMANSPLY

Specifies the amount of time the system waits for controllers to call in before making outgoing calls.

Note: This parameter is valid only if *PRI or *NEG is specified on the ROLE parameter and *SHM is specified on the CNN parameter.

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 equals 100 tenths of a second.

SHMALLFMT

Specifies the format of the network identifier used in the local system's connection number (CANNBR parameter).

Note:

This parameter is valid only if *SHM is specified on the CNN parameter and *T21 is specified on the SHMNODE parameter.

***DNIC:** A four-digit Data Network Identification Code is used. The iSeries 400 assumes the first four digits of the CALLNBR parameter are the Data Network Identification Code of the user's network. If a call is placed to a controller with the same DNIC (on the controller description C>NNBR parameter), a local call is assumed and the system discards the first four digits of the C>NNBR parameter.

***DCC:** A three-digit Data Country Code is used. The iSeries 400 assumes the first three digits of the CALLNBR parameter are the Data Country Code. If a call is placed to a controller with the same DCC (on the controller description C>NNBR parameter), the system discards the first three digits of the C>NNBR parameter.

call-format: Specify the length of the area code or country or region code portion of the SHM calling number. Valid values range from 0 to 15.

SHMACC

Specifies the access code used by an X.21 short-hold mode line when calling a system on another network. The access code can be three or four digits and is valid only for X.21 short-hold mode lines with SHMNODE(*T21) specified.

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 C>NNBR 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:

This parameter is required for all X.21 short-hold mode lines. The calling number is passed to the remote system at the initial connection. This number is dialed by the remote system to reestablish the short-hold mode connection.

***NONE:** The CRN (Call Request Normal) dial command is used by the V.25 bis line, or the line does not use X.21 short-hold mode.

calling-number: Specify up to 32 characters that represent the local telephone number for V.25 bis CRI (Call Request with Identification) automatic dialing.

For X.21 short-hold mode lines:

- If SHMNODE(*T21) is specified, up to 14 characters can be specified for the calling number. The Data Network Identification Code (DNIC) or Data Country Code (DCC) must be included in the first three or four digits of the calling number.
- If SHMNODE(*T20) is specified, up to 18 characters can be specified for the calling number. Include the DNIC or DCC in the first three or four digits of the calling number only if the remote device always calls from a different DNIC or DCC location.

STNADR

Specifies, for a switched secondary line or negotiable line, the hexadecimal station address to

which the local system responds when polled by the remote system if it answers a call. Specify the station address in hexadecimal characters 01 through FE.

CNNPOLLRTY

Specifies, for a switched primary line or negotiable line, the number of connect poll retries before indicating the error and making the station inoperative.

7: Seven retries are attempted.

connect-poll-retry: Specify a value ranging from 0 through 64 for the number of retries.

CNNTMR

Specifies, for X.21 circuit-switched lines, the number of seconds an automatic answer connect request waits for an incoming call to be accepted.

*NOMAX: There is no disconnect limit.

connect-timer: Specify a value ranging from 1 through 32767 in 0.1-second intervals.

SHORTTMR

Specifies, for X.21 circuit-switched lines, the number of seconds the system waits between connection attempts. This timer is used during bursts of retry operations.

50: The system waits five seconds.

short-timer: Specify a value ranging from 10 through 600 in 0.1-second intervals.

LONGTMR

Specifies, for X.21 circuit-switched lines, the number of seconds the timer waits 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 "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.

600: The system waits 60 seconds.

long-timer: Specify a value ranging from 100 through 6000 in 0.1-second intervals.

SHORTRTY

Specifies, for X.21 circuit-switched lines, the number of retry attempts made during a burst of retries.

7: Seven retries are attempted.

short-retry: Specify a value ranging from 0 through 254 for the number of retries.

LONGRTY

Specifies, for X.21 circuit-switched lines, the number of retry burst attempts made 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 "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.

1: One retry is attempted.

long-retry: Specify a value ranging from 0 through 254 for the number of retries.

CPSRTY

Specifies whether call progress signals are retried for X.21 circuit-switched lines or X.21 short-hold mode lines. Up to 11 values can be specified; duplicate values are ignored.

Possible values are:

*CPS41	*CPS44	*CPS47	*CPS71
*CPS42	*CPS45	*CPS48	*CPS72
*CPS43	*CPS46	*CPS49	

This parameter can be specified only if INTERFACE(*X21) and either *SHM or *SWTPP are specified on the CNN parameter.

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.

Note: The possible frame sizes are 265, 521 (default), 1033, and 2057.

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.

***OFF:** No monitoring of errors occurs.

***MIN:** The error threshold is set at a minimum monitoring level.

***MED:** Error thresholding is set to a medium monitoring level.

***MAX:** The error threshold is set at a maximum monitoring level.

DUPLEX

Specifies whether request-to-send (RTS) is permanently turned on (for full-duplex modems) or turned on only when data transmission is required (for half-duplex modems).

Note: For X.21 circuit-switched interface lines, full duplex permanent RTS must be specified.

***HALF:** RTS is turned on only when transmission is required (for half-duplex modems).

***FULL:** Request-to-send (RTS) is permanently turned on (for full-duplex modems).

MODULUS

Specifies whether extended sequence numbers are used.

8: Extended sequence numbers are not used (Modulus 8).

128: Extended sequence numbers are used (modulus 128).

MAXOUT

Specifies the maximum number of frames that are sent sequentially to a remote system before the

remote system must respond. For modulus 8, the maximum number of frames range from 1 through 7. For modulus 128, the maximum number of frames range from 8 through 28.

7: Rotation of the text is done 270 degrees clockwise from the 0 degree writing position.

maximum-outstanding-frames: Specify a value ranging from 1 through 28 for the number of frames.

INACTTMR

Specifies, for a secondary or negotiable line, the time (in tenths of a second) that the system waits for a valid frame to flow before reporting the error and disconnecting the line. This timer is started at connection time, restarted upon transmission of any frame, and reset upon receipt of a frame with a valid frame check sequence.

300: The system waits 30.0 seconds.

***NOMAX:** There is no disconnect limit.

inactivity-timer: Specify a value ranging from 150 through 4200 in 0.1-second intervals.

POLLRSPDLY

Specifies, for a secondary line or negotiable line, the minimum number of seconds the system must wait before it responds to a data poll if there is no frame to transmit.

0: There is no delay.

poll-response-delay: Specify a value ranging from 1 through 2048 in 0.0001-second intervals.

NPRDRCVTMR

Specifies, for a primary line or a negotiable line, the number of seconds the system waits for either a final frame or an idle signal while the secondary station is continuously sending. If this time ends, the nonproductive receive condition is reported.

320: The system waits 32.0-seconds.

nonproductive-receive-timer: Specify a value ranging from 160 through 4200 in 0.1-second intervals.

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 found, error recovery procedures are started.

30: The system waits three seconds.

idle-timer: Specify a value ranging from 5 through 300 in 0.1-second intervals.

The following indicates the minimum value you should specify for different line characteristics:

Idle Timer Minimum Values for SDLC Lines		
LINE CHARACTERISTIC	VALUE	TIME (SECONDS)
Duplex	5	0.5
Half duplex	10	1.0
Satellite link	20	2.0

This time-out is also dependent on the remote station's processing time. You should also allow for the longest possible processing time at the secondary station. However, time-out values that are too long lengthen the time required to detect a failing remote station and can adversely affect performance on a multipoint line. Also, if the idle timer is set to a value greater than the

corresponding inactivity timer value at the secondary station, the line may report permanent errors rather than using normal recovery procedures for line errors.

CNNPOLLTMR

Specifies, for a primary line or negotiable line, the number of seconds the system waits for the response to a connect poll before sending the poll again.

30: The system waits three seconds.

connect-poll-timer: Specify a value ranging from 2 through 300 in 0.1-second intervals.

POLLPAUSE

Specifies, for a primary or negotiable line, the number of seconds the system pauses after the last remote system in the poll list is polled.

0: There is no pause.

poll-cycle-pause: Specify a value ranging from 1 through 2048 in 0.0001-second intervals.

FRAMERTY

Specifies the number of retries for an unanswered command frame or unacknowledged information frame before indicating the error and disconnecting the station.

7: Seven retries are attempted.

frame-retry: Specify a value from 0 through 64 for the number of retries.

FAIRPLLTMR

Specifies the maximum amount of time for which the system sends data to one or more work stations before requesting input from the work stations.

15: The system waits 15 seconds (during output data transfers to work stations) before polling for input.

fair-poll-time: Specify the amount of time (in seconds) the system waits (during output transfers) before polling for input. Valid values for this parameter range from 5 through 60 seconds.

DSRDRPTMR

Specifies the amount of time the system waits for the modem to exit the Data Set Ready (DSR) state before signaling an error.

6: Character density is 16.7 characters per inch.

DSR-drop-timer: Specify a value ranging from 3 through 60 seconds.

AUTOANSTYP

Specifies the method the system uses to answer incoming calls.

***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.

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.

25: The system waits up to 25 seconds for the CTS state to begin or end.

CTS-timer: Specify a value ranging from 10 through 60 seconds.

RMTANSTMR

Specifies the amount of time the system waits for the modem to enter the Data Set Ready (DSR) state after dialing before signaling an error.

60: The system waits 60 seconds before signaling an error.

answer-timer: Specify a value ranging from 30 through 120 seconds.

LINKSPEED

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN* support is used on the system.

***INTERFACE**: The following link speeds, based on the physical interface type, are used: 9600 bps for RS-232/V.24 and X.21bis/V.24, 48000 bps for V.35 and X.21bis/V.35, and 64000 bps for X.21 and RS-449/V.36.

***MIN**: The minimum link speed is used.

***MAX**: The maximum link speed 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, 2048000, 4M, 10M, 16M and 100M.

COSTCNN

Specifies the relative cost of being connected on the line. This parameter is required only if APPN* support is used on the system.

***CNN**: The cost per connection time is 0 for nonswitched connections, and 128 for switched connections.

cost-per-connect-time: Specify a value ranging from 0 through 255.

COSTBYTE

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN* support is used on the system.

***CNN**: The cost per byte is 0 for nonswitched connections and 128 for switched connections.

cost-per-byte: Specify a value ranging from 0 through 255.

SECURITY

Specifies the security level of the physical line. This parameter is used only if APPN is used on the system.

***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.

PRPDLY

Specifies the level of propagation delay on the line. This parameter is valid only if APPN* support is used on the system. The order of the values from shortest to longest delay is *MIN, *LAN, *TELEPHONE, *PKTSWTNET, and *SATELLITE.

***TELEPHONE**: The telephone propagation delay is used.

***MIN**: The minimum propagation delay is used.

***LAN**: The local area network propagation delay is used.

***PKTSWTNET**: The packet switched network propagation delay is used.

***SATELLITE:** The satellite propagation delay is used.

***MAX:** The maximum propagation delay is used.

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* support is used on the system.

128: The value 128 is used.

user-defined-1: Specify a value ranging from 0 through 255.

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* support is used on the system.

128: The value 128 is used.

user-defined-2: Specify a value ranging from 0 through 255.

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.

128: The value 128 is used.

user-defined-3: Specify a value ranging from 0 through 255.

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.

Element 1: Maximum Recovery Limit

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.

Element 2: Recovery Time Interval

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.

Other Single Value

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT

Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the line description.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLINS DLC

```
CRTLINS DLC  LIND(BOSTON)  RSRNAME(LIN041)
```

This command creates an SDLC line description named BOSTON with a resource name of LIN041.

Error messages for CRTLINS DLC

*ESCAPE Messages

CPF2718

Line description &1 not created due to errors.

CRTLINT DLC (Create Line Description (TDLC)) Command Description

CRTLINT DLC Command syntax diagram

Purpose

The Create Line Description (TDLC) (CRTLINT DLC) command creates a line description for a twinaxial data link control (TDLC) line. More information about using this command is in the Communications

Configuration  book.

Required Parameters

LIND Specifies the name of the line description being created.

WSC Specifies the name of the work station controller to which the PC is attached.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

NETCTL

Specifies the name of an existing network controller. This network controller is used to run TCP/IP over the connection.

CTL Specifies the name of the controller description to which this object is attached.

AUT Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the line description.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTLINTDLC

```
CRTLINTDLC LIND(W$FLINE) WSC(CTL01)
```

This command creates a TDLC line description named WSFLINE that is attached to work station controller CTL01.

```
CRTLINTDLC LIND(NETLINE) WSC(CTL01) NETCTL(NETC01)
```

This command creates a TDLC line description named NETLINE that is attached to work station controller CTL01, and NETC01 is used as network controller to run TCP/IP over the connection.

Error messages for CRTLINTDLC

*ESCAPE Messages

CPF2718

Line description &1 not created due to errors.

CRTLINTRN (Create Line Description (Token-Ring Network)) Command Description

CRTLINTRN Command syntax diagram

Purpose

The Create Line Description (Token-Ring Network) (CRTLINTRN) command creates a line description for a token-ring network line. More information about using this command is in the Communications

Configuration  book.

Required Parameters

LIND Specifies the name of the line description being created.

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. 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.

***NWID:** The resource name is determined by the network interface used.

***NWSD:** The resource name is determined by the network server description used.

resource-name: Specify a resource name.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

NETCTL

Specifies the name of an existing network controller. This parameter can be specified for lines attached to a Transmission Control Protocol/Internet Protocol (TCP/IP) network.

MAXCTL

Specifies the maximum number of controllers that the line supports.

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.

NWI Specifies the network interface description to be used.

Note: NWI(*NONE) must be specified when RSRCTYPE(*NWID) is not specified. Otherwise, NWI(*NONE) can be specified only when NWIDLCI(*NONE) is also specified.

***NONE:** No network interface is specified.

NWI-name: Specify the name of the network interface description to be used.

NWIDLCI

Specifies the frame relay network interface data link connection identifier to be used.

Note: NWIDLCI(*NONE) must be specified when RSRCTYPE(*NWID) is not specified. Otherwise, NWIDLCI(*NONE) can be specified only when NWI(*NONE) is also specified.

***NONE:** No network interface data link connection identifier is specified.

NWI-data-link-connection-ID: Specify the network interface data link connection identifier to be used. Valid values range from 1 through 1018.

NWITYPE

Specifies the network interface type.

***FR:** The network interface type is frame relay.

***ATM:** The network interface type is Asynchronous Transfer Mode (ATM).

NWS Specifies the network server description to which this line is attached.

Note:

The NWS parameter can only be specified when RSRCTYPE(*NWSD) is specified.

Element 1: Network server description

***NONE:** No server description is specified.

network-server-description-name: Specify the name of an existing network server description to be used.

Element 2: Network server port

***INTERNAL:** The internal network server port to which the line is attached. There can only be one internal network server port configured for each network server.

network-server-port: Specify the network server port to which the line is attached. Valid values are 1 and 2.

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, one cable is dedicated to send data and another cable is dedicated to receive data. Therefore, data can be sent and received simultaneously. A hub is required for full duplex.

Note:

Duplex (DUPLEX) parameter set to *AUTO, if it has a default value and line speed (LINESPEED) parameter has 100M or *AUTO.

***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.

LINESPEED

Specifies the line speed in bits per second (bps).

Notes:

1. When RSRCTYPE(*NWID) and NWITYPE(*FR) are specified, *NWI must be specified on this parameter.
2. Duplex (DUPLEX) parameter set to *AUTO, if it has a default value and line speed (LINESPEED) parameter has 100M or *AUTO.

16M: The line speed is 16 million bits per second (Mbps).

4M: The line speed is 4 million bits per second (Mbps).

100M: The line speed is 100 million bits per second (Mbps).

***AUTO:** The line speed value will be determined by the hardware using auto-negotiation.

***NWI:** The line speed used is for a network interface. LINESPEED(*NWI) is only valid when RSRCTYPE(*NWID) and NWITYPE(*FR) are specified.

MAXFRAME

Specifies the maximum frame size that can be transmitted and received on this line description.

A default of 1556 bytes is used when RSRCTYPE(*NWID) and NWITYPE(*FR) are specified. A default of 4060 is used when RSRCTYPE(*NWID) and NWITYPE(*ATM) are specified. Otherwise, a default of 4105 bytes is used.

Notes:

1. For NWITYPE(*FR), if the LINESPEED is 4M, a value greater than 4060 cannot be specified.
2. For token-ring adapters that support only a 4M LINESPEED, values 4472 and lower must be specified.
3. When RSRCTYPE(*NWID) and NWITYPE(*FR) are specified, valid values for this parameter range from 265 through 8148 bytes. The MAXFRAME value is provided by your telephone carrier from which you should subtract 44 bytes for the size of the header.
4. When RSRCTYPE(*NWID) and NWITYPE(*ATM) are specified, valid values for this parameter range from 265 through 16393 bytes. The MAXFRAME value is provided by your telephone carrier from which you should subtract 20 bytes for the size of the header.

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.

LECFRAME

Specifies the LAN emulation client (LEC) frame size that can be transmitted and received on this line description.

Note:

MAXFRAME always be at least 20 less than this field.

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.

ACTLANMGR

Specifies whether Local Area Network (LAN) Manager is activated for this line.

Notes:

1. ACTLANMGR(*YES) must be specified when RSRCTYPE(*NWID) is specified.
2. ACTLANMGR(*NO) will ignore the values in TRNLOGLVL, TRNMGRMODE, LOGCFGCHG and TRNINFBCN.

***YES:** LAN manager support is activated for this line.

***NO:** LAN manager support is not activated for this line.

TRNLOGLVL

Specifies the error logging level used by the Token Ring Local Area Network (TRLAN) Manager.

Notes:

1. TRNLOGLVL is ignored when ACTLANMGR(*NO) is specified.

***OFF:** No monitoring of errors occurs.

***MIN:** Starts the minimum reporting level, which reports only conditions that indicate degraded performance and beaconing.

***MED:** Starts the medium reporting level, which reports conditions that indicate potential degraded performance as well as those reported for the *MIN reporting level.

***MAX:** The maximum error logging level, which reports all error conditions, including those reported for the *MIN and *MED reporting levels, is used.

TRNMGRMODE

Specifies whether the token-ring manager is controlling or observing.

Notes:

1. TRNMGRMODE(*OBSERVING) must be specified when RSRCTYPE(*NWID) is specified.
2. TRNMGRMODE is ignored when ACTLANMGR(*NO) is specified.

***OBSERVING:** The token-ring manager is observing.

***CONTROLLING:** The token-ring manager is controlling.

LOGCFGCHG

Specifies whether NAUN (nearest active upstream neighbor) changes are logged.

Notes:

1. LOGCFGCHG(*LOG) must be specified when RSRCTYPE(*NWID) is specified.
2. LOGCFGCHG is ignored when ACTLANMGR(*NO) is specified.

***LOG:** NAUN changes are logged.

***NOLOG:** NAUN changes are not logged.

TRNINFBCN

Specifies whether an informational message is sent to QSYSOPR when beaconing occurs.

Notes:

1. TRNINFBCN(*YES) must be specified when RSRCTYPE(*NWID) is specified.
2. TRNINFBCN is ignored when ACTLANMGR(*NO) is specified.

***YES:** A message is sent to QSYSOPR when beaconing occurs.

***NO:** A message is not sent to QSYSOPR when beaconing occurs.

ADPTADR

Specifies the 12-character hexadecimal adapter address.

***ADPT:** This value gives the user the preset token-ring default address for this token-ring adapter card. The user may display this by using the Display Line Description (DSPLIND) command on this line description after it has successfully varied on.

Note:

This value is not valid when RSRCTYPE(*NWID) and NWITYPE(*FR) is specified, or RSRCTYPE(*NWSD) is specified.

local-adapter-address: Specify an address for this system in the token-ring network. Valid values range from hexadecimal 400000000000 through 7FFFFFFFFFFFFF.

FCNADR

Specifies whether token ring functional addresses are used.

***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.

IEEE- and IBM-Defined Functional Addresses	
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

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.

***SYSGEN:** The iSeries 400 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 Specifies the source service access point (SSAP). The most commonly used SNA SSAP is hex 04. All SSAP values must be unique.

Note: It is recommended that SSAPs F0, F8 and FC are not used for lines attached to network server descriptions.

***SYSGEN:** The system generates one of the source service access points: 04, 12, AA, or C8.

Element 1: SSAPs

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 an SSAP value of 12 and an SSAP type of *NONSNA.

Element 2: Frame Size for SSAPs

***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). When RSRCTYPE(*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.

Element 3: SSAP Type

***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.

ELYTKNRLS

Specifies whether the early token release option is used.

Note: ELYTKNRLS(*LINESPEED) must be specified when RSRCTYPE(*NWID) is specified.

***LINESPEED:** The value specified on the LINESPEED parameter is used to determine whether the early token release option is used.

***YES:** The early token release option is used. *YES can be specified only if the LINESPEED parameter contains the value 16M.

***NO:** The early token release option is not used.

THRESHOLD

This parameter, and its values *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.

ACCTYPE

Specifies the type of access to the ATM network.

***SVC:** This line represents a LAN emulation client using switched virtual circuits.

***PVC:** This line represents a LAN emulation client using a permanent virtual circuit.

PVCID

Specifies the virtual path identifier and virtual circuit identifier pairs associated with this permanent virtual circuit.

Note: PVCID required if ACCTYPE(*PVC) is specified.

Element 1: Virtual Path Identifier

virtual-path-id: Specify a number that represents the virtual path identifier. This number must be in the range of 0 to 7.

Element 2: Virtual Circuit Identifier

virtual-circuit-id: Specify a number that represents the virtual circuit identifier. This number must be in the range of 32 to 4095.

USELECSADR

Specifies whether the LAN emulation configuration server (LECS) should be connected to request the remote LAN emulation server (LES) address.

***YES:** The LECS address is used.

***NO:** The LECS address is not used.

LESATMADR

Specifies the ATM network address of the remote LAN emulation server.

Note: This parameter must be other than *NONE if USELECSADR(*NO) is specified.

Single Value

***NONE:** ATM network address is not used.

Element 1: Network prefix

network-prefix: Specify the network prefix of the ATM address of the remote server. This is a 26 digit hexadecimal value.

Element 2: End system identifier

end-system-identifier: Specify the end system identifier of the remote server. This is a 12 digit hexadecimal value.

Element 3: Selector byte

selector byte: Specify the selector byte of the remote server. This is a two digit hexadecimal value.

EMLLANNAME

Specifies the emulated LAN name.

***NONE**: Emulated LAN name not used.

emulated-LAN-name: Specify the emulated LAN name. A maximum of 32 characters may be specified.

LECDSTIMO

Specifies the amount of time in minutes a LAN emulation (LE) client will wait before disconnecting an idle virtual circuit connection to another client.

10: The LE client will wait 10 minutes.

***NOMAX**: The LE client will wait indefinitely.

LEC-disconnect-timeout: Specify the number of minutes the LE client will wait before disconnecting an idle virtual circuit connection to another client. The value must be in the range of 1 to 30 minutes.

LINKSPEED

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN* support is used on the system.

16M: A link speed of 16 million bits per second (Mbps) is used.

4M: A link speed of 4 million bits per second is used (Mbps).

10M: A link speed of 10 million bits per second (Mbps) is used.

100M: A link speed of 100 million bits per second (Mbps) is used.

***MIN**: The minimum link speed is used.

***MAX**: The maximum link speed is used.

link-speed: Specify the link speed. Valid values range from 1200 to 603979776000.

COSTCNN

Specifies the relative cost of being connected on the line. This parameter is required only if APPN* support is used on the system.

0: The format of this tape is QIC5010, which is used for 1/4 inch cartridge tapes that can hold 13.5 gigabytes of data.

cost-per-connect-time: Specify a value ranging from 0 through 255.

COSTBYTE

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN* support is used on the system.

0: The cost per byte is 0.

cost-per-byte: Specify a value ranging from 0 through 255.

SECURITY

Specifies the security level of the physical line. This parameter is used only if APPN is used on the system.

***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.

PRPDLY

Specifies the level of propagation delay on the line. This parameter is valid only if APPN* support is used on the system. The order of the values from shortest to longest delay is *MIN, *LAN, *TELEPHONE, *PKTSWTNET, and *SATELLITE.

***MIN:** The minimum propagation delay is used.

***LAN:** The local area network propagation delay is used.

***TELEPHONE:** The telephone propagation delay is used.

***PKTSWTNET:** The packet switched network propagation delay is used.

***SATELLITE:** The satellite propagation delay is used.

***MAX:** The maximum propagation delay is used.

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* support is used on the system.

128: The value 128 is used.

user-defined-1: Specify a value ranging from 0 through 255.

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* support is used on the system.

128: The value 128 is used.

user-defined-2: Specify a value ranging from 0 through 255.

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.

128: The value 128 is used.

user-defined-3: Specify a value ranging from 0 through 255.

AUTOCRTCTL

Specifies whether the system will automatically create controller descriptions when calls are received from adjacent systems on the local area network (LAN).

***NO:** The system will not automatically create a controller description when incoming calls are received.

***YES:** The system will automatically create a controller description when incoming calls are received.

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.

1440: The controller description can be idle for 1440 minutes (24 hours).

***NONE:** The system will 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.

MSGQ

Specifies the qualified name of the message queue to which messages are sent. More information about using this parameter is in the Communications Management  book.

Single Values

***SYSVAL:** Messages are sent to the message queue defined in the system value QCFGMSGQ.

***SYSOPR:** Messages are sent to the system operator message queue (QSYS/QSYSOPR).

library-name/message-queue-name: Specify the library-qualified name of the message queue to which operational messages are sent.

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.

Element 1: Maximum Recovery Limit

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.

Element 2: Recovery Time Interval

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.

Other Single Value

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT

Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the line description.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTLINTRN

Example 1: Creating a Token-Ring Line Description

```
CRTLINTRN  LIND(TRLAN1)  RSRNAME(LIN011)
           TEXT('TOKEN-RING LINE')
```

This command creates a token-ring line (TRLAN1) with resource name LIN011 and exchange identifier 05612345.

Example 2: Creating a Token-Ring Line Description

```
CRTLINTRN  LIND(TRNLIN)  RSRNAME(*NWS)
           NWS(REMODEL 2)
```

This command creates a token-ring line description named TRNLIN that is attached to port 2 of network server REMODEL.

Error messages for CRTLINTRN

*ESCAPE Messages

CPF2718

Line description &1 not created due to errors.

CRTLINWLS (Create Line Description (Wireless)) Command Description


CRTLINWLS Command syntax diagram


Purpose

The Create Line Description (Wireless) (CRTLINWLS) command creates 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.

More information about using this command is in the Communications Configuration  book.

Required Parameters

LIND Specifies the name of the line description being created.

RSRCNAME

Specifies the resource name that describes the automatic call unit port.

Note:

You can use the Work with Hardware Resources (WRKHDWRSC) command with *CMN specified on 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 a “Token-ring port”.

The value specified on the RSRCNAME parameter cannot be changed from *NWID to another value or from another value to *NWID.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

NETCTL

Specifies the name of an existing network controller. This parameter can be specified for lines attached to a Transmission Control Protocol/Internet Protocol (TCP/IP) network.

ADPTADR

Specifies the 12-character hexadecimal adapter address.

***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 FFFFFFFF in hexadecimal format. The second digit (from the left) of the address must be 2, 6, A, or E.

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.

***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 FDFFFFFFFF in hexadecimal format. The second digit (from the left) must be odd. All group addresses must be unique.

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.

***SYSGEN:** This value allows the iSeries 400 to create the exchange identifier. Use the Display Line Description (DSPLIND) command to see the resulting exchange identifier.

exchange-ID: Specify an 8-character (four hexadecimal bytes) exchange identifier ranging from 05600000 through 056FFFFF.

ETHSTD

Specifies the Ethernet standard frame type that is used on this line.

***ALL:** All Ethernet standards can be used. However, Systems Network Architecture (SNA) data will be placed in IEEE 802.3 frames.

***ETHV2:** Ethernet Version 2 frames are used for all data.

***IEEE8023:** IEEE 802.3 frames are used for all data.

MAXCTL

Specifies the maximum number of SNA controllers that the line supports.

40: Up to 40 controllers are supported by the line.

maximum-controllers: Specify the maximum number of controllers supported by the line. This should be a number large enough to account for all of the controllers that are currently attached to this line, and for those controllers to be attached in the near future. Valid values range from 1 through 256.

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.

***SYSGEN:** For ETHSTD(*ALL or *IEEE8023), the iSeries 400 creates three SSAPs: hex 04 for SNA applications, and hex AA and 06 for TCP/IP applications. For ETHSTD(*ETHV2), the system creates hex 04 for SNA.

Element 1: SSAPs

source-service-access-point: Specify up to 24 SSAPs. Valid values are hex AA and hex 06 for TCP/IP applications, and any hexadecimal number 04 through 9C that is divisible by four for SNA applications.

Element 2: Frame Size for SSAPs

***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.

Element 3: SSAP Type

***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.

***NONNSNA:** The SSAP is used for communications other than SNA communications. Valid values range from 02 through FE and must be divisible by 2.

LINKSPEED

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN* support is used on the system.

280000: A link speed of 280000 bps is used.

4M: A link speed of 4 million bps is used.

***MIN:** The minimum link speed is used.

***MAX:** The maximum link speed 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.

COSTCNN

Specifies the relative cost of being connected on the line. This parameter is required only if APPN* support is used on the system.

0: The format of this tape is QIC5010, which is used for 1/4 inch cartridge tapes that can hold 13.5 gigabytes of data.

cost-per-connect-time: Specify a value ranging from 0 through 255.

COSTBYTE

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN* support is used on the system.

0: The cost per byte is 0.

cost-per-byte: Specify a value ranging from 0 through 255.

SECURITY

Specifies the security level of the line.

***NONSECURE**: Normal priority is used.

***ENCRYPTED**: Data flowing on the line is encrypted.

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.

***LAN**: The local area network propagation delay is used.

***MIN**: The minimum propagation delay is used.

***MAX**: The maximum propagation delay is used.

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* support is used on the system.

128: The value 128 is used.

user-defined-1: Specify a value ranging from 0 through 255.

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* support is used on the system.

128: The value 128 is used.

user-defined-2: Specify a value ranging from 0 through 255.

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.

128: The value 128 is used.

user-defined-3: Specify a value ranging from 0 through 255.

AUTOCRTCTL

Specifies whether the system automatically creates controller descriptions when calls are received from adjacent systems on the local area network (LAN).

***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.

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.

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 through 10000 (in minutes).

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.

Element 1: Maximum Recovery Limit

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.

Element 2: Recovery Time Interval

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.

Single Value

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***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 also can change ownership of the line description.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

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.

***NONE:** No line description 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.

library-name: Specify the name of the library to be searched.

initialization-file-name: Specify the name of a source file containing the initialization data. If a source file name has not been added prior to varying on this line description, the current input/output processor (IOP) defaults are used for initialization.

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.

***NONE:** No source file member name is specified.

initialization-member-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 current IOP defaults are used for initialization.

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 Add Extended Wireless Line Member (ADDEWLM) command when the line is varied on.

***NONE:** No initialization file 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.

library-name: Specify the name of the library to be searched.

initialization-program-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 Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK**: Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLINWLS

```
CRTLINWLS LIND(MYLINE) RSRNAME(LIN041)
          INZFILE(*NONE) INZMBR(*NONE)
```

This command creates a wireless line description named MYLINE with a resource name of LIN041. The source file name and member name for configuration initialization data are left unspecified, and can be changed later.

Error messages for CRTLINWLS

None.

CRTLINX25 (Create Line Description (X.25)) Command Description

CRTLINX25 Command syntax diagram

Purpose

The Create Line Description (X.25) (CRTLINX25) command creates a line description for an X.25 line.

More information about using this command is in the Communications Configuration  book.

Required Parameters

LIND Specifies the name of the line description being created.

RSRCNAME

Specifies the resource name that identifies the hardware that the description represents.

***NWID**: The resource name specified on the attached ISDN network interface description is used.

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 a "Token-ring port".

The value specified on the RSRNAME parameter cannot be changed from *NWID to another value or from another value to *NWID.

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 2, the resource name would be LIN012.

LGLCHLE

Specifies, when using the Create Line Description (X.25) CRTLINX25 or CHGLINX25 command, a

list of 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.

***PROMPT:** By using the *PROMPT option, any entry can be added, removed, or altered. Specifying *PROMPT shows the current logical channel entries.

Element 1: Logical Channel Identifier

logical-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.

Element 2: Logical Channel Type

***PVC:** The logical channel is a permanent virtual circuit.

***SVCIN:** The logical channel is a switched virtual circuit for input only.

***SVCOUT:** The logical channel is a switched virtual circuit for output only.

***SVCBOTH:** The logical channel is a switched virtual circuit for both input and output.

Element 3: PVC Controller

PVC-controller: Specify (optionally) the name of the permanent virtual circuit (PVC) controller that is assigned to the logical channel. This field is only valid when the channel type is *PVC.

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.

CNNINIT

Specifies the method used to establish the X.25 data link connection.

***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 by 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 data circuit-terminating equipment (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.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The line is automatically varied on at IPL.

***NO:** This line is not automatically varied on at IPL.

INTERFACE

Specifies the type of physical interface on the input/ output adapter (IOA) port. The valid interface types are:

***X21BISV24:** The X.21 bis/V.24 interface is used.

***X21BISV35:** The X.21 bis/V.35 interface is used.

***RS232V24:** The RS232/V.24 interface is used.

***RS449V36:** The RS449/V.36 interface is used.

***X21:** The X.21 interface is used.

***X31:** The X.31 interface is used. This is the International Telegraph and Telephone Consultative Committee (CCITT) recommendation which defines the support of packet mode terminal equipment by an integrated services digital network (ISDN). Specify this value to run X.25 over an ISDN B channel.

***INTMODEM:** The integrated modem interface is used.

Note: *INTMODEM is valid on when RSRCTYPE is not *NWID.

CNN Specifies the type of line connection used.

***NONSWTPP:** A nonswitched point-to-point line is used.

***SWTPP:** A switched 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.

Note: *NONSWTCAL and *NONSWTANS valid only when INTERFACE(*INTMODEM) or INFTRFTYPE(*SYNCMODEM).

NWI Specifies, for a nonswitched connection, the network interface description containing the channel to which this line permanently attaches.

Note: Valid only when RSRCTYPE(*NWID) and CNN(*NONSWTPP), CNN(*NONSWTCAL) or CNN(*NONSWTANS).

NWICHLTYPE

Specifies, for a nonswitched connection, the type of ISDN channels that this line description uses. This parameter is preset to use one ISDN B-channel of the network interface description.

***B:** The B channel is used.

NWICHLNBR

Specifies, for a nonswitched connection, the channel number (1 through 30) of the network interface description that is used by this line description. 2, 23 or 30 channels are available for each network interface description, depending on whether the network interface is basic or primary rate and what the network type is, but only one line description can be permanently attached to a channel. The Display Network Interface Description (DSPNWID) command is used to display information about the channel numbers for a given NWID.

SWTNWILST

Specifies, for ISDN 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.

***NONE:** No network interface description is specified.

Element 1: Network Interface Description Name

NWI-description-name: Specify, for switched connections, the name of the network interface description to which this line attaches.

Element 2: Network Interface Channel Type

***B:** The B channel is used.

Element 3: Network Interface Channel-Number

***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 or 30) to which the line description is restricted.

VRYWAIT

Specifies whether the line is varied on asynchronously or synchronously. For a synchronous vary on, this parameter specifies how long the system waits for the vary on to complete.

***NOWAIT:** The system does not wait for the vary on to complete. 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.

LINESPEED

Specifies the line speed in bits per second (bps).

9600: The line speed is 9600 bps.

***CALC:** The line speed is calculated by the system.

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	

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.

***SYSGEN:** The iSeries 400 generates the exchange identifier.

exchange-identifier: Specify the exchange identifier. If the *SYSGEN value is not used, an exchange identifier consisting of eight hexadecimal digits starting with 056 must be specified.

PKTMODE

Specifies whether to access the ISDN virtual circuit service.

***NO:** The ISDN network is used to provide transparent access to an X.25 packet switched network external to the ISDN (Case A).

***YES:** The ISDN virtual circuit service is accessed (Case B).

INFTRFTYPE

Specifies the information transfer type. The information transfer type determines the layer 1 protocol.

Note:

Valid only when RSRNAME(*NWID) and CNN(*NONSWTPP), CNN(*NONSWTCAL) or CNN(*NONSWTANS).

***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.

***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.

EXNNETADR

Specifies whether network addressing is extended to permit the use of 17 characters in an address name.

***NO:** Network addresses can be up to 15 characters.

***YES:** Network addresses can be up to 17 characters.

MAXFRAME

Specifies the maximum frame size that can be transmitted and received on this line description.

1024: The default frame size is 1024.

maximum-frame-size: Specify one of the following values: 1024, 2048, or 4096.

DFTPKTSIZE

Specifies the default packet size used by the X.25 network.

Element 1: Transmit Packet Size

128: The default packet size is 128.

transmit-packet-size: Specify a default packet size for transmission to all controllers attached to this line. The controllers can override this default with the DFTPCKTSIZE parameter on the controller commands. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

Element 2: Receive Packet Size

***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 from all controllers attached to this line. The controllers can override this default with the DFTPCKTSIZE parameter on the controller commands. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

MAXPKTSIZE

Specifies the maximum packet size for transmission and reception on an X.25 network. The value specified must not be less than the default packet size specified.

Element 1: Maximum Transmit Packet Size

***DFTPCKTSIZE:** The maximum packet size for transmission is the same as that specified as the default packet size for transmission on the DFTPCKTSIZE parameter in this command.

transmit-packet-size: Specify a default 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.

Element 2: Maximum Receive Packet Size

***DFTPCKTSIZE:** The maximum packet size for reception is the same as that specified as the default package size for reception on the DFTPCKTSIZE parameter on this command.

***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 from all controllers attached to this line. The controllers can override this default with the DFTPCKTSIZE parameter on the controller commands.

MODULUS

Specifies the packet numbering used. The valid numbers are listed below.

8: Character density is 18 characters per inch. This value is valid only on double-byte character set (DBCS) printers.

128: Modulus 128 packet numbering is used.

DFTWDWSIZE

Specifies the default window size used by the X.25 network.

Element 1: Transmit Window Size

2: The default packet window size is 2; modulus 8 is supported.

transmit-window-size: Specify the appropriate default window size. Valid values range from 1 through 7 for networks that use modulus 8 packet numbering. Valid values range from 1 through 15 for networks that use modulus 128 packet numbering.

Element 2: Receive Window Size

***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. Valid values range from 1 through 7 for networks that use modulus 8 packet numbering. Valid values range from 1 through 15 for networks that use modulus 128 packet numbering.

NETCTL

Specifies the name of an existing network controller.

SWTCTLLST

Specifies the names of up to 64 switched asynchronous X.25 controllers or specify *ALL for 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, and have been created using the Create Controller Description (Async) (CRTCTLASC) command. Asynchronous X.25 controllers that are specified as dial-in can be connected to SVCIN or SVCBOTH logical channels. Attaching controllers that specify C>NNBR(*ANY) or ANSNBR(*ANY) may result in a reordering of this list.

***NONE**: No switched controllers are specified.

***ALL**: All X.25 switched controllers that are created using the Create Controller Description (Async) (CRTCTLASC) command and list this line description on Switched Line List (SWTLINLST) parameter can be used to establish a connection with an X.25 switched virtual circuit (SVC).

switched-controller-name: Specify the switched controller name.

NETUSRID

Specifies, for switched lines, whether network user identification (NUI) information is included in the facility field of call request packets sent on this line. The NUI facility identifies calling data terminal equipment (DTE) to the network.

This parameter can be specified as a single value (*NONE) or as a hexadecimal network user identification.

***NONE**: No NUI information is sent over this line.

network-user-identification: Specify the hexadecimal NUI that is sent. The system inserts the NUI facility code (X'C6') and the NUI length in the facility field of a call request packet.

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.

Note:

The IDLTMR value should be greater than or equal to the value of the following equation:

$$(2 * P + (MAXPKTSIZE*8)/LINESPEED + D) * 10$$

where "P" is the propagation delay (in seconds) of the medium that connects the user to the network, MAXPKTSIZE is the maximum transmit packet size, and "D" is the DCE (Data Circuit-terminating Equipment) processing overhead (in seconds). Contact the network provider for information about variables P and D.

40: The default value is 40 (4 seconds).

idle-timer: Specify a value ranging from 4 through 600. Each unit represents 0.1 seconds, which provides a timeout value ranging from 0.4 through 60 seconds.

FRAMERTY

Specifies the maximum number of retries attempted for various error conditions on the interface, such as link level time-outs, logical link level re-transmissions and others.

7: Seven retries are attempted.

frame-retry: Specify a value ranging from 0 through 64 retries.

ADRINSERT

Specifies whether the system inserts the local network address in CALL REQUEST or CALL ACCEPTED packets.

***YES:** The local network address is inserted in packets.

***NO:** The local network address is not inserted in packets.

X25DCE

Specifies whether the system communicates via the X.25 data circuit-termination equipment (DCE) support. This allows a system to communicate with another system without going through an X.25 network.

***NO:** The iSeries 400 does not communicate via the X.25 (DCE) support.

***YES:** The iSeries 400 communicates via the X.25 (DCE) support.

***NEG:** The iSeries 400 negotiates with another system about whether to communicate through the X.25 (DCE) support. This value can only be specified for switched lines.

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.

***OFF:** No monitoring of errors occurs.

***MIN:** The error threshold is set at a minimum monitoring level.

***MED:** Error thresholding is set to a medium monitoring level.

***MAX:** The error threshold is set at a maximum monitoring level.

CNNNBR

Specifies, for switched lines, the telephone number used to establish a switched connection on this line description. The value specified on this parameter is sent to the autocal unit if automatic calling is used to establish a switched connection, or it is sent to the V.25 bis modem if V.25 bis automatic dialing is used to establish the connection. When manual dialing is used to establish a switched connection on the line, this number is displayed to the system operator. For X.25, this number is the remote data terminal equipment (DTE) address for the switched virtual circuit (SVC) provided by the X.25 network.

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.

***NONE:** The CRN (Call Request Normal) 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 (Call Request with Identification) auto-dialing.

MODEM

Specifies the type of modem supported on the communications line. Refer to the modem information to select the appropriate value.

***NORMAL:** No attempt is made to run diagnostic tests on the modem.

***V54:** Certain types of diagnostic tests (as defined by the CCITT recommendations) are run to the modem. The iSeries 400 supports CCITT V.54 loop 3 (local loop back) and loop 2 (a remote loop back).

***IBMWRAP:** An IBM modem with wrap test capabilities is used on the communications line.

MODEMRATE

Specifies the speed at which the line operates if the modem has the data rate select feature.

Note:

The user is responsible for ensuring that the line speed corresponds to the actual modem rate.

***FULL:** The line operates at the full rate of the modem.

***HALF:** The line operates at one-half the full rate, or at the alternate rate, of the modem.

SWTCNN

Specifies, for switched lines or switched network backup lines, whether the line is used for incoming calls, for outgoing calls, or for both incoming and outgoing calls.

***BOTH:** The line is used for both incoming and outgoing calls.

***ANS:** The line is used for incoming calls only.

***DIAL:** The local system starts the call.

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.

***NONE:** A user specified connection list for dial-out operations is not used. The connection list is automatically configured if OSI Communications Subsystems/400 is installed.

connection-list-name: Specify the name of the connection list for dial out operations.

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.

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.

***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.

connection-list-name: Specify the name of the connection list used for this line description.

AUTOANS

Specifies, for switched or switched network backup (SNBU) lines, whether the system automatically answers a call from a remote system to establish the connection or whether the user must manually answer the call and place the modem in data mode.

***YES:** The system automatically answers incoming calls.

***NO:** The system operator must manually answer incoming calls.

Note: *YES is valid only if the modem has the automatic answer feature.

AUTODIAL

Specifies, for switched or switched network backup (SNBU) lines, whether the system automatically calls a remote system to establish a connection or whether the system operator must manually place the call.

***NO:** The iSeries 400 does not automatically call a remote system.

***YES:** The iSeries 400 automatically calls a remote system.

Note: *YES is valid only if the system is using an autocal unit or if the modem used is capable of calling through a command interface.

DIALCMD

Specifies the type of dial command used to establish a switched connection with a remote system.

***NONE:** No dial command type is specified. An automatic call unit establishes 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 sometimes referred to as a serial automatic call interface because the digits are presented serially on the link from the system (DTE) to the modem (DCE).

MDMINZCMD

Specifies the modem initialization command string sent to set the modem.

Note: Valid only when INTERFACE(*INTMODEM) or INFTRFTYPE(*FAXMODEM) or INFTRFTYPE(*ASYNCMODEM) or INFTRFTYPE(*SYNCMODEM) is specified.

***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:

Table 1. Special characters

Character	Description
.	Period
<	Less than sign
(	Left parenthesis
+	Plus sign
&	Ampersand
*	Asterisk
)	Right parenthesis
;	Semicolon
-	Minus sign
/	Slash
,	Comma
_	Underline

Character	Description
>	Greater than sign
?	Question mark
:	Colon
=	Equals sign
	Spaces
#	Number sign
"	Double quote
!	Exclamation mark
@	At sign
^	Circumflex
%	Percent
[	Left square bracket
]	Right square bracket
\	Back slash
\$	Dollar sign

Note: The first two characters of the modem initialization command string must begin with 'AT'. These first two characters must be in uppercase.

CALLIMMED

Specifies, for switched (CNN(*SWTPP)) lines, whether a call (using the number specified by the CNNNBR parameter) is made immediately after the line description is varied on.

***NO:** The call is not made immediately after the line description is varied on. Instead, it must be initiated by an application program.

***YES:** The call is made immediately after the line description is varied on.

AUTOCALL

Specifies, for switched lines, whether the line has an associated autocal unit which performs automatic calling to the remote system.

***NO:** This switched line does not have an autocal unit.

***YES:** This switched line has an autocal unit.

ACRSRCNAME

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 LIN02 and the port is 1, the resource name is LIN021.

PREDIALDLY

Specifies how long to wait (in 0.5 second intervals) before dialing.

Note: This parameter is valid only for switched lines (CNN(*SWTPP)).

6: The value of 6 provides a 3-second delay.

predial-delay: Specify a value ranging from 1 through 254 in 0.5-second intervals, or specify 0 to indicate no delay.

REDIALDLY

Specifies the length of time (in 0.5-second intervals) to wait before re-dialing when the call attempt is unsuccessful. This parameter can be specified only if CNN(*SWTPP) is also specified.

120: A 60-second delay occurs before the number to the remote system is redialed.

redial-delay: Specify the length of time before the number to the remote system is redialed, or specify 0 to indicate no delay. Valid values range from 1 through 254 (in 0.5-second intervals).

DIALRTY

Specifies the number of re-dial attempts made by the system before considering the dialing unsuccessful.

Note:

Dial retries can only be specified for switched lines (CNN(*SWTPP)).

2: 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. The LZ12 requires the most storage and processing time of the LZ algorithms; however, it compresses the data stream the most.

dial-retry: Specify a value ranging from 0 through 254 for the number of retries.

SWTDSC

Specifies whether the switched connection on this line is disconnected when the last switched virtual circuit (SVC) is cleared.

***YES**: The switched connection is disconnected when the last device is varied off.

***NO**: The switched connection is not disconnected when the last switched virtual circuit is cleared.

SWTDSCTMR

Specifies the settings for the switch disconnect timers that run when switched X.25 lines are disconnected from the network or remote system.

Element 1: Settings for the Minimum Connect Timer

170: The minimum connect timer keeps the connection active for a minimum of 170 seconds. This timer is started when the connection is established.

minimum-connect-timer: Specify the minimum length of time the system keeps the connection active. Valid values for the minimum connect timer range from 0 through 65535 seconds.

Element 2: Settings for the Disconnect Delay Timer

0: The system breaks the switched connection as soon as the following two conditions occur:

1. The line is idle.
2. The minimum connect timer has expired.

disconnect-delay-timer: Specify the number of seconds (ranging from 0 through 65535 seconds) the system waits before breaking the switched line connection. The system breaks the switched connection only when the following conditions occur:

1. The line is idle.
2. The minimum connect timer has expired.
3. The disconnect delay timer has expired.

DSRDRPTMR

Specifies the amount of time the system waits for the modem to exit the Data Set Ready (DSR) state before signaling an error.

6: Character density is 16.7 characters per inch.

drop-timer: Specify a value ranging from 3 through 60 seconds.

AUTOANSTYP

Specifies the method the system uses to answer incoming calls.

***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.

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.

25: The system waits up to 25 seconds for the CTS state to begin or end.

CTS-timer: Specify a value ranging from 10 through 60 seconds.

RMTANSTMR

Specifies the amount of time the system waits for the modem to enter the Data Set Ready (DSR) state after dialing before signaling an error.

60: The system waits 60 seconds before signaling an error.

answer-timer: Specify a value ranging from 30 through 120 seconds.

CLOCK

Specifies how the clocking function for the line is provided.

***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.

LINKSPEED

Specifies the link speed in bits per second (bps). This parameter is valid only if APPN* support is used on the system.

INTERFACE: The following link speeds, based on the physical interface type, are used: 9600 bps for RS-232/V.24 and X.21bis/V.24, 48000 bps for V.35 and X.21bis/V.35, and 64000 bps for X.21 and RS-449/V.36.

***MIN:** The minimum link speed is used.

***MAX:** The maximum link speed 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.

SWTNWISLCT

Specifies the method used to select network interfaces from the switched network interface list.

***FIRST:** Selection begins with the first network interface specified in the switched network interface list.

***CALC:** The system calculates which network interface is selected.

COSTCNN

Specifies the relative cost of being connected on the line. This parameter is required only if APPN* support is used on the system.

128: The cost per connect time is 128.

cost-per-connect-time: Specify a value ranging from 0 through 255.

COSTBYTE

Specifies the relative cost per byte for sending and receiving data on the line. This parameter is required only if APPN* support is used on the system.

128: The cost per byte is 128.

cost-per-byte: Specify a value ranging from 0 through 255.

SECURITY

Specifies the security level of the physical line. This parameter is used only if APPN is used on the system.

***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.

PRPDLY

Specifies the level of propagation delay on the line. This parameter is valid only if APPN* support is used on the system. The order of the values from shortest to longest delay is *MIN, *LAN, *TELEPHONE, *PKTSWTNET, and *SATELLITE.

***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.

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* support is used on the system.

128: The value 128 is used.

user-defined-1: Specify a value ranging from 0 through 255.

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* support is used on the system.

128: The value 128 is used.

user-defined-2: Specify a value ranging from 0 through 255.

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.

128: The value 128 is used.

user-defined-3: Specify a value ranging from 0 through 255.

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.

Element 1: Maximum Recovery Limit

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.

Element 2: Recovery Time Interval


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.

Other Single Value

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

MSGQ

Specifies the qualified name of the message queue to which messages are sent. More information about using this parameter is in the Communications Management  book.

Single Values

***SYSVAL:** Messages are sent to the message queue defined in the system value QCFGMSGQ.

***SYSOPR:** Messages are sent to the system operator message queue (QSYS/QSYSOPR).

library-name/message-queue-name: Specify the library-qualified name of the message queue to which operational messages are sent.

AUT

Specifies the authority given to users who do not have specific authority to the line description, who are not on an authorization list, and whose user group has no specific authority to the line description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the line description.

***USE:** The user can perform basic operations on the line description, such as running a program or reading a file. The user cannot change the line description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the line description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the line description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLINX25

```
CRTLINX25 LIND(X251) RSRNAME(LIN011)
LGLCHLE((111 *PVC CTL1) (222 *SVCIN))
NETADR(12345) CNNINIT(*LOCAL) TEXT('X.25 Line')
```

This command creates an X.25 line (X251) with resource name LIN011, two logical channels (with an attached PVC controller), a network address of 12345, and local connection initiation.

Error messages for CRTLINX25

*ESCAPE Messages

CPF2718

Line description &1 not created due to errors.

CRTLOCALE (Create Locale) Command Description

CRTLOCALE Command syntax diagram

Purpose

The Create Locale (CRTLOCALE) command creates a locale object (*LOCALE) using the source information from the file provided on the SRCFILE parameter.



Restriction: Locales must be created in the QSYS.LIB  or independent ASP QSYS.LIB  file system.

Required Parameters

LOCALE

Specifies the path name of the locale being created.

SRCFILE

Specifies the path name of the source file that contains the description of the locale being created. If the CCSID of the file is 65535, the job default CCSID is assumed by this command. If the file is from the QSYS.LIB  or independent ASP QSYS.LIB  file system, then it must be a database source physical file.

Note:

If the source file is not a record file, then each line in the source file must have been terminated with a newline or linefeed character when the source file was created.

CCSID

Specifies the coded character set ID (CCSID) in which to store the locale information for the locale object.

***JOB:** Special value indicating the job CCSID is used for the locale information. If the job CCSID is 65535, the job default CCSID is used.

coded-character-set-ID: Specify the CCSID used for the locale information.

Optional Parameters

OUTPUT

Specifies whether or not a compiler listing is produced.

***PRINT:** The compiler listing is produced. The information contained in the listing depends on the values specified on the OPTION parameter.

***NONE:** The compiler listing is not produced. To improve compile-time performance, this value should be specified when a listing is not required.

GENLVL

Specifies the severity level at which the creation operation can be controlled. The severity level of the messages generated in the creation operation indicate the type of errors that have occurred.

Note:

If errors occur with a severity level greater than 20, the locale is not created.

10: The locale is created with level 10 severity errors.

20: The locale is created with level 20 severity errors.

OPTION

Specifies the types of output lists created when this command is processed.

***SRC:** The source input used to create the locale is printed.

***NOSRC:** The source input used to create the locale is not printed.

***NOSECLVL:** Only the first-level error message text is included in the source listing.

***SECLVL:** Second-level error message text is printed.

REPLACE

Specifies whether an existing version of the locale is replaced by the current locale.

***YES:** The existing locale is replaced with the new version. The old version is moved to the library QRPLOBJ and renamed based on the system date and time. The text description of the original locale is not used as the text description for the new locale. The old locale is deleted at the next IPL or you can use the Delete Locale (DLTLOCALE) command to delete it.

***NO:** The local is not replaced and an error message is issued.

DTAAUT

Specifies the public authority given users for the data in the object created.

***INDIR:** The authority for the object being created is determined by the directory it is being created in. If *INDIR is used for DTAAUT, it is also required for OBJAUT.

***RWX:** The users are given *RWX authority to the objects. *RWX authority allows the user to perform all operations on the object except those limited to the owner or controlled by object

existence, object management, object alter, and object reference authority. The user can change the object and perform basic functions on the object. *RWX authority provides object operational authority and all the data authorities.

***RX:** *RX authority allows the user to perform basic operations on the object, such as run a program or display the contents of a file. The user is prevented from changing the object. *RX authority provides object operational authority and read and execute authorities.

***RW:** *RW authority allows the user to view the contents of an object and modify the contents of an object. *RW authority provides object operational authority and data read, add, update, and delete authorities.

***WX:** *WX authority allows the user to modify the contents of an object and run a program or search a library or directory. *WX authority provides object operational authority and data add, update, delete, and execute authorities.

***R:** *R authority allows the user to view the contents of an object. *R authority provides object operational authority and data read authority.

***W:** *W authority allows the user to modify the contents of an object. *W authority provides object operational authority and data add, update, and delete authorities.

***X:** *X authority allows the user to run a program or search a library or directory. *X authority provides object operational authority and data execute authority.

***EXCLUDE:** Exclude authority prevents the user from accessing the object. The OBJAUT value must be *NONE if this special value is used.

***NONE:** The users will not be given any of the data authorities to the objects. This value cannot be used with OBJAUT value of *NONE.

authorization-list-name: Specify the name of the authorization list used.

OBJAUT

Specifies the authorities given users to the object.

***INDIR:** The object authority is based on the authority for the directory where this object is being created. If *INDIR is used for DTAAUT, it is also required for OBJAUT.

***NONE:** None of the other object authorities (existence, management, alter, or reference) will be given to the users. If *EXCLUDE or an authorization list name is specified for the DTAAUT parameter, this value must be specified.

***ALL:** All of the other object authorities (existence, management, alter, and reference) will be given to the users.

Or specify up to four (4) of the following values:

***OBJEXIST:** The users will be given object existence authority to the object.

***OBJMGT:** The users will be given object management authority to the object.

***OBJALTER:** The users will be given object alter authority to the object.

***OBJREF:** The users will be given object reference authority to the object.

TEXT Specifies the text that briefly describes the locale. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTLOCALE

```
CRTLOCALE  LOCALE('/QSYS.LIB/MYLIB.LIB/USLOCALE.LOCALE')
           SRCFILE('/QSYS.LIB/MYLIB.LIB/LSRC.FILE/USLOCALE.MBR')
           CCSID(37)  TEXT('Locale for USA')
```

This command creates a locale named USLOCALE in the library called MYLIB in the QSYS.LIB file system with a CCSID of 37. The text parameter describes this as a locale for the USA."

Error messages for CRTLOCALE

*ESCAPE Messages

CPF3BE1

Locale object &1 not created.

CRTLFL (Create Logical File) Command Description

CRTLFL Command syntax diagram

Purpose

The Create Logical File (CRTLFL) command creates a logical file in the database. The logical file is created from the file description parameters in this CRTLFL command and from the previously entered data description specifications (DDS) that contain the source description of the logical file. A logical file is a database file that describes how data records contained in one or more physical files are presented to a program. The logical file does not contain data records. The data records are contained in the physical files associated with the logical file. To override the attributes of the logical file after it has been created, use the Override Database File (OVRDBF) command before the file is opened. To change the attributes of the logical file after it has been created, use the Change Logical File (CHGLF) command.

Restrictions:

1. To create a keyed logical file over one or more physical files, the user must have object operational and object management authorities or object alter authority for each of the files specified on the PFILE or JFILE keywords in DDS. To create a non-keyed logical file, only object operational authority is required.
2. In multithreaded jobs, this command is not threadsafe for distributed files and fails for distributed files that use relational databases of type *SNA.
3. The processing done for the *EVENTF value of the OPTION keyword is not threadsafe

Required Parameter

FILE Specifies the qualified name of the file being created. If the file is used by a high-level language (HLL) program, the file name must be consistent with the naming rules of that language; otherwise, the file must be renamed in the program.

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

***CURLIB:** The logical file is created in the current library for the job. 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 logical file is created.

Note:

If a logical file and the physical file on which it is based are in different libraries, and the logical or physical file does not exist when it is to be restored (such as during disaster recovery or when the files are deleted), the access path is not restored. It is rebuilt. To make it possible for access paths to be restored and not rebuilt, the logical files and the based-on physical files must be in the same library. More information on the restoring of saved access paths is in the Backup, Recovery, and Availability topic in the Information Center.

logical-file-name: Specify the name of the file that is to be created.

Note:

If a DDM file is specified, the logical file (specified in the RMTFILE parameter on the Create Distributed Data Management File (CRTDDMF) command) is created on a remote system (specified in the RMTLOCNAME parameter of the CRTDDMF command). See the SYSTEM parameter of this command.

Optional Parameters**SRCFILE**

Specifies the qualified name of the source file that contains the DDS used to create the logical file. The source file contains the specifications that describe the record formats and their fields, and the access paths for the file and its members. The specifications that can be made in DDS are discussed in the Database Programming topic in the Information Center and DDS Reference topic in the Information Center.

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.

QDDSSRC: The source file, QDDSSRC, contains the DDS used to create the logical file.

source-file-name: Specify the name of the source file that contains the DDS used to create the logical file.

SRCMBR

Specifies the name of the source file member that contains the DDS for the logical file being created; the member is in the source file specified in the SRCFILE parameter (or its default, QDDSSRC).

***FILE:** The source file member name is the same as that of the logical file being created.

source-file-member-name: Specify the name of the member in the source file specified by the SRCFILE parameter that is used to create the logical file.

OPTION

Specifies the type of output produced when the file is created. 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 underlined value is used.

Note:

The underlined values for this parameter are *similar* to, but not *actually* default values, and therefore, cannot be changed with the CHGCMDDFT (Change Command Default) command.

Source Listing Options

***SRC** or ***SOURCE**: A printout is created of the source statements used to create 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 record format that contains the error.

Program Listing Options

***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**: An expanded source printout is not created.

Second-Level Message Text Options

***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 Options

***NOEVENTF**: The compiler does not produce an event file for the CoOperative Development Environment/400 (CODE/400) product.

***EVENTF**: The compiler produces an event file that can be used by the CODE/400 product. The event file is created as a member in the file EVFEVENT in your object library. The CODE/400 product uses this file to offer error feedback integrated with the CODE/400 editor. This value is normally specified by the CODE/400 product on your behalf.

SYSTEM

Specifies whether the logical file is created on the local system or the remote system.

***LCL**: The logical file is created on the local system.

***RMT**: The logical file is created on a remote system using DDM. The logical file name specified on the FILE parameter must be the name of the DDM file, which is created using the Create Distributed Data Management File (CRTDDMF) command. The DDM file contains the name of the logical file being created (RMTFILE parameter on the CRTDDMF command) and the name of the remote system (RMTLOCNAME parameter on the CRTDDMF command) on which the file is to be created.

***FILETYPE:** If the name specified on the FILE parameter is a DDM file, the logical file is created on the remote system specified by CRTDDMF(RMTLOCNAME) for that DDM file. Otherwise, the name on the FILE parameter cannot be the name of an existing file since a logical file of that name is created on the local system.

GENLVL

Specifies the severity level at which the create operation fails. If errors occur that have a severity level greater than or equal to this value, the operation ends.

Note:

This parameter applies only to messages created while processing DDS source. Messages created anywhere else in the file creation process are not affected by this parameter.

20: If errors occur in the DDS source with a severity level greater than or equal to 20, the file is not created.

severity-level: Specify a severity level ranging from 0 through 30. The file is not created if the severity level specified for this parameter equals 0 or is less than the severity level that occurs in the data description specifications (DDS) source. This value must be greater than or equal to value specified on the FLAG parameter.

FLAG Specifies the minimum severity level of messages to be listed in the DDS source listing.

0: The spooled file is owned by the original user profile of the job. If the job has switched to a new user profile, the original user profile is still the owner of the spooled file.

severity-level: Specify the minimum severity level of messages to be listed. Valid values range from 0 through 30. The severity level specified must be less than or equal to the severity level specified on the GENLVL parameter.

FILETYPE

Specifies whether each member of the logical file being created contains data records, or contains source records (statements) for a program or another file. The file could contain, for example, RPG source statements for an RPG program or DDS source statements for another physical, logical, or device file. More information on this parameter is in Commonly used parameters.

***DATA:** The logical file contains data records.

***SRC:** The logical file contains source records. This value cannot be specified for join logical files.

MBR Specifies the name of the logical file member that is added when the logical file is created. Other members can be added to the file after it is created by using the Add Logical File Member (ADDLFM) command.

***FILE:** The member being added has the same name as that of the logical file that contains the member. This name is specified on the FILE parameter.

***NONE:** No member is added when the file is created.

logical-file-member-name: Specify the name of the member that is added when the logical file is created.

DTAMBRs

Specifies the names of the physical files and members that contain the data associated with the logical file member being added by this command. A logical file member can be based on all of the physical files and members on which the logical file itself is based, specified by DTAMBRs(*ALL), or the member can be based on a subset of the total members and files, specified by DTAMBRs(qualified-file-names (member-names)).

When a logical file is created, the physical files specified on the PFILE or JFILE DDS keyword are used to create the logical file. If no library name is specified for the physical files on the PFILE or JFILE keyword, the library list (*LIBL) at file creation time is used to find the physical files; the physical files from the library list are used to create the logical file. The qualified physical files from the PFILE or JFILE keyword (regardless of whether a library name was specified or if the library list was used to find the files) are the physical files associated with the logical file. The names of the physical files associated with the logical file are saved in the description of the logical file. When a member is added to the logical file, the DTAMBRS parameter is used to specify the physical file members associated with the logical file member. Each physical file name specified on the DTAMBRS parameter must be the name of a physical file that is associated with the logical file (saved in the description of the logical file).

***ALL:** The logical file member being added is based on all the physical files and members (that exist at the time this CRTLF command is entered) used by the logical file. At least one member must exist in at least one of the physical files. The physical file names are specified on the PFILE or JFILE parameter in the DDS.

***CURRENT:** The library where the logical file is being created is used to locate the specified physical file.

library-name: Specify the name of the library to be searched.

If a library name is not specified, the current library name (*CURRENT) from the logical file description is used. If the library name is specified, the physical file must be a physical file associated with the logical file. If the logical file is associated with more than one physical file of the same name, the library name must be specified.

Element 1: Names of Physical Files

physical-file-name: Specify the names of the physical files that contain the data being accessed by the logical file member being added.

The physical file names must match a name on the PFILE or JFILE keywords in the DDS and cannot be specified more often on the DTAMBRS parameter than on the PFILE or JFILE keywords in the DDS. For join logical files, all physical files specified on the JFILE keyword must be specified on the DTAMBRS parameter and each physical file must contain only one member. If a physical file name is not specified for a physical file that is on a PFILE or JFILE keyword in the DDS, the logical file member is not based on any member of that physical file.

Element 2: Names of Members

***NONE:** A member name is not specified.

member-name: Specify the names of the members that contain the data being accessed by the logical file member being added.

When the FILE parameter specifies a join logical file or an arrival sequence logical file, only one data member must be specified on the DTAMBRS parameter for each physical file that was specified on the PFILE or JFILE keyword in the DDS. *ALL is valid only if each based-on physical file has only one member. If any of the physical files has more than one member, the specific physical file member must be specified on the DTAMBRS parameter.

The same physical file name can be specified more than once on the JFILE keyword. In this case, each occurrence of the file name is treated as a different based-on physical file, and must be specified on the DTAMBRS parameter.

Up to 32 qualified physical file names and physical file member names can be specified. Also, the total number of member names cannot exceed 32. For example, one file can specify 32 members, two files can each have 16 members, or 32 files can each have one member specified.

For DDM file:

- The file names specified in the DTAMBRS parameter must be the names of the DDM files that represent the remote based-on physical files. If a member name was specified as part of the

remote file name in the DDM file, only that member name can be specified on the DTAMBRs parameter. The member names must be the actual remote file member names.

- The based-on physical files must be at the same system location as the logical file to which the member is being added.
- When no member name is specified for the remote file name in the DDM file, all members are accessible. When only one member name is specified, only that member is accessible through that DDM file.

The following examples show the syntax for specifying single and multiple members for single and multiple physical files. In the examples, the abbreviation PF represents a physical file name, LIB represents a library qualifier, and M represents a member name.

```
Single physical file and member:
DTAMBRs((PFA M1))
Single file with multiple members:
DTAMBRs(PFA (M1 M2 M3))
Multiple files with single members and no members:
DTAMBRs((PFA M1) (PFB M4) (PFE *NONE))
Multiple files with multiple members:
DTAMBRs((PFA (M1 M3 M4)) (PFB (M1 M2 M4)))
Multiple files with the same name in different libraries:
DTAMBRs((LIBX/PFA M1) (LIBY/PFA (M1 M2)))
Multiple files with the same name in the same library:
DTAMBRs((LIBX/PFA M1) (LIBX/PFA M1))
```

When more than one physical file member is specified for a physical file, the member names are specified in the order in which records are retrieved when duplicate key values occur across those members.

Refer to “Additional Considerations” at the end of this command description for more details.

MAXMBRS

Specifies the maximum number of members that the logical file being created can contain.

1: Only one member can be contained in the file.

***NOMAX:** The system maximum is used.

maximum-members: Specify the maximum number of members that the logical file can contain. Valid values range from 1 through 32767.

ACCPHSIZ

Specifies the maximum size of auxiliary storage that can be occupied by 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.

***MAX1TB:** The access paths associated with this file can occupy a maximum of one terabyte (1,099,511,627,776 bytes) of auxiliary storage.

Note: This value is not supported on releases of the system earlier than Version 3 Release 6 Modification 0 (V3R6M0). Therefore, if a logical file that has this attribute is saved, and the save operation specifies a target release earlier than V3R6M0, the access paths are not saved. If this saved version of the file is then used to restore the logical file, the system rebuilds all of the access paths.

***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.

MAINT

Specifies, for join logical files or files with keyed sequence access paths, the type of access path maintenance being used for every member of the logical file.

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.

***IMMED:** The access path is maintained for each physical file member whether the source physical file is opened or closed. The access path is changed whenever a record is updated, added to, or deleted from a member of this file or a logical file member based on a member of this file.

***REBLD:** The access path is completely rebuilt when a logical file member is opened. The access path is continuously maintained until the member is closed; the access path maintenance is then ended. *REBLD is not valid for access paths that require unique key values.

***DLY:** The maintenance of the access path is delayed until the logical file member is opened. Then the access path is changed only for records that have been added, deleted, or changed since the file was last opened. While the file is open, all changes made to based-on file members are immediately reflected in the access paths of the opened file's own members, no matter what is specified for this parameter. To prevent a long rebuilding time when the file is opened, *DLY should be specified only when the number of changes to the access path between successive open operations are small; that is, when the file is opened frequently or when the 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 percent of the access path size, the system stops saving changes and the access path is completely rebuilt the next time the file is opened.

RECOVER

Specifies, for files having immediate or delayed maintenance on their access paths, when recovery processing of the file is performed after a system failure occurs while the access path is being changed. This parameter is valid only for join logical files or files with a keyed access path.

If *IMMED or *DLY is specified for the MAINT parameter, the access path can be rebuilt during initial program load (IPL) (before any user can run a job), after IPL has ended (during concurrent job running), or when the file is next opened. While the access path is being rebuilt, the file cannot be used by any job.

During the IPL, an Override Access Path Recovery display lists those paths that must be recovered and what the RECOVER parameter value is for each path. The user can override the RECOVER parameter value on this display. More information is in the Backup, Recovery, and Availability topic in the Information Center.

If *REBLD is specified for the MAINT parameter, the access path is rebuilt the next time its file is opened.

***NO:** The access path of the file is not rebuilt during or after the IPL. The file's access path is rebuilt when the file is next opened. *NO is the default for all files that do not require unique keys.

***AFTIPL:** The file has its access path rebuilt after the IPL has been completed. This option allows other jobs not using this file to start processing immediately after the completion of IPL. If a job tries to allocate the file while its access path is being rebuilt, a file open exception occurs. *AFTIPL is the default for files that require unique keys.

***IPL:** The file has its access path rebuilt during the IPL. This ensures that the file's access path is rebuilt before the first user program tries to use it; however, no jobs can start running until after all files that specify RECOVER(*IPL) have their access paths rebuilt.

FRCACCPH

Specifies, for join logical files or files with keyed access paths, whether access path changes are forced to auxiliary storage along with the associated records in the file whenever the access path is changed. FRCACCPH(*YES) minimizes (but does not remove) the possibility that an abnormal job end could cause damage to the access path that would require it to be rebuilt.

Note:

For a join logical file, this parameter value applies to all join secondary files even if the join file is not a keyed file.

***NO:** The access path and changed records are not forced to auxiliary storage whenever the access path is changed.

***YES:** The access path and changed records are forced to auxiliary storage whenever the access path is changed. If this value is specified, MAINT(*REBLD) cannot be specified.

FRCACCPH(*YES) slows the response time of the system if the access path is changed in an interactive job. If the access path is changed frequently, the overall performance of the system is affected somewhat.

UNIT This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 3 Release 6 Modification 0 of the AS/400 system. For information on using auxiliary storage pools (ASPs), refer to the Backup, Recovery, and Availability topic in the Information Center.

You can specify the value *ANY or a value ranging from 1 through 255 on this parameter.

FMTSLR

Specifies the qualified name of a record format selector program that is called when the logical file member contains more than one 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. The selector program receives the record as input, determines the record format used, and returns it to the database. This program must perform this function for every member in the logical file that has more than one record format, unless the high-level language program itself specifies the record format name. More information about the use of format selector programs is in the Database Programming topic in the Information Center.

This parameter is not valid if the logical file has only one record format.

***NONE:** There is no selector program for this logical file. If the file has more than one logical record format, the high-level language program must specify the record format name.

The name of the 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.

library-name: Specify the name of the library to be searched.

program-name: Specify the name of the format selector program to be called when a record is inserted into a member having more than one format. The selector program name can be optionally qualified by the name of the library in which the program is stored. If no library qualifier is given, *LIBL is used to find the program.

A program specified as the format selector program cannot be created with USRPRF(*OWNER) specified in its create program command.

FRCRATIO

Specifies the number of inserted, updated, or deleted records that are processed before they are forced to auxiliary (permanent) storage. More information on this parameter is in Commonly used parameters.

The force write ratio specified for a logical file cannot be less than or equal to the smallest force write ratio of its based-on files. If a larger force write ratio is specified, it is ignored and a message is sent informing the user of the action.

For example, if the force ratios of three physical files are 2, 6, and 8, the logical file force ratio that is based on these three physical files must be as restrictive as the least of them; that is 2 in this case. Two would be used even if the FRCRATIO parameter is not specified. Thus, each time a program inserts, updates, or deletes two records in the logical file (regardless of which based-on physical files are affected), those records are forced to permanent storage.

If a physical file associated with this logical file is being journaled, a large force write ratio or *NONE is specified. More information on journal management is in the Backup, Recovery, and Availability topic in the Information Center.

***NONE**: There is no specified force ratio; the system determines when the records are written to auxiliary storage.

number-of-records-before-force: Specify the number of inserted, updated, or deleted records that are processed before they are explicitly forced to auxiliary storage.

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 those resources are not allocated within the specified wait time, an error message is sent to the program. More information on this parameter is in Commonly used parameters.

Note:

An immediate allocation of the device by the device resource is required when an acquire operation is performed to the file.

***IMMED**: The program does not wait; when the file is opened, an immediate allocation of the file resources is required.

***CLS**: The job default wait time is used as the wait time for the file resources being allocated.

number-of-seconds: Specify the number of seconds that a program waits for the file resources to be allocated to the job. Valid values range from 1 through 32767 seconds.

WAITRCD

Specifies the number of seconds that a program waits for a record to be updated or deleted, or for a record read in the commitment control environment with LCKLVL(*ALL) specified. More

information on record locking is in the Database Programming topic in the Information Center. If the record is not allocated in the specified wait time, an error message is sent to the program.

60: A program waits for 60 seconds.

***NOMAX:** The system maximum is used.

***IMMED:** The program does not wait; when a record is locked, an immediate allocation of the record is required.

number-of-seconds: Specify the number of seconds that a program waits for the file resources to be allocated to the job. Valid values range from 1 through 32767 seconds.

SHARE

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

More information on shared database files is in the Database Programming topic in the Information Center.

***NO:** The ODP created by the program with this attribute is not shared with other programs in the routing step. Every time a program opens the file with this attribute, a new ODP to the file is created and activated.

***YES:** The ODP created with this attribute is shared with each program in the routing step that also specifies SHARE(*YES) when it opens the file, provided the scope specified on the OPNSCOPE keyword for the subsequent open of the file is compatible with the scope of the original open.

Note:

When SHARE(*YES) is specified and control is passed to a program, a read operation in that program retrieves the next input record. A write operation produces the next output record.

SRTSEQ

Specifies the sort sequence used for this file. The sort sequence is used with the LANGID parameter to determine which sort sequence table is used.

***SRC:** The table specified in the DDS on the ALTSEQ parameter is used. If ALTSEQ is not used in the DDS, use the value specified for *JOB on this parameter.

***JOB:** The sort sequence value used is the value for the job issuing this command to create the logical 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.

The name of the table 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.

table-name: Specify a table name.

LANGID

Specifies the language identifier to be used when SRTSEQ(*LANGIDUNQ) or SRTSEQ(*LANGIDSHR) is specified. The language identifier is used with the SRTSEQ parameter to determine which sort sequence table is used.

***JOB**: The language identifier specified for the job is used.

language-identifier: Specify a language identifier.

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.

***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.

AUT

Specifies the authority given to users who do not have specific authority to the logical file, who are not on an authorization list, and whose user group has no specific authority to the logical file. More information on this parameter is in Commonly used parameters.

***LIBCRTAUT**: The public authority for the logical file is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the logical file). The public authority is determined when the logical file is created. If the CRTAUT value for the library changes after the logical file is created, the new value does not affect any existing objects.

***CHANGE**: The user can perform all operations on the logical file except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the logical file. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the logical file.

***USE**: The user can perform basic operations on the logical file, such as running a program or reading a file. The user cannot change the logical file. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE**: The user cannot access the logical file.

authorization-list-name: Specify the name of the authorization list used.

TEXT

Specifies the text that briefly describes the logical file. More information on this parameter is in Commonly used parameters.

***SRCMBRTXT**: The text is taken from the source file member being used to create the logical file. If the source file is a database file, the text is taken from the source member. Text can be added or changed for a database source member by using the Source Entry Utility, or by using either the Add Logical File Member (ADDLFM) or Change Logical File Member (CHGLFM) command. If the source file is an inline file or a device file, the text is blank.

***BLANK**: Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTLF

Example 1: Creating a Logical File Without Members

```
CRTLF FILE(INVEN/STOCKCTL) SRCFILE(SRCLIB/STKLFSRC)
      MBR(*NONE)
```

This command creates a logical file named STOCKCTL, in the INVEN library. The source descriptions in the source file STKLF SRC in the SRCLIB library are used to create the logical file. The file is created without any members (*NONE was specified), and only one member can be added later (because one member is the default for the MAXMBRS parameters). The logical file accesses the data contained in the physical files specified in the DDS source file used to create this logical file. For successful completion of the CRTLF command, the user must have object operational authority for all the physical files specified in the DDS. If the logical file is keyed, object management authority is also required.

Example 2: Creating a Logical File With Members

```
CRTLF FILE(PAYLIB/PAYCODESEQ)
      SRCFILE(PAYLIB/PAYTXSRC)
      DTAMBRS(PAYTRANS FIRSTQTR) AUT(*EXCLUDE)
      TEXT('Pay taxes in code sequence')
```

This command creates a logical file and logical file member, both named PAYCODESEQ in the PAYLIB library. The file and its member are created from the PAYTXSRC source file that is in the same library. The logical file member accesses the data contained in the FIRSTQTR member of the physical file PAYTRANS. The logical file is secured for the private use of the owner. The owner must have object operational authority for the PAYTRANS file to create the member. If the logical file is keyed, object management authority is also required.

Additional Considerations

This section supplies additional information for coding the DTAMBRS parameter when physical file names and member names are specified.

- Each physical file specified on the DTAMBRS parameter must be a physical file associated with the logical file. If a library name is not specified on the DTAMBRS parameter for a physical file, the current library name (*CURRENT) from the logical file description is used. If the library name is specified, the physical file must be associated with the logical file. The library name must be specified if the logical file is associated with more than one physical file of the same name (for example, physical file PF in library LIB1 and physical file PF in library LIB2).
- When more than one physical file member is specified for a physical file, the member names are specified in the order in which records are presented when a duplicate key value occurs across those members. If multiple members from one physical file are specified, add operations are not possible for that record format from high-level language programs.
- The logical file description contains a list of the physical files associated with the logical file. The list contains the content and order of the physical files. This list can be displayed by using the DSPFD (Display File Description) command if TYPE(*ACCPH) is specified.

More information about data members is in the Database Programming topic in the Information Center.

Error messages for CRTLF

*ESCAPE Messages

CPF3204

Cannot find object needed for file &1 in &2.

CPF323C

QRECOVERY library could not be allocated.

CPF5702

File either not DDM file or not found.

CPF7302

File &1 not created in library &2.

CRTMNU (Create Menu) Command Description

CRTMNU Command syntax diagram

Purpose

The Create Menu (CRTMNU) command creates a menu object. Both Display File (*DSPF) and Program (*PGM) menus can be created by using this command. A menu can be shown by using the Go to Menu (GO) command.

Restriction: The user must have *CHANGE, *READ, and *ADD authority for the library where the menu is being created.

Required Parameters

MENU Specifies the qualified name of the library where the menu is being created.

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

***CURLIB:** The menu is created in the current library for the job. 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 menu is created.

menu-name: Specify the name of the menu.

TYPE Specifies the type of menu being created.

***DSPF:** An existing display file and message file are used to create a menu like those used in the System/36 environment.

***PGM:** The menu being created calls a program to be run.

***UIM:** The menu is created using the UIM tag language found in the file specified on the SRCFILE and SRCMBR parameters.

Optional Parameters

DSPF Specifies the qualified name of the display file to use in creating the menu object. The display file must include one record format with the same name as the display file itself; this is called the menu format. Help formats may also be included in the file.

Help formats follow the naming convention #Hxxyy, where xx is the first and yy is the last menu option to which the help format applies. For example, #H0306 would apply to menu options 3 to 6. #H0000 designates the general help for the menu.

The display file must have a separate indicator area (INDARA keyword) and contain no subfile descriptions.

This parameter may be specified only if TYPE(*DSPF) is chosen.

The name of the display 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.

***MENU:** The display file has the same name as the menu specified on the MENU parameter.

display-file-name: Specify the display file name to use if it is not the same as that specified on the MENU parameter.

MSGF Specifies the qualified name of the message file that contains the commands to run when a menu option is selected. The MSGIDs of the messages in this file are of the form USRxxxx where xxxx is the menu option number typed on the command line.

Note: If the message file being created is to be used for menus, you must add message file members to the file using the Add Message Description (ADDMSGD) command.

The name of the message 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.

***MENU:** The message file that contains the commands to run has the same name as the menu specified on the MENU parameter.

message-file-name: Specify the message file name to use if it is not the same as that specified on the MENU parameter.

CMDLIN

Specifies that the user can select a long command line, a short command line, or no command line (an option line).

***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.

DSPKEY

Specifies whether the function key legend is shown at the bottom of the menu display.

***NO:** The function key legend is not shown at the bottom of the menu display.

***YES:** The function key legend is shown at the bottom of the menu display.

PGM Specifies the qualified name of the program to call when the menu is run.

Three parameters are passed to the program:

- The first parameter is the ten-character menu object name that identifies the program to call.
- The second parameter is the ten-character name of the library that contains the menu object.
- The third parameter is a two-character binary return code declared as a variable in the called program. The program must set one of the following return codes:

Return Code	Hex	Description
0	0000	Call the program (display the menu) again
-1	FFFF	Exit function requested
-2	FFFE	Previous function requested
-4	FFFC	Home function requested (display the home menu)

The name of the 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.

library-name: Specify the name of the library to be searched.

***MENU:** The called program has the same name as the menu specified on the MENU parameter.

program-name: Specify the name of the program to call if it is not the same as that specified on the MENU parameter.

SRCFILE

Specifies the name of the source file containing the menu description source statements.

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.

QMUSRC: The source file QMUSRC contains the menu description source statements.

source-file-name: Specify the name of the source file containing the menu description source statements.

SRCMBR

Specifies the member of the source file containing the menu description.

***MENU:** The name specified on the MENU parameter is used for the name of the source member containing the menu description.

source-member-name: Specify the name of the member containing the menu description.

OPTION

Specifies whether a source listing is produced when the menu is created.

Source Listing Options

***SRC or *SOURCE:** A source listing is produced.

***NOSRC or *NOSOURCE:** No source listing is produced unless errors are detected.

***NOSECLVL:** Second level text is not provided with the first level text when the messages are printed at the end of the listing.

Second-Level Message Text Options

***SECLVL:** Second level text is provided with the first level text when the messages are printed at the end of the listing.

Event File Creation Options

***NOEVENTF:** The compiler does not produce an event file for the CoOperative Development Environment/400 (CODE/400) product.

***EVENTF:** The compiler produces an event file that can be used by the CODE/400 product. The event file is created as a member in the file EVFEVENT in your object library. The CODE/400 product uses this file to offer error feedback integrated with the CODE/400 editor. This value is normally specified by the CODE/400 product on your behalf.

INCFILE

Specifies the name of the source file containing the members being included in the menu.

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.

***SRCFILE:** The name specified on the SRCFILE parameter is used.

source-file-name: Specify the name of the source file containing the members to be included on the menu.

Note:

If the coded character set identifier (CCSID) of the source file is different than the CCSID of the primary source file specified on the SRCFILE parameter, the CCSID is changed to the CCSID of the primary source file. The CCSID must be the same for all source members of the menu object.

CURLIB

Specifies the name of the library being used as the current library for jobs initiated by this user profile.

***NOCHG:** The current library for the job 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 when the menu is shown.

library-name: Specify the name of the library that replaces the current library entry in the job's library list.

PRDLIB

Specifies the name of the library used as the product library for running the menu.

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.

***NOCHG:** The product library does not change when the menu is run.

***NONE:** The product library entry in the library list is not used while the menu is run.

library-name: Specify the name of the library used as the product library when the menu is run.

Note:

After exiting the menu, the product library is restored to the value it had before the menu was run.

CHRID

Specifies whether the character identifier (graphic character set and code page) of the menu object is changed to the character identifier of the device when the menu is displayed.

***DEVD:** No change occurs. The character identifier of the menu object is the same as the character identifier of the device.

***JOBCCSID:** The character identifier of the menu object is changed from the CCSID of the source file specified on the SRCFILE parameter to the character identifier of the device.

AUT

Specifies the authority given to users who do not have specific authority to the menu, who are not on an authorization list, and whose user group has no specific authority to the menu.

***LIBCRTAUT:** The public authority for the menu is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the menu). The public authority is determined when the menu is created. If the CRTAUT value for the library changes after the menu is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the menu.

***USE:** The user can perform basic operations on the menu, such as running a program or reading a file. The user cannot change the menu. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the menu.

authorization-list-name: Specify the name of the authorization list used.

REPLACE

Specifies whether an existing menu with the same name is replaced.

Note:

The menu cannot be replaced if it is in use by this job or another job.

***YES:** The existing menu is moved to the system library QRPLOBJ and replaced with the new menu.

***NO:** The existing menu is not replaced with the new menu.

TEXT Specifies the text that briefly describes the menu. More information on this parameter is in Commonly used parameters.

***SRCMBRTXT:** The text for the menu is obtained from the text associated with the source file member.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTMNU

```
CRTMNU MENU(ARLIB/ARPER) TYPE(*PGM)
```

This command creates a menu named ARPER in library ARLIB. The menu calls a program (also named ARPER) when the menu is run.

Error messages for CRTMNU

*ESCAPE Messages

CPF6AC3

Menu not created.

CRTMSGF (Create Message File) Command Description

CRTMSGF Command syntax diagram

Purpose

The Create Message File (CRTMSGF) command creates a user-defined message file for storing message descriptions. The message file should be stored in a library for which all users who use the predefined messages have *USE authority. The system is shipped with the IBM-supplied message files, stored in the system library, QSYS: the CPF message file, QCPFMSG (for the OS/400 system and machine interface messages); and the licensed program message files, such as QRPMSG (for RPG messages).

Required Parameter

MSGF Specifies the qualified name of the message file being created.

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

***CURLIB:** The message file is created in the current library for the job. 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 message file is created.

message-file-name: Specify the name of the message file being created.

Optional Parameters

SIZE Specifies the initial storage size of the message file, the size of each increment added to increase its storage size, and the number of times the storage size can be incremented. The storage size is expressed in kilobytes (Kbytes). The message file size is increased when source file space is needed for the addition of a message description. The minimum size allowed is 1 Kbyte, the maximum allowed is 16,000 Kbytes (16 Megabytes). If SIZE is not specified, SIZE(10 2 *NOMAX) is assumed.

Element 1: Initial Size

One of the following values is used to specify the initial storage size of the message file.

10: Initially, the message file has 10 Kbytes of storage assigned to it (1 Kbyte equals 1024 bytes of storage).

initial-K-bytes: Specify the initial size of the file, which cannot equal 0.

Element 2: Increment Value

One of the following values is used to specify the amount of storage in kilobytes that is added each time the message file's size is incremented.

2: The message file size is increased by 2 Kbytes of storage for each increment added.

increment-value: Specify the number of kilobytes added for each increment.

Element 3: Maximum Number of Increments

One of the following values is used to specify the maximum number of increments that can be added to increase the message file's size.

***NOMAX:** The system maximum is used.

number-of-increments: Specify the maximum number of increments that can be added to increase the message file size. Enter a 0 to prevent any increases in the initial size of the file.

AUT Specifies the authority given to users who do not have specific authority to the message file, who are not on an authorization list, and whose user group has no specific authority to the message file.

***LIBCRTAUT:** The public authority for the message file is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the message file). The public authority is determined when the message file is created. If the CRTAUT value for the library changes after the message file is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove user ids.

***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 also can change ownership of the message file.

***USE:** The user can perform basic operations on the message file. The user is prevented from changing the message file. Use authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the message file.

authorization-list-name: Specify the name of the authorization list used.

CCSID

Specifies the coded character set identifier (CCSID) that is to be associated with the message file. The CCSID associated with the message file always 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. For more information on message handler and its use of CCSIDs, see the Globalization topic in the Information Center.

***HEX:** The CCSID that is associated with the message file is set to 65535. The 65535 CCSID means that no conversions are to occur when adding or changing message descriptions in the message file and no conversions are to occur when retrieving message descriptions from the file. The CCSID associated with the message description is saved in the event the message file is ever changed to *MSGD.

***MSGD:** The CCSID that is associated with the message file is set to 65534. The 65534 CCSID means to use the CCSID associated with the message description when retrieving message text from the file. When adding or changing message descriptions in the message file, no conversions are to occur. The message description is tagged with the CCSID specified on the ADDMSGD or CHGMSGD commands.

***JOB:** The CCSID that is associated with the message file is the CCSID of the job calling this command.

coded-character-set-identifier: Specify the CCSID that the message file is to be created with. Any message descriptions added to this message file are converted from the CCSID specified to the CCSID of the message file. Valid values range from 1 through 65535. See the Globalization topic in the Information Center for a list of valid CCSID values. Only CCSID values that a job can be changed to are accepted.

TEXT Specifies the text that briefly describes the message file. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTMSGF

```
CRTMSGF  MSGF(INVLIB/INVMSGGS)
        TEXT('Inventory Application Messages')
```

This command creates a message file named INVMSGGS in which predefined inventory application messages are stored. The file is stored in the library INVLIB, for which all users of the file must have *USE authority. Because the AUT parameter is defaulted, all users have *CHANGE authority for the file, meaning they can retrieve messages from the file.

Error messages for CRTMSGF

*ESCAPE Messages

- CPF2108**
Object &1 type *&3 not added to library &2.
- CPF2112**
Object &1 in &2 type *&3 already exists.
- CPF2113**
Cannot allocate library &1.
- CPF2151**
Operation failed for &2 in &1 type *&3.
- CPF2182**
Not authorized to library &1.
- CPF2283**
Authorization list &1 does not exist.
- CPF2402**
Library &1 not found
- CPF247E**
CCSID &1 is not valid.
- CPF2497**
Size for &1 in &2 exceeds machine limit.
- CPF9838**
User profile storage limit exceeded.

CRTMSGFMNU (Create Message File Menu) Command Description

CRTMSGFMNU Command syntax diagram

Purpose

The Create Message File Menu (CRTMSGFMNU) command creates a menu (display file) from the specified message files. The user can specify that this menu be created either in a fixed-format, with options 1 through 24 arranged in two columns, or in free-format.

To create a menu from the source member, use the Create System/36 Menu (CRTS36MNU) command.

Restriction: The CRTMSGFMNU command can be run either in the System/36 environment or, when library QSSP is installed, on the iSeries 400.

Required Parameter

CMDTXTMSGF

Specifies the qualified name of the command text message file that contains the text for the command that runs when the corresponding option is selected. The CMDTXTMSGF parameter must identify an existing message file and not a Screen File Generator (SFGR), or a System/36 message source member. Trailing ## symbols are required on the CMDTXTMSGF name. The menu (display file) name is the message-file-name without the ## symbols. The run-time menu processor appends the trailing ## symbols to the menu name to determine the message file name. This is the name of the message file that contains messages whose text is the command that is run for any option selected.

The name of the command text message file can be qualified by one of the following library values:

***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.

Note: The CMDTXTMSGF library is where the menu display file is created. This is a requirement of the run-time menu processor.

message-file-name-##: Specify the name of the message file used to create the menu. Trailing ## symbols are required.

Optional Parameters

OPPTXTMSGF

Specifies the qualified name of the option text message file that contains the text that is displayed on the menu to describe the options that can be selected.

The OPPTXTMSGF parameter must identify an existing message file and not a message source member.

***NONE:** No option text message file is used. The CMDTXTMSGF parameter is used to specify the option text.

The name of the option text message file can be qualified by one of the following library values:

***CMDLIB:** The command library is used to locate the option text message file.

***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.

message-file-name: Specify the name of the option text message file used for the descriptions of the options on the menu being created. The message ID prefix of USR is required unless IGCDTA(*YES) is specified.

REPLACE

Specifies whether the existing display file is replaced by the new file. More information on this parameter is in Commonly used parameters.

***NO:** No replacement occurs.

***YES:** The existing display file is replaced by the one being created.

Note: A display file is not created if a program, message file, or any other non-display file already exists in the menu library. Only one System/36 "load member" of a given name may exist in any given library.

FREEFORM

Specifies that the menu is created either in free-format or in a fixed-format, using two columns with twelve items in each column.

***NO:** Free format is not used. The menu is created by using a fixed format with two-columns.

***YES:** The menu is created using free-format.

DDSLIST

Specifies whether a partial or full DDS compiler listing is provided.

***PARTIAL:** A partial compiler listing is provided.

***FULL:** A full DDS compiler listing and cross-reference are provided.

MAXDEV

Specifies the maximum number of devices that can use the menu at one time.

5: The maximum number of devices is five.

number-of-devices: Specify the maximum number of devices that can use the menu at one time. The possible values range from 1 through 256.

AUT

Specifies the authority given to users who do not have specific authority to the menu object, who are not on an authorization list, and whose user group has no specific authority to the menu object.

***LIBCRTAUT:** The public authority for the menu object is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the menu object). The public authority is determined when the menu object is created. If the CRTAUT value for the library changes after the menu object is created, the new value does not affect any existing objects.

***USE:** The user can perform basic operations on the menu object, such as running a program or reading a file. The user cannot change the menu object. *USE authority provides object operational authority, read authority, and execute authority.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the menu object.

***EXCLUDE:** The user cannot access the menu object.

authorization-list-name: Specify the name of the authorization list used.

TOFILE

Specifies the qualified name of the source file (to-file) in which to store the data description specifications (DDS) source that was used to create the object. If the file does not exist, the requester must be authorized to the Create Source Physical File (CRTSRCPF) command so it can be created. This parameter is ignored if TOMBR(*NONE) is specified.

Note:

See special case for TOMBR when QS36DDSSRC is specified.

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

***CMDLIB:** The command library is used to locate the source file.

***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.

QDDSSRC: The IBM-supplied source file, QDDSSRC, is used.

file-name: Specify the name of the source file in which to store the DDS source.

TOMBR

Specifies the name of the source file member in which to store the data description specifications (DDS) source. If the member does not exist, it is created. When the member name is the same as that of the display file name, and the to-file is QS36DDSSRC in the same library as the display file being created, the DDS is saved in this member only if the compile operation of the display file is successful. To guarantee that the DDS is saved, specify the name of some other source file, library, or member.

***NONE:** The DDS source is not stored in the to-file.

member-name: Specify the name of the source file member in which to store the DDS source.

IGCDTA

Specifies whether the file contains double-byte character set (DBCS) data.

***NO:** The file does not process DBCS data.

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

TGTRLS

Specifies the release level of the operating system on which you intend to use the menu being created.

When specifying the *target-release* value, the format VxRxMx is used to specify the release, where Vx is the version, Rx is the release, and Mx is the modification level. For example, V3R6M0 is version 3, release 6, modification level 0.

Valid values depend on the current version, release, and modification level, and they change with each new release. See the **Valid Values for TGTRLS Parameter** table in the Backup, Recovery, and Availability topic in the Information Center for a complete list of valid values.

Note:

To use the menu on the target system, you must save the object specifying the target release level that was specified on the create command and then restore it on the target system.

If your system is running V3R7M0 and you want to create an object for distribution to a V3R6M0 system you must:

1. Create the object with TGTRLS(V3R6M0) or TGTRLS(*PRV).
2. Save the object with TGTRLS(V3R6M0) or TGTRLS(*PRV).
3. Restore the object on the V3R6M0 system. The object also can be restored on a later release of the operating system.

***CURRENT:** The menu is to be used on the release of the operating system currently running on your system. The menu can also be installed on a system with any subsequent release of the operating system installed.

***PRV:** The menu is to be used on the previous release with modification level 0 of the operating system. The menu can also be installed on a system with any subsequent release of the operating system installed.

target-release: Specify the release in the format VxRxMx. The menu can be used on a system with the specified release or with any subsequent release of the operating system installed.

Example for CRTMSGFMNU

```
CRTMSGFMNU  CMDTXTMSGF(MYMENU##)
            REPLACE(*YES)  FREEFORM(*NO)
```

This command creates a menu by using a message file named MYMENU. The message file is located in the current library for the job and it contains the commands run for each menu option. Because no OPTTXTMSGF parameter is specified, the text of the command appears on the screen in place of the option text. REPLACE(*YES) specifies that an existing display file is replaced. The created display file is in a fixed-format, with options 1 through 24 arranged in two 12-element columns.

Error messages for CRTMSGFMNU

*ESCAPE Messages

SSP4464

Member &3 in file &1 in use, cannot be shared.

SSP5004

&1—This load member exists, but is not a \$SFGR member.

SSP5005

&1 display file already exists.

SSP5011

&1 not allowed for display file name.

SSP5017

TOFILE library &1 not found.

SSP5019

Terminating errors in \$SFGR input specifications.

SSP5027

TGTRLS(*PRV) allowed with changes only when existing display file created for previous release.

SSP5451

Existing file &1 is not a display file.

SSP5750

Command message file messages 1-24 contain only blank text.

SSP5751

Command text message file name must end with ##.

SSP5752

Command text message file library &1 not found.

SSP5753

Command text message file &1 not found.

SSP5754

Option text message file &1 not found.

SSP5755

Unable to create \$BMENU work file.

SSP5756

Command message file name must be longer than 2 characters.

SSP5757

Command text message file has no MIC in 0001-0024 range

SSP5762

Option text message file name cannot be same as menu name.

SSP5770

Option text message file required for free format menu.

SSP5774

Command and option message files must not be the same.

SSP6124

Unexpected error occurred.

SSP7375

Error &1 received by &2 utility.

SSP8663

User not authorized to access &1.

SSP8679

Not authorized to access member &1.

CRTMSGQ (Create Message Queue) Command Description

CRTMSGQ Command syntax diagram

Purpose

The Create Message Queue (CRTMSGQ) command creates a user-defined message queue and stores it in a specified library. The message queue should be put in a library for which all users who are sending messages to and receiving messages from the queue have *USE authority. The messages sent can be either predefined messages or immediate messages. The message queue has the following attributes initialized when it is created: the DLVRY parameter is set to *HOLD, PGM is set to *DSPMSG, SEV is set to 00, and RESET is set to *NO. These initialized attributes cannot be specified on the CRTMSGQ command and the CHGMSGQ command must be used to change them after the queue is created.

Note:

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.

Required Parameter**MSGQ**

Specifies the qualified name of the message queue being created.

The name of the message queue can be qualified by one of the following library values:

***CURLIB:** The message queue is created in the current library for the job. 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 message queue is created.

message-queue-name: Specify the name of the message queue being created.

Optional Parameters

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.

***NO:** Changes made to the message queue, including its messages, are not immediately forced to auxiliary storage.

***YES:** Changes to the message queue description and to the messages in the queue are immediately forced to auxiliary storage.

SIZE Specifies the initial storage size of the message queue, the size of each increment added to its storage, and the number of times an increment of the specified size can be added. The storage size is expressed in kilobytes (K). The message queue size is increased when a message is sent to the message queue and there is not enough room for it in the queue. If SIZE is not specified, SIZE(3 1 *NOMAX) is assumed.

Element 1: Initial Size

One of the following is used to specify the initial storage size of the message queue.

3: Initially, the message queue has 3K of storage assigned to it (1K equals 1024 bytes of storage).

initial-K-bytes: Specify the value that specifies the initial size of the queue. The specified value cannot equal 0.

Element 2: Increment Value

One of the following is used to specify the amount of storage in kilobytes added to the message queue's size.

1: The message queue size is increased by 1K of storage for each increment added.

increment-value: Specify the number of kilobytes added for each increment.

Element 3: Maximum Number of Increments

One of the following is used to specify the maximum number of storage space increments that can be added to the message queue's size.

***NOMAX:** The system maximum is used.

number-of-increments: Specify the maximum number of increments that can be added to the queue size. A value of 0 prevents any additions to the initial size of the queue.

AUT Specifies the authority given to users who do not have specific authority to the message queue, who are not on an authorization list, and whose user group has no specific authority to the message queue.

***LIBCRTAUT:** The public authority for the message queue is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the message queue). The public authority is determined when the message queue is created. If the CRTAUT value for the library changes after the message queue is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational 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 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 message queue.

***USE:** The user can perform basic operations on the message queue. The user is prevented from changing the object. Use authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the message queue.

authorization-list-name: Specify the name of the authorization list used.

ALWALR

Specifies whether the queue being created allows alerts to be generated from alert messages that are sent to it.

***NO:** Does not allow alerts to be generated from this message queue.

***YES:** Allows alerts to be generated from this message queue.

CCSID

Specifies the coded character set identifier (CCSID) associated with this message queue. The CCSID applies only to immediate messages and message data that is defined as a character field that can be converted (*CCHAR).

***HEX:** Messages sent to, received from, 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 will be 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 Globalization topic in the Information Center for a list of valid CCSID values.

For more information about the message handler and its use of CCSIDs, see the Globalization topic in the Information Center.

MSGQFULL

Specifies the action to take when the message queue is full.

***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 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 will be 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 is 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 the queue and it was becoming full, CPF2460 could be issued because messages could not be removed to perform the wrap.

TEXT Specifies the text that briefly describes the message queue. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTMSGQ

```
CRTMSGQ MSGQ(MYQ) SIZE(3 3 *NOMAX)
TEXT('This message queue is for inventory
transactions') AUT(*CHANGE)
```

This command creates the message queue MYQ and stores it in the current library (*CURLIB) by default. All users are authorized to send messages to the queue and to read its messages.

The message queue is created with an initial size of 3 kilobytes (KB) and increased in size in 3 KB increments. The restriction on its maximum size is the system limit for objects, which is about 16,000 KB.

Error messages for CRTMSGQ***ESCAPE Messages****CPF2108**

Object &1 type *&3 not added to library &2.

CPF2112

Object &1 in &2 type *&3 already exists.

CPF2113

Cannot allocate library &1.

CPF2151

Operation failed for &2 in &1 type *&3.

CPF2182

Not authorized to library &1.

CPF2283

Authorization list &1 does not exist.

CPF2402

Library &1 not found

CPF247E

CCSID &1 is not valid.

CPF2497

Size for &1 in &2 exceeds machine limit.

CPF9838

User profile storage limit exceeded.

CRTMODD (Create Mode Description) Command Description

CRTMODD Command syntax diagram

Purpose

The Create Mode Description (CRTMODD) command creates a mode description for advanced-program-to-program communications (APPC) devices. A **mode description** defines the session characteristics and number of sessions for a link between the local and remote locations.

APPC support uses Systems Network Architecture (SNA).

Required Parameter

MODD

Specifies the name of the mode description.

Optional Parameters

COS Specifies the path control network characteristics used by advanced peer-to-peer networking (APPN) support.

Note:

This parameter is ignored if the communications line is not using APPN support.

class-of-service-name: Specify the class-of-service name in the mode description. Valid class-of-service names are shown below:

- #CONNECT
- #BATCH
- #INTER
- #BATCHSC
- #INTERSC

MAXSSN

Specifies the maximum number of active sessions that can be established for this mode. This number must be greater than or equal to the number of locally controlled sessions on the local system (as specified in the LCLCTLSSN parameter) plus the number of locally controlled sessions specified at the remote location.

8: The maximum number of active sessions is eight.

maximum-sessions: Specify a value, ranging from 1 through 512, for the maximum number of active sessions.

MAXCNV

Specifies the maximum number of active conversations allowed by the mode. The maximum number of active conversations is the sum of synchronous and asynchronous conversations; this value must be greater than or equal to the value specified by the MAXSSN parameter. A synchronous conversation is a conversation in which both the source and the target programs are communicating. An asynchronous conversation is a conversation in which the source program has detached from the conversation, but there is still data to be read by the target program.

8: Up to eight conversations are allowed.

maximum-conversations: Specify a value, ranging from 1 through 512, for the maximum number of conversations.

LCLCTLSSN

Specifies the minimum number of concurrent locally controlled sessions requested for this mode. This value must be less than or equal to the value specified in the MAXSSN parameter.

4: The minimum number of locally controlled sessions is 4.

locally-controlled-sessions: Specify a value, ranging from 0 through 512, for the number of locally controlled sessions.

PREESTSSN

Specifies the maximum number of locally controlled sessions established when the mode is started. Additional sessions are established when required up to the value specified in the MAXSSN parameter; this value must be less than or equal to the value specified in the LCLCTLSSN parameter.

0: No sessions are established when the mode is started.

pre-established-sessions: Specify a value, ranging from 0 through 512, used to specify the maximum number of concurrent locally controlled sessions established when the mode is started.

MAXINPAC

Specifies the maximum SNA pacing value used to schedule the incoming request units (RUs). **Pacing** is established by the receiving system to control the rate of transmission of the sending system to prevent the loss of data.

Note:

To ensure an optimum rate, the value *CALC is recommended.

***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.

INPACING

Specifies the Systems Network Architecture (SNA) pacing value used to schedule the incoming request units (RUs).

7: Character density is 16.7 characters per inch.

inbound-pacing-value: Specify a value, ranging from 0 through 63, as the limiting value.

OUTPACING

Specifies the SNA pacing value used for outgoing request units (RUs).

7: Character density is 16.7 characters per inch.

outbound-pacing-value: Specify a value, ranging from 0 through 63, for the limiting value.

MAXLENRU

Specifies the maximum request unit (RU) length (in bytes) allowed.

Note: To ensure an optimum length, the value *CALC is recommended.

***CALC:** The system determines the value to use.

maximum-length-request-unit: Specify a value, ranging from 241 through 32768 in bytes, for the maximum length of incoming request units. 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 about this parameter is in the Communications Configuration  book.

DTACPR

Specifies whether data compression is used.

***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 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 for the 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 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 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).

INDTACPR

Specifies the desired level of compression for inbound data. No data compression occurs if DTACPR(*NONE) is specified.

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.

***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. The LZ12 requires the most storage and processing time of the LZ algorithms; however, it compresses the data stream the most.

***NONE**: No compression occurs.

OUTDTACPR

Specifies the desired level of compression for outbound data. No data compression occurs if DTACPR(*NONE) is specified.

***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. The LZ12 requires the most storage and processing time of the LZ algorithms; however, it compresses the data stream the most.

***NONE:** No compression occurs.

SLE Specifies the desired level of session encryption.

***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 OS/400 is installed along with the Cryptographic Processor feature or the Cryptographic Processor-Commercial feature.

AUT Specifies the authority given to users who do not have specific authority to the mode description, who are not on an authorization list, and whose user group has no specific authority to the mode description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the mode description.

***USE:** The user can perform basic operations on the mode description, such as running a program or reading a file. The user cannot change the mode description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the mode description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the mode description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTMODD

```
CRTMODD MODD(MODE1) COS(COSD1)
TEXT('Mode using COSD1 Class-of-Service')
```

This command creates a mode, MODE1, that specifies class-of-service description COSD1.

Error messages for CRTMODD

*ESCAPE Messages

CPF261B


Mode description &1 not created due to errors.

CRTNTBD (Create NetBIOS Description) Command Description

CRTNTBD Command syntax diagram

Purpose

The Create NetBIOS Description (CRTNTBD) command creates a NetBIOS configuration description. Configuration objects, such as network server descriptions, for Input/Output processors (IOPs) that support NetBIOS can refer to this object for their NetBIOS parameters.

More information about using this command is in the Communications Configuration  book.

Required Parameter

NTBD Specifies the name of the NetBIOS configuration object being created.

Optional Parameters

FULLBUFDTG

Specifies whether to request the full transmit buffer size for datagrams.

***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).

***YES:** The full transmit buffer size is requested.

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.

1000: The time between runs of the adaptive window algorithm is 1000 milliseconds.

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.

MAXWDWERR

Specifies the number of dropped packets the adaptive window algorithm allows before decreasing the value on the MAXOUT parameter.

0: The number of dropped packets is 0.

window-errors: Specify the number of errors allowed. Valid values range from 0 through 10.

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.

4168: The maximum data size that can be received is 4168 bytes.

maximum-receive-data-size: Specify the maximum data size that can be received, in bytes. Valid values range from 512 through 16384.

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.

30000: The link can be inactive for 30000 milliseconds.

inactivity-timer: Specify the amount of time to wait for activity, in milliseconds. Valid values range from 1000 through 65535.

RSPTMR

Specifies the amount of time to wait before again transmitting a link-level frame when no acknowledgement is received from the previous transmission.

500: The NetBIOS protocol driver waits 500 milliseconds.

response-timer: Specify the amount of time to wait, in milliseconds. Valid values range from 50 through 65535.

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.

200: The driver delays for 200 milliseconds.

acknowledgement-timer: Specify the amount of time to delay, in milliseconds. Valid values range from 50 through 65535.

MAXIN

Specifies the maximum number of NetBIOS messages packets that can be received before sending an acknowledgement.

1: An acknowledgement is sent after one packet is received.

maximum-receives: Specify the number of packets to receive. Valid values range from 1 through 127.

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.

1: An acknowledgement is expected after one packet is sent.

maximum-transmits: Specify the number of packets to send. Valid values range from 1 through 127.

QRYTMR

Specifies the time, in milliseconds, to wait between transmission retry attempts.

500: The time to wait is 500 milliseconds.

query-timeout: Specify a value in the range of 500 through 10000 milliseconds.

NTBRTY

Specifies the number of transmission retries that are attempted at the NetBIOS level before assuming that the receiving party is not present.

8: The number of retries is 8.

NetBIOS-retry: Specify a value in the range of 1 through 50 attempts.

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.

***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.

PREBLTPKT

Specifies the number of NetBIOS message packets that are prebuilt for each session.

5: The number of NetBIOS message packets is 5.

prebuilt-packets: Specify a value in the range of 1 through 200 message packets.

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.

2: The maximum number of transmission confirmations is 2.

packet-restart: Specify the number of transmission confirmations. Valid values range from 0 through 9999.

DLCRTY

Specifies the number of additional transmission attempts that are made before assuming that the receiving data link control (DLC) layer is not responding.

5: The additional number of transmission attempts is 5.

DLC-retries: Specify a value in the range of 1 through 65535 attempts.

ETHSTD

Specifies the Ethernet standard frame type that is used for NetBIOS communication.

***IEEE8023:** IEEE 802.3 frames are used.

***ETHV2:** Ethernet Version 2 frames are used.

AUT Specifies the authority given to users who do not have specific authority to the NetBIOS description, who are not on an authorization list, and whose user group has no specific authority to the NetBIOS description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the NetBIOS description.

***USE:** The user can perform basic operations on the NetBIOS description, such as running a program or reading a file. The user cannot change the NetBIOS description. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the NetBIOS description.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the NetBIOS description. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTNTBD

```
CRTNTBD NTBD(MYNETBIOS) ADPWDWITV(6000)
```

This command creates a NetBIOS description named MYNETBIOS specifying that the adapter window algorithm is to be run every 6000 milliseconds (6 seconds).

Error messages for CRTNTBD

*ESCAPE Messages

CPF26C3

IPX description &1 not created due to errors.

CPF27A6

NetBIOS description &1 not created due to errors.

CRTNTWVOL (Create NetWare Volume) Command Description

CRTNTWVOL Command syntax diagram

Purpose

The Create NetWare Volume (CRTNTWVOL) command creates a volume for the specified network server. The network server must be active at the time this command is run. The space is allocated from the device number (or a network server storage space can optionally be specified on a local system). If the server is on the local system, the storage space must be linked to the network server description at the time this command is run.

Use the WRKNWSSTG (Work with Network Server Storage Spaces) command to find out which server a storage space is linked to and what device numbers (drives) are assigned to the network server storage spaces.

This command causes the following to happen:

1. A physical volume is created for the network server on the specified storage space.
2. A volume object, which represents the physical volume, is automatically placed into the NDS (NetWare Directory Services) tree. The volume object is put into the same container as the server object which represents the network server.
3. The volume is mounted if specified.

Restriction: You must have *IOSYSCFG special authority to use this command.

Required Parameters

VOL The name of the physical volume to be created. By default, the name of the volume object placed into the NDS tree is `servername_volumename`. The volume name must be 2 - 15 characters long and must be unique within the directory tree.

SERVER

The name of the server for which the volume is being created. This network server must be active when this command is executed.

Optional Parameters

DEVNBR

The device number from which the storage for the volume is allocated.

For local systems, either the DEVNBR or NWSSTG parameter can be specified. If DEVNBR is specified, this is the 'drive' number associated with the network server storage space when using the Work with Network Server Storage Spaces (WRKNWSSTG) command.

For remote servers, DEVNBR must be specified.

NWSSTG

The name of the network server storage space from which the storage for the volume is allocated. This storage space must be linked to the server specified by the NWSD parameter. This parameter can only be specified for the local system as this value is not known for remote servers. Either DEVNBR or NWSSTG parameter must be specified but not both.

SIZE The size of the volume to be created, specified in megabytes.

***MAXAVAIL:** Use the size of the largest area of contiguous free space on the specified device or network server storage space. Use the DSPNWSSTG (Display Network Server Storage Space) command to determine the largest area of contiguous free space on a storage space for a local server.

volume-size: Specify the size of the volume in megabytes. The size specified must be no larger than the largest area of contiguous free space on the specified storage space.

DTACPR

Specifies whether or not to enable data compression for this volume. Note that once data compression is turned on for a volume, it can not be turned off.

***NO:** Data compression is not enabled for this volume.

***YES:** Data compression is enabled for this volume.

MOUNT

Specifies whether or not to mount this volume as soon as it's created. Don't mount volumes that are rarely used because each mounted volume uses some server memory. Volumes can be mounted and dismounted while the server is active.

***YES:** The volume is created and then mounted.

***NO:** The volume is created but not mounted.

TEXT Specifies the text that briefly describes the volume. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTNTWVOL

```
CRTNTWVOL VOL(APPS) SERVER(SERVER1)
          NWSSTG(STGSPACE1)
```

This command creates physical volume APPS for network server SERVER1 with the size of the largest contiguous free space available on the network server storage space. SERVER1 is a local server (a NWSD of type *NETWARE defined on the local system). The storage is allocated from storage space STGSPACE1. A volume object called SERVER1_APPS is placed into the NDS tree. The volume is mounted by default.

```
CRTNTWVOL VOL(VOL1) SERVER(SERVER2)
          DEVNBR(9) SIZE(50) DTACPR(*YES) MOUNT(*NO)
```

This command creates physical volume VOL1 for network server SERVER2 with a size of 50 megabytes. This server may be local or remote. The storage is allocated from device number 9. A volume object called SERVER2_VOL1 is placed into the NDS tree. Data compression is enabled for this volume and the volume is not mounted.

Error messages for CRTNTWVOL

*ESCAPE Messages

FPE0107

Volume &1 not created.

CRTNWIATM (Create Network Interface (ATM Network)) Command Description

CRTNWIATM Command syntax diagram

Purpose

The Create Network Interface (ATM) (CRTNWIATM) command creates a network interface for an Asynchronous Transfer Mode (ATM) network. More information about using this command is in the

Communications Configuration  book.

Required Parameters

NWID Specifies the name of the network interface description.

network-interface-description-name: Specify the name of a network interface description.

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. 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.

resource-name: Specify a resource name.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The network interface is automatically varied on at IPL.

***NO:** This network interface is not automatically varied on at IPL.

VRYWAIT

Specifies whether the network interface is varied on asynchronously or synchronously. For a synchronous vary on, specifies how long the system waits for the vary on to complete.

***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.

NETTYPE

Specifies the standard used by the ATM network.

***AUTO:** The system automatically detects the network type, the first time the network interface is varied on. The reported network type will be set to *UNI30 or *UNI31.

***UNI30:** The network uses the UNI3.0 standard. Switched virtual circuit (SVC) connections are used.

***UNI31:** The network uses the UNI3.1 standard. Switched virtual circuit (SVC) connections are used.

***UNI40:** The network uses the UNI4.0 standard. Switched virtual circuit (SVC) connections are used. <<

***PVCONLY:** The network uses only permanent virtual circuit (PVC) connections. No switched virtual circuit (SVC) connections are used.

MAXPMPSYS

Specifies the maximum number of end systems for all point to multipoint connections.

0: There will be a maximum of 0 end systems for all point to multipoint connections.

maximum-PMP-systems: Specify the maximum number of end systems for all point to multipoint connections. The value must be in the range of 0 to 2048.

SVCCNN

Specifies maximum number of switched virtual circuit connections that can be established by this network interface.

516: There can be a maximum of 516 switched virtual connections.

switched-virtual-connections: Specify the maximum number of switched virtual connections. This is a numeric value in the range of 16 to 2064.

NETSWTTIMO

Specifies the amount of time the ATM adapter card waits to make a connection to the network switch before ending a vary-on sequence with failing status.

2: ATM adapter card waits 2 minutes to make a connection to the network switch.

***NOMAX:** There is no time limit to make a connection.

network-switch-time-out: Specify the amount of time the ATM adapter card waits to make a connection to the network switch. This is a numeric value in the range of 1 to 30 minutes.

PHYLYROPT

Specifies the control options for the physical interface.

***NONE:** No control options are specified.

physical-layer-options: Specify the control options for the physical interface. This is a hexadecimal value in the range of 0000 to FFFF.

LINE Specifies the line description name of a line attached to this network interface. The line descriptions must already exist. A maximum of one line descriptions may attach to this network interface.

line-name: Specify the name of a line description to be attached to this network interface.

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.

Element 1: Maximum Recovery Limit

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.

Element 2: Recovery Time Interval

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.

Other Single Value

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT Specifies the authority given to users who do not have specific authority to the network interface, who are not on an authorization list, and whose user group has no specific authority to the network interface.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the network interface.

***USE:** The user can perform basic operations on the network interface, such as running a program or reading a file. The user cannot change the network interface. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the network interface.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the network interface. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTNWIATM

```
CRTNWIATM  NWID(NWIATM1)  RSRNAME(LINE031)
           ONLINE(*YES)  VRYWAIT(15)
```

This command creates the ATM network interface NWIATM1. NWIATM1 represents the resource named LINE031. NWIATM1 is varied on at initial program load (IPL) with a vary on wait time of 15 seconds.

Error messages for CRTNWIATM

*ESCAPE Messages

None.

CRTNWIFR (Create Network Interface (Frame Relay Network)) Command Description

CRTNWIFR Command syntax diagram

Purpose

The Create Network Interface (Frame-Relay Network) (CRTNWIFR) command creates a network interface for a frame-relay (FR) network. More information about using this command is in the Communications

Configuration  book.

Required Parameters

NWID Specifies the name of the network interface description.

network-interface-description-name: Specify the name of a network interface description.

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. 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.

resource-name: Specify a resource name.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The network interface is automatically varied on at IPL.

***NO:** This network interface is not automatically varied on at IPL.

VRYWAIT

Specifies whether the network interface is varied on asynchronously or synchronously. For a synchronous vary on, specifies how long the system waits for the vary on to complete.

***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.

DLCI Specifies the data link connection identifiers of the line descriptions for the frame relay network interface being created.

***NONE:** No data link connection identifier is specified.

Element 1: DLCI Number

DLCI-number: Specify the DLCI number for the line.

Element 2: Line description

line-description: Specify the DLCI line description.

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.

***NO:** NRZI data encoding is not used.

***YES:** NRZI data encoding is used.

INTERFACE

Specifies the type of physical interface on the input/output adapter (IOA) port.

***RS449V36:** An RS-499/V.36 physical interface is used. This value is valid only for frame relay and SDLC links.

***V35:** A V.35 physical interface is used. This value is valid only for frame relay, BSC, and SDLC links.

***X21:** An X.21 physical interface is used. This value is valid only for frame relay, X.25, and SDLC links.

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.

Note: CLOCK(*LOOP) is not valid when INTERFACE(*RS449V36) or INTERFACE(*V35) is specified.

LINESPEED

Specifies the line speed in bits per second (bps)

1536000: The line speed is 1536000 bps.

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.

LMIMODE

Specifies whether the local management interface (LMI) for this adapter is configured as terminal equipment or a frame handler.

***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 iSeries 400 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 iSeries 400 link management frames.

***NONE:** The local system is configured to interface with the frame relay network or another system without performing any LMI function.

POLLITV

Specifies the rate of the polling cycle. The polling cycle consists of a status enquiry message and a status message exchange. The status message includes the status of the DLCI.

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.

FULLINQTV

Specifies the number of polling cycles that occur before a full status inquiry is requested.

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.

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.

Element 1: Maximum Recovery Limit

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.

Element 2: Recovery Time Interval

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.

Other Single Value

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT

Specifies the authority given to users who do not have specific authority to the network interface, who are not on an authorization list, and whose user group has no specific authority to the network interface.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the network interface.

***USE:** The user can perform basic operations on the network interface, such as running a program or reading a file. The user cannot change the network interface. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the network interface.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the network interface. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTNWIFR

```
CRTNWIFR  NWID(THISONE)  RSRNAME(LINE031)
          ONLINE(*YES)  VRYWAIT(15)
          DLCI((32 LINEABC) (409 LINEDEF) (94 LINELAST))
          INTERFACE(*V35)  LMIMODE(*TE)
```

This command creates the frame relay network interface THISONE. THISONE represents the resource named LINE031. THISONE is varied on at initial program load (IPL) with a vary on wait time of 15 seconds. It is created with three DLCIs (32, 409, and 94) which refer to line descriptions LINEABC, LINEDEF, and LINELAST respectively. The type of physical interface for the input/output adapter (IOA) port specified by THISONE is *V35. The local management interface mode is configured to interface with a frame relay network as terminal equipment (TE).

Error messages for CRTNWIFR

*ESCAPE Messages

CPF27A0

Network interface description &1 not created due to errors.

CRTNWIISDN (Create Network Interface Description for ISDN) Command Description

CRTNWIISDN Command syntax diagram

Purpose

The Create Network Interface Description for ISDN (CRTNWIISDN) command creates a network interface description for an integrated services digital network (ISDN) attachment.

Required Parameters

NWID Specifies the name of the network interface description.

RSRNAME

Specifies the resource name that identifies the hardware that the description represents.

Optional Parameters

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

***YES:** The network interface is automatically varied on at IPL.

***NO:** This network interface is not automatically varied on at IPL.

VRYWAIT

Specifies whether the network interface is varied on asynchronously or synchronously. For a synchronous vary on, specifies how long the system waits for the vary on to complete.

***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.

NETTYPE

Specifies the type of integrated services digital network (ISDN) to which the system is attached. The value specified on this parameter is used to determine the defaults for several parameters that are dependent on the type of ISDN to which the system is attached.

***NETATR:** This value indicates that the default network type specified in the network attributes are used. The values of the parameters in the network attributes for the system can be displayed by using the Display Network Attributes (DSPNETA) command. If no value is specified on the DFTNETTYPE parameter, the user should specify one by using the Change Network Attributes (CHGNETA) command.

***ATT:** This value is used when attaching to an ISDN that uses the AT&T Generic interface.

***DBP1TR6:** This value is used when attaching to an ISDN controlled by Germany's post telephone and telegraph administration (PTT). (Deutsche Bundespost 1TR6).

***ETSI:** This value is used when attaching to an ISDN that uses the European interface (ETSI, also known as EuroISDN standard).

***JAPAN:** This value is used when attaching to an ISDN that uses the Japanese interface.

***NISDN:** This value is used when attaching to an ISDN that uses National ISDN-1 or National ISDN2 standard for North America.

***NORTEL:** This value is used when attaching to an ISDN that uses the Northern Telecom interface.

***ATTG3:** This value is used when attaching to an ISDN in the United States or Canada that uses AT&T Definity G3i switching equipment. This is used only for the IBM CallPath Server for AS/400 product.

RATE Specifies the rate used by the system.

***BASIC:** A basic rate interface is used by the system.

***PRIMARY:** A primary rate interface is used by the system.

CHLENTY

Specifies a channel entry corresponding to a B channel associated with the network interface. The user can specify up to two B channel entries for a basic rate interface.

Element 1: Channel Number

***SWTALL:** This value is used for all switched B channels.

***D:** This value is used for one nonswitched D channel.

channel-number: Specify the B-channel number. Valid values are based on the number of channels allowed for specific NETTYPE. If the RATE specified is for basic rate service, only 2

channels can be selected. For a NETTYPE of *ETSI and RATE of *PRIMARY, up to 30 channels can be selected. All other primary rate services will allow up to 23 channels to be selected.

Element 2: Channel Connection

***SWT:** This value is used for switched connections.

***NONSWT:** This value is used for nonswitched (permanent) connections.

Element 3: Line Description

line-description: Specify an existing line description. Names of ISDN data link control (IDLC), network, Point to Point Protocol (PPP) and X.25 line descriptions can be specified.

Note:

A D channel can only be specified with one network line description, while a B channel can be specified with an IDLC or PPP or X.25 line description.

PCLENTRY

Specifies a list of protocols used and protocol-specific information.

***PPPMAX:** Specifies the PPP protocol. The associated microcode is preloaded, and the maximum number of channels based on NETTYPE are available for use.

***IDLCMAX:** Specifies the IDLC protocol. The associated microcode is preloaded, and the maximum number of channels based on NETTYPE are available for use.

***X25MAX:** Specifies the X.25 protocol. The associated microcode is preloaded, and the maximum number of channels based on NETTYPE are available for use.

Element 1: Protocol Used

***PPP:** The PPP protocol is used.

***IDLC:** The IDLC protocol is used.

***X25:** The X.25 protocol is used.

Element 2: Preload Microcode

***LOAD:** Microcode is preloaded. Preloading allows the system to report faster to incoming calls at vary-on time, since the necessary tasks are already in place.

***NOLOAD:** Microcode is not preloaded.

Element 3: Maximum Channels

***MAX:** The maximum number of channels for this network interface description (NWID) that are available for use by the specified protocol based on the RATE and NETTYPE parameters.

***NONE:** The maximum number of channels is not specified.

maximum-channels: Specify the maximum number of channels to be used based on the specified RATE and NETTYPE parameters.

LCLNBR

Specifies the local number for this system in the ISDN network. The local number can be up to 40 characters long. Special characters are used to delimit the number; see the RMVCHR parameter.

***C>NNL:** The system determines the local number by using the connection list object specified for the call.

'local-number': Specify up to 40 characters for the local number. A maximum of two numbers can be specified when the NETTYPE is *ATT or *NISDN or *NORTEL and the RATE is *BASIC. The second LCLNBR is used when a second SPID number is specified.

LCLNBRTYPE

Specifies the type of local number specified on the LCLNBR parameter.

***NETTYPE:** The system determines the local number type by using the value specified on the NETTYPE parameter.

***UNKNOWN:** The local number type is not known.

***INTERNATL:** The local number is an international number type.

***SUBSCRIPTION:** The local number is a subscription number type.

***NATIONAL:** The local number is a national address type.

***NETSPECIFIC:** The local number type is specific to the network.

***ABR:** The local number type is abbreviated.

LCLNBRPLAN

Specifies the numbering plan used for the local number.

***NETTYPE:** The numbering plan is determined by the value specified on the NETTYPE parameter.

***UNKNOWN:** The numbering plan is not known.

***ISDN:** The ISDN E.164 numbering plan is used.

***DATA:** The data numbering plan is used.

***NATIONAL:** The national numbering plan is used.

***PRIVATE:** A private numbering plan is used.

LCLNBRPSN

Specifies the intention of the calling user for the presentation of the local number to the called user. This parameter applies only to outgoing calls.

***NONE:** The local number presentation is not encoded. The network determines whether the local number is presented to the called user.

***ALLOW:** The local number is presented to the called user.

***RESTRICT:** The presentation of the local number to the called user is restricted by the network.

RMVCHR

Specifies the characters to be removed from the local number. Extra characters are removed from the numbers before sending or comparing them. The ability to shorten numbers prior to their use by the system means the user can insert extra characters in numbers to make them more organized and readable.

***NETTYPE:** The system determines the characters to be removed using the value specified on the NETTYPE parameter.

***NONE:** No characters are removed.

'character': Specify up to 10 characters to be removed.

AUTOSPID

Specifies whether Automated service profile identifier detection (SPID) Selection procedures are to be used. When AUTOSPID = *YES is specified, procedures are used to allow the network to download the SPID parameters to the adapter. In this case all other SPID values will be ignored. This parameter is only valid when RATE is *BASIC and NETTYPE is *ATT or *NISDN or *NORTEL. Contact your network service provider to determine if they provide Auto-SPID capability.

***NO:** Auto service profile identifier detection will not be used.

***YES:** Auto service profile identifier detection will be used.

SPID Specifies the SPID to be used in an exchange of information between the system and the network when communications are initialized. The SPID value is assigned by and can be obtained from the network provider when the user subscribes to the network.

Element 1: SPID Number

SPID-number: Specify the SPID number. Valid values are 1 and 2.

Element 2: SPID Value

***NONE:** No SPID is used for the exchange.

SPID-value: Specify the service profile identifier. A minimum of 9 characters are required, and no more than 20 characters can be specified.

Note: The second SPID number is used when a second LCLNBR is specified.

X31NFYCLS

Specifies the method for the packet handler in the ISDN to notify the system of an incoming packet mode call.

***NETTYPE:** The method of notifying the system is determined by the value specified on the NETTYPE parameter.

***NONE:** The packet handler provides no notification.

***CONDITIONAL:** The packet handler provides notification only if a packet mode call cannot be delivered on an existing connection.

***UNCONDITIONAL:** The packet handler provides notification for every packet mode call.

SETUPDIF

Specifies the defaults used to send **SETUP** messages to the network.

***NONE:** The defaults for sending **SETUP** messages are used: High Layer Compatibility IE is not sent; Low-Layer Compatibility IE is sent; Bearer Capability IE is sent in the SETUP message; and Terminal Capability IE is not sent in the SETUP message.

***NOLLCIE:** The Low-Layer Compatibility IE (Information Element) is not sent with the **SETUP** message.

X31DIF

Specifies network-specific differences in X.31 Case B operations.

***NETTYPE:** The system determines whether X.31 call data is checked depending on the value specified on the NETTYPE parameter.

***NONE:** There are no differences in packet mapping.

***NOCALLINGNETADR:** The call data does not contain a calling network address.

***NOCALLEDNETADR:** The call data does not contain a called network address.

***NOCALLUSERDATA:** The call data does not contain user data.

ACTTMR

Specifies the amount of time in tenths of a second, allowed for the interface activation process to complete.

***NETTYPE:** The system determines the amount of time allowed by using the value specified on the NETTYPE parameter.

activation-timer: Specify a value ranging from 10 through 300 in 0.1-second intervals.

REACTTMR

Specifies the amount of time allowed for interface reactivation to occur following a temporary loss of synchronization.

***NETTYPE:** The system determines the amount of time allowed by using the value specified on the NETTYPE parameter.

***NONE:** The system does not wait for reactivation to occur.

***WAIT:** The system waits indefinitely for the reactivation to occur.

reactivation-timer: Specify a value ranging from 10 through 1800 in 0.1-second intervals.

SHORTHAUL

Specifies the short haul distance in feet for ISDN primary rate line which is connected to a network via a Channel Service Unit (CSU) or NT-1 which is external to the adapter. This choice is only available for primary rate service and LONGHAUL has not been specified.

***MAX133:** The system will use a distance of 0 to 133 feet or 0 to 41 meters.

***MAX266:** The system will use a distance of 133 to 266 feet or 41 to 81 meters.

***MAX399:** The system will use a distance of 266 to 399 feet or 81 to 122 meters.

***MAX533:** The system will use a distance of 399 to 533 feet or 122 to 162 meters.

***MAX655:** The system will use a distance of 533 to 655 feet or 162 to 200 meters.

***NONE:** The system will use the value defined for the LONGHAUL parameter.

LONGHAUL

Specifies the long haul line build out (LBO) for a ISDN primary rate line which is directly attached to the network service provider. The LBO parameter is in units of decibels and is used to match the signal characteristics of the adapter and the transmission line to the network. Contact your network service provider to obtain the proper value for this parameter. This choice is only available for primary rate service and SHORTHHAUL has not been specified.

0.0: The system will use 0.0 decibels (dB).

7.5: The system will use 7.5 dB.

15.0: The system will use 15.0 dB.

22.5: The system will use 22.5 dB.

CLOCK

Specifies that clock source used for primary rate service.

***LOOP:** The system will use a loop timing.

***LOCAL:** The system will use a local timing.

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.

Element 1: Count Limit

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.

Element 2: Time Interval

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.

Other Single Values

***SYSVAL:** The recovery limits specified in the QCMNRCYLMT system value are used.

AUT Specifies the authority given to users who do not have specific authority to the network interface description, who are not on an authorization list, and whose user group has no specific authority to the network interface description.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the network interface description.

***USE:** The user can perform basic operations on the network interface description, such as running a program or reading a file. The user cannot change the network interface description.

***USE** authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the network interface description.

authorization-list-name: Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

TEXT Specifies the text that briefly describes the network interface. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTNWIISDN

```
CRTNWIISDN  NWID(ISDNNET)  RSRNAME(LIN011)
             NETTYPE(*ATT)  CHLENTY((1) (2 *NONSWT))
```

This command creates a network interface description named ISDNNET which uses the resource associated with resource name LIN011. The network interface description is configured to attach to an ISDN which conforms to the AT&T generic basic rate, and uses the first B channel for switched circuit calls and the second B channel for nonswitched circuit calls.

Error messages for CRTNWIISDN

*ESCAPE Messages

CPF27A0

Network interface description &1 not created due to errors.

CRTNWSD (Create Network Server Description) Command Description

CRTNWSD Command syntax diagram

Purpose

The Create Network Server Description (CRTNWSD) command creates a description for a network server. The description includes server software parameters, network protocol descriptions and definition of attached communications equipment (for example, line descriptions). >>

Note:

When TYPE is *WINDOWSNT, the required way to create and install a Windows server is to use the Install Windows Server (INSWNTSVR) command.



More information about using this command when TYPE is *WINDOWSNT can be found in Windows server on iSeries topic in the Information Center.

Restriction: You must have *IOSYSCFG special authority to use this command.

Required Parameters**NWSD**

Specifies the name of the network server description. The name must be a valid communications name (CNAME). The name cannot end with the character at code point x'5B'. That character is converted to a \$ character in the ASCII character set and network servers cannot have names ending in a \$.

RSRCNAME

Specifies the resource name that identifies the hardware that the description represents.

***NONE:** A hardware resource is not associated with the network server. This value must be specified when TYPE is *GUEST.

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 input/output processor (IOP) or the input/output adapter (IOA) for the File Server.

Optional Parameters

TYPE Specifies the type of network server description to create.

***WINDOWSNT:** Create an Windows network server description.

***GUEST:** Create a network server description for a guest operating system running in a logical partition.

ONLINE

Specifies whether this object is automatically varied on at initial program load (IPL).

Notes:

1. This parameter is ignored when TYPE is *WINDOWSNT.
2. If more than one network server description is created for a File Server resource, only one network server description should specify ONLINE(*YES). If more than one network server description specifies ONLINE(*YES), only the first description, in alphabetical order, is varied on during the IPL.

***YES:** The network server is automatically varied on at IPL. All configuration objects attached to the network server will also be varied on.

***NO:** This network server is not automatically varied on at IPL.

VRYWAIT

Specifies whether the network server is varied on asynchronously or synchronously. For synchronous vary on, specifies how long the system waits for the vary on to complete.

Note: Vary on of a network server will reset the IOP if a resource name was specified (RSRCNAME parameter). The vary on wait time specifies time in addition to the reset time.

***NOWAIT:** The system does not wait for the vary on to complete. The network server is varied on asynchronously.

vary-on-wait: Specify the time (in minutes) to wait. Valid values range from 1 through 15. The system waits until the network server is varied on, or until the specified time passes, before completing the Vary Configuration (VRYCFG) command.

DMNROLE

Specifies the domain controller role performed by this network server.

Note: This parameter is not valid only when TYPE is *GUEST.

***DMNCTL:** This network server is a domain controller within its domain.

***BKUCTL:** This network server is a backup controller within its domain.

***SERVER:** This network server is a stand alone server.

» PRPDMNUSR

Allows users to determine if domain user enrollment should be allowed or not on a particular NWSD.

Note: This parameter is ignored when TYPE is *GUEST.

***YES:** Allow propagation of domain user enrollment for this NWSD.

***NO:** Do not allow propagation of domain user enrollment for this NWSD. <<

PARTITION

Specifies the name of the logical partition to be used by this network server.

partition-name: Specify the name of the partition to be used by this network server. The partition name PRIMARY cannot be specified.

Note: This parameter is required when TYPE is *GUEST.

LNGVER

Specifies the language version of the network server product. To change the language version, a new network server description must be created specifying the desired language.

Note: This parameter is not valid when TYPE is *GUEST.

***PRIMARY:** The language version for the currently installed primary national language is used.

language-version: Specify the language version of the network server product to be used. The language must be one of the installed versions of the network server product. Use the Work with Licensed Programs (LICPGM) menu to determine the installed languages. Language versions are entered in the command as an integer value.

See the Globalization topic in the Information Center for more information.

CODEPAGE

Specifies the ASCII code page representing the character set to be used by this network server. Only certain code pages can be used for a given country or region code.

Refer to the Globalization topic in the Information Center for more information on language version considerations, the default code page for each language version, and the code pages that can be used with each country or region code.

***LNGVER:** Specifies to use the default code page corresponding to the language version (LNGVER) selected. This value is not valid when TYPE is *GUEST.

code-page: Specify the ASCII code page which represents the character set used by the network server.

MSGQ

Specifies the name of a message queue to receive server messages.

For details on the type of messages that are sent to this messages queue, see the appropriate manual that is associated with the type of network server.

***JOBLOG:** Causes messages from the server to be placed on the joblog of the monitor job.

***NONE:** Causes messages to not be placed on any message queue.

message-queue-name: Specify the name of a message queue to receive messages issued by the server.

The name of the message queue 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.

EVTLOG

Specifies whether or not messages from the event logs are received from the server.

Note: Event log messages are placed in the message queue that is identified by the server message queue (MSGQ) parameter. The MSGQ value cannot be *NONE if a value other than *NONE is specified for the EVTLOG parameter. See the server message queue (MSGQ) parameter for more information.

Note: This parameter is not valid when TYPE is *GUEST.

***ALL:** All event log messages are received.

***NONE:** No event log messages are received.

***SYS:** The system event log messages are received.

***SEC:** The security event log messages are received.

***APP:** The application event log messages are received.

CFGFILE

Specifies the name of a source file containing configuration data to be used in activating or further defining the server.

Note: This parameter is not valid when TYPE is *GUEST.

***NONE:** No configuration file is specified.

file-name: Specify the name of a source file containing the configuration data member(s) for the server. At the time the server is activated, all members in the file will be processed. The file must exist on the system by the time the server is activated.

The name of the configuration 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.

SVRSTGSI

Specifies the size of the storage spaces, in megabytes.

Note: This parameter is not valid when TYPE is *GUEST.

Element 1: Install Source Size

Specifies the size of the drive that holds the files that are used to install the server.

Specify one of the following values:

***DFT:** Specifies the default drive size for the server.

install-source-size: Specifies the install source drive size value, in megabytes. Valid values range from 200 to 2047 megabytes.

Element 2: System Size

Specifies the size of the drive that the Windows server is installed on. Specify one of the following values:

***DFT:** Specifies the default drive size for the server.

system-size: Specifies the system drive size value, in megabytes. Valid values range from 500 to 64000 megabytes.

SVRSTGASP

Specifies the auxiliary storage pool (ASP) identifiers for the storage space that will contain the files used to install the Windows server and the storage space that will contain the Windows server operating system.

Note: This parameter is not valid when TYPE is *GUEST.

Element 1: Install Source ASP

Specifies the auxiliary storage pool for the storage space object that holds the files that are used to install the Windows server.

Specify one of the following values:

1: The storage space is created in auxiliary storage pool 1, the system auxiliary storage pool.

install-source-ASP: >> Specify a value ranging from 2 through 255 for the ASP identifier. << Valid values depend on how many ASPs are defined on the system.

Element 2: System ASP

Specifies the auxiliary storage pool for the storage space object that holds the Windows server operating system.

Specify one of the following values:

1: The storage space is created in auxiliary storage pool 1, the system auxiliary storage pool.

system-ASP: >> Specify a value ranging from 2 through 255 for the ASP identifier. << Valid values depend on how many ASPs are defined on the system.

TCPPORTCFG

>> Specifies the TCP/IP configuration values that are specific to a port on the network server. This information consists of five parts including the identification of the network server port, the internet address assigned to the port and the subnet mask of the port, the maximum transmission unit (MTU) size, and the gateway internet address. Enter up to nine values for this parameter, one for each port that can exist on a network server. <<

***NONE:** Specifies that there is no TCP/IP port configuration. *NONE cannot be specified when TYPE is *WINDOWSNT.

Element 1: Port Number

Specifies the network server port number to be configured. Specify one of the following values:

>> Notes:

1. Port number values may only be specified once.
2. Port number 1, 2 and 3 are the only allowed ports when TYPE is *GUEST.
3. *INTERNAL, *VRTETHPTP or one of the virtual ethernet ports *VRTETHn where 'n' has a value of 0 through 9 is required when TYPE is *WINDOWSNT.
4. Up to four different virtual ethernet ports *VRTETHn where 'n' has a value of 0 through 9 can be configured.

***INTERNAL:** The network server internal token ring port is configured.

***VRTETHPTP:** The network server point to point ethernet port is configured.

***VRTETHn:** The network server virtual ethernet port 'n' is configured, where 'n' has a value of 0 through 9. <<

1: Network server port number 1 is configured.

2: Network server port number 2 is configured.

>> 3: Network server port number 3 is configured.

4: Network server port number 4 is configured. <<

Element 2: Internet Address

Specify the local internet address which the network server responds to. 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 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. The internet address selected must be unique across all >> network server (*NWSD) << objects and the iSeries 400 TCP/IP configuration.

Element 3: Subnet Mask

Specify the subnet mask associated with the network server port.

Subnetting provides the capability to partition an internet domain. Specify the mask for the network subnet and host address fields 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 example, a subnet mask of 255.255.255.0 defines a Class B subnet consisting of all bits in the network portion of the internet address (this is a given) and consisting of all bits in the third byte of an internet address.

Element 4: Maximum Transmission Unit

Specifies the maximum transmission unit of the interface. Specify one of the following values:

1500: Specifies the default MTU value of 1500 bytes.

maximum-transmission-unit: Specifies the MTU value for the interface. Typical values are:

Adapter	MTU setting
PC Network adapter	1462
Ethernet adapter on an IEEE 802.3 network	1492
Token-Ring 16/4 Adapter/A card on a 16 MB TR	4400

>> Element 5: Gateway Internet Address

Specifies the gateway internet address.

***NONE:** Specifies that there is no default gateway address.

gateway-internet-address: Specifies the default gateway address for the internet address in the form nnn.nnn.nnn.nnn, where nnn is a decimal number ranging from 0 through 255. <<

TCPRTE

The TCPRTE parameter allows the user to identify routes to remote destination systems or networks to the Transmission Control Protocol/Internet Protocol (TCP/IP) configuration for the network 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 is ignored when TYPE is *WINDOWSNT.

Two values uniquely define a route. They are the route destination field and the subnet mask. For *DFTRROUTE values, the next hop element uniquely defines the route.

Valid values for the TCPRTE parameter are:

***NONE:** There is no routing specification needed for the network 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

The route destination field 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 subnetwork is identified by entering 9.5.11.0 for the route destination. Used in combination with a subnetmask, the route destination will identify a route to a network or system.

***DFTRROUTE:** 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 *DFTRROUTE entries may be specified. The *DFTRROUTE entries are used in the order specified. If a particular next hop gateway on a *DFTRROUTE entry is not available, then the subsequent *DFTRROUTE entry's next hop gateway specified will be used. This will continue until a *DFTRROUTE entry's gateway is found that is active or the list of next hop gateway values is exhausted.

route-destination: 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

The Subnet mask must be specified if *DFTRROUTE 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 element 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 *DFTRROUTE is specified in the route destination element, then *NONE must be specified. *NONE is valid only for the *DFTRROUTE 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.

subnet-mask: 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 subnetmask, for example, the subnetmask must appear like 255.255.x.x, where x is determined by the user. The portion of the subnetmask which is associated with the network portion of a particular class of address must equal 255.

Element 3: Next Hop

Next hop 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 network server ports.

next-hop: 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.

TCPHOSTNAM

Specifies the short form of the host name to be associated with the network server. The host name can be a text string having 2 through 63 characters. The following characters are allowed in host names:

- Alphabetical characters A through Z
- Digits 0 through 9
- Minus sign (-)

Note: These characters are all invariant characters.

***NWSD:** Specifies that the host name for the network server is the same as the name of the NWSD object. *NWSD must be specified if TCPPORTCFG(*NONE) is specified.

host-name: Specify a host name to be associated with the network server.

TCPDMNNAME

Specifies the local domain name associated with the network server.

A domain name can be a text string having 2 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 (-)
- Period (.). Periods are only allowed when they separate labels of domain style name (refer to RFC 1034).

Note:

These characters are all invariant characters.

Other domain name conventions include the following:

- 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.
- Try to limit your domain name labels to 12 characters because shorter labels are easier to remember.
- It is a common practice to use hierarchical names that allow predictable extensions for change and growth. Domain names normal reflect the delegation of authority or hierarchy used to assign them.

For example, the name SYS1.MFG.ABC.COM can be broken down into the following:

COM All commercial networks.

ABC.COM

All systems in the ABC company's commercial network.

MFG.ABC.COM

All manufacturing systems in the ABC company's commercial network.

SYS1.MFG.ABC.COM

A host named SYS1 in the manufacturing area of the company's commercial network.

In the above example, MFG.ABC.COM is the domain name and SYS1 is the short form of the host name.

The COM designation is one of several domain names used when connecting the Internet. Some of the other domain names are as follows:

COM Commercial organizations

EDU Educational institutions

GOV Government institutions

MIL Military groups

NET Major network support centers

ORG Organizations other than those listed above

Country or region code

Countries other than USA

***SYS:** Specifies that the local domain name for the network server should be the same value as is configured for the iSeries 400. *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.

host-name: Specify a host name to be associated with the network server.

TCPNAMSVR

Specifies the internet address of the name server system that is used by the network server. Typically, this is the same value as it is for the iSeries 400.

***SYS:** The name server system used by the network server should be the same as for the iSeries 400. *SYS must be specified if TCPPOPTCFG(*NONE) is specified.

***NONE:** There is no name server to be used by the network server.

name-server-address: Specify an internet address for the name server system to be used by the network server. Up to three remote name server systems can be specified. The name server systems are used in the order they are specified.

PORTS

Specify the names of the lines attached to the >> network server ports <<.

Note: This parameter is not valid when TYPE is *GUEST.

***NONE:** No lines are attached to this server. Lines may be attached later by specifying this server description in the line descriptions when they are created.

Element 1: Port Number

>> *port-number:* Specifies the network server port number to be configured.

***INTERNAL:** The network server internal token ring port is configured.

***VRTETHPTP:** The network server point to point ethernet port is configured.

***VRTETHn:** The network server virtual ethernet port 'n' is configured, where 'n' has a value of 0 through 9.

Notes:

1. If *INTERNAL is specified, the line description must be the name of a token ring network (TRN). Also, *INTERNAL can only be specified for one token ring line description.
2. If *VRTETHPTP is specified, the line description must be the name of an ethernet. Also, *VRTETHPTP can only be specified for one ethernet line description.
3. If *VRTETHn is specified where 'n' has a value of 0 through 9, the line description must be the name of an ethernet. Also, *VRTETHn can only be specified for one ethernet line description.



Element 2: Line Description

line-description: Specify an existing line description. Names of token ring network (TRN) or Ethernet (ETH) line descriptions can be specified. The line must have been created specifying RSRNAME(*NWSD), and must not be currently attached to another server.

RSTDDEVRSC

Specifies the iSeries 400 tape and optical device resource names that are restricted and cannot be used by the network server.

The resource is used when the network server is active and a request is issued from a client application running on the network server. The device resource cannot be used by the application and the iSeries 400 at the same time. If the device resource is in use by the iSeries 400, the network server application will not use this resource. If the device resource is intended to be used by the network server application, it will need to be available when the network server application is ready to use it.

Note: If other device resources are specified that are not valid or are not detected, they will not allow the network server to vary on.

***NONE:** No device resources are restricted from the network 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 network server.

***ALLOPT:** All optical device resources are restricted from being used by the network server.

Note: This value can only be specified once.

***ALLTAPE:** All tape resources are restricted from being used by the network server.

Note: This value can only be specified once.

restricted-device-resource: Specify 1 to 10 restricted device resource names that cannot be used by the network server.

SYNCTIME

Specifies whether the iSeries 400 should synchronize the network server date and time with the iSeries 400 date and time.

***TYPE:** The iSeries 400 will perform synchronization based on the network server type. Synchronization will be done as if SYNCTIME(*YES) was specified.

***YES:** The iSeries 400 synchronizes the network server date and time with the iSeries 400 date and time at every vary on and at least every 30 minutes thereafter for network server type of *WINDOWSNT.

The QUTCOFFSET system value must be set to the correct value for time synchronization to work correctly.

***NO:** The iSeries 400 synchronizes the network server date and time with the iSeries 400 date and time when the network server description is varied on, but will not keep the date and time synchronized while the network server description is varied on.

IPLSRC

Specifies the source of the load image that the partition is started from.

Note: This parameter can only be specified when TYPE is *GUEST.

***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).

***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.

IPLSTMF

Specifies the path of the stream file containing the image that the partition should be loaded from.

Note: This parameter can only be specified when TYPE is *GUEST and IPLSRC is *STMF.

***NONE:** A stream file is not specified.

'IPL-stream-file': Specify the path of the stream file containing the load image. Up to 5000 characters may be specified.

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 kernel.

Note: This parameter can only be specified when TYPE is *GUEST.

***NONE:** IPL parameters are not passed to the load image.

'IPL-parameters': Specify a string of up to 256 characters containing the IPL parameters to be passed to the load image.

AUT Specifies the authority given to users who do not have specific authority to the object, who are not on an authorization list, and whose user group has no specific authority to the object.

***LIBCRTAUT:** The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority does not affect existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 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 authority provides object operational authority, read authority, and execute authority.

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

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the network server description.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTNWSD

» Example 1: Creating a *GUEST NWSD

```
CRTNWSD NWSD(LINUX1) RSRcname(*NONE) TYPE(*GUEST)
PARTITION(TEST) VRYWAIT(*NOWAIT) CODEPAGE(437)
TCPPOrtCFG((1 '9.5.3.2' '255.255.255.0' 2048))
TCPHOSTNAME(*NWSD) TCPDMNNAME(*SYS) TCPNAMSVR(*SYS)
```

This command creates a server description named LINUX1. LINUX1 has no associated resource name. LINUX1 is a network server description associated with a guest operating system running in the logical partition named TEST. The TCP/IP protocol stack will be activated when LINUX1 is varied on. Code page 437 (United States) will be used. Port 1 will have TCP/IP internet addresses assigned. The TCP/IP local host name is the same as the server description name. The TCP/IP local domain name is the same as the OS/400 system and the same name server will be used. <<

Error messages for CRTNWSD

*ESCAPE Messages

CPF26AC

Network server description &1 not created due to errors.

CRTNWSSTG (Create Network Server Storage Space) Command Description

CRTNWSSTG Command syntax diagram

Purpose

The Create Network Server Storage (CRTNWSSTG) command creates a storage space to be used by a network server.

Restriction: You must have *IOSYSCFG special authority to use this command.

Required Parameter

NWSSTG

Specifies the name of the network server storage space to be created.

Optional Parameters

NWSSIZE

Specifies the size of the network server storage space to be created.

***CALC:** Specifies that the size of the storage space will be calculated based on values specified for other parameters.

- If a FROMNWSSTG parameter value other than *NONE is specified, the size will be set equal to the size of the specified network server storage space.
- If FROMNWSSTG(*NONE) is specified, the size is based on the value specified for the FORMAT parameter.
 - For FORMAT(*NTFS) a size of 2 megabytes is used.
 - For FORMAT(*FAT32), a size of 512 megabytes is used.
 - » For FORMAT(*NTFSQR), a size of 500 megabytes is used. <<
 - For all other FORMAT values, a size of 1 megabyte is used.

network-server-storage-space-size: Specify a size (in megabytes) to create the network server storage space.

- If a FROMNWSSTG parameter value other than *NONE is specified, the specified size must be greater than or equal to the size of the network server storage space being copied.
- If the FROMNWSSTG network storage space has a size of 1024 megabytes or less, the NWSSTG network storage space size must also have a size of 1024 megabytes or less.
- For FORMAT(*FAT), the valid size values range from 1 to 2048 megabytes.
- For FORMAT(*NTFS), the valid size values range from 2 to 64000 megabytes.
- For FORMAT(*FAT32), the valid size values range from 512 to 32000 megabytes.
- For FORMAT(*OPEN), the valid size values range from 1 to 64000 megabytes.
- >> For FORMAT(*NTFSQR), the valid size values range from 500 to 64000 megabytes. <<

FROMNWSSTG

Specifies the name of the network server storage space that is to be copied to the newly created storage space.

***NONE:** No existing network server storage space is to be copied to the new network server storage space.

from-network-server-storage-space-name: Specify an existing network server storage space that will be copied into the new network server storage space. When copying an existing network storage space, you cannot specify a value for the FORMAT parameter. The format is determined by the format of the existing network server storage space.

FORMAT

Specifies the format to be used for the storage space. This parameter cannot be specified if a network server storage space name is specified for the FROMNWSSTG parameter.

***NTFS:** When created, the storage space is not formatted by the system. Instead, the storage space will need to be formatted by the Windows server.

This option offers the greatest benefit for Windows server because of its better performance and integrated support of long filenames, larger disks, extended file attributes, file-security and recoverability features. The size (NWSSIZE) parameter for a NTFS storage space must be at least 2 megabytes.

***FAT:** The storage space will be formatted using the File Allocation Table file system. When this value is specified the NWSSIZE parameter must be less than or equal to 2048.

In most cases, better performance, reliability and compatibility are achieved using the *NTFS format.

Note:

When the storage space is initially created and linked to a network server of TYPE(*WINDOWSNT), it is not formatted by the iSeries 400 and must be formatted by the Windows server.

***FAT32:** The storage space will be formatted using the File Allocation Table 32 bit file system. When this value is specified the NWSSIZE parameter must be greater than or equal to 512 and less than or equal to 32000.

The primary advantage to this file system is support for partitions larger than those supported by *FAT, while maintaining the greatest level of compatibility with *FAT applications.

In most cases, however, better performance, reliability and compatibility are achieved using the *NTFS format.

Note: When the storage space is initially created and linked to a network server of TYPE(*WINDOWSNT), it is not formatted by the iSeries 400 and must be formatted by the Windows server.

***OPEN:** The storage space will not be formatted by the system. The guest operating system using the storage space should perform whatever format operation is required. Storage spaces created with *OPEN can be linked only to network server descriptions of TYPE(*GUEST).

» ***NTFSQR:** When created, the storage space is not formatted by the system. Instead, the storage space will need to be formatted by the Windows server.

This format is used to identify the quorum resource storage space used by a Windows server with the Windows Cluster Service installed. The CLUDMN and CLUPORTCFG parameters must be specified for this format type.

Note: When the storage space is initially created and linked to a network server of TYPE(*WINDOWSNT), it is not formatted by the iSeries 400 and must be formatted by the Windows server.



ASP Specifies the auxiliary storage pool (ASP) that the network server storage space will be created in.

1: The network server storage space is allocated from the system auxiliary storage pool.

auxiliary-storage-pool-identifier: Specify a value ranging from 1 through » 255 « for the ASP identifier. Valid values depend on how ASPs are defined on the system.

» CLUDMN

Specifies the Windows domain to which the cluster belongs.

cluster-domain-name: Specify the domain name to which the cluster belongs when forming a new cluster.

CLUPORTCFG

Specifies the parameters required to define a Windows Cluster port configuration.

Element 1: Cluster port

Specifies the connection port used for the Cluster service communication.

***VRTETHn:** The network server virtual ethernet port 'n' is configured, where 'n' has a value of 0 through 9.

Element 2: Cluster Internet Address

Specifies the internet address for the cluster.

internet-address: Specify the cluster internet address in the form, xxx.yyy.zzz.nnn, where xxx, yyy, zzz, and nnn are decimal numbers ranging from 0 through 255. The internet address selected must be unique across all NWSD objects and the OS/400 TCP/IP configuration.

Note: The internet address selected must be unique across all NWSD objects and the OS/400 TCP/IP configuration.

Element 3: Subnet Mask

subnet-mask: Specifies the subnet mask for the cluster in the form, nnn.nnn.nnn.nnn, where nnn is a decimal number ranging from 0 through 255. <<

TEXT Specifies text describing the storage space. If the FROMNWSSTG is specified, the text field is only duplicated when this has been invoked via WRKNWSSTG option 3, otherwise, it will default to blank.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTNWSSTG

Example 1: Create NTFS-format Storage Space

```
CRTNWSSTG NWSSTG(STGSPACE3) NWSSIZE(200)
FORMAT(*NTFS)
```

This command creates a network server storage space called STGSPACE3 with a size of 200 megabytes. The storage space will not be formatted and must be linked to a NWSD of TYPE(*WINDOWSNT).

Example 2: Copy Existing Storage Space

```
CRTNWSSTG NWSSTG(STGSPACE4) NWSSIZE(*CALC)
FROMNWSSTG(FROMSTG) ASP(3)
```

This command creates a network server storage space called STGSPACE4 with a size and format the same as FROMSTG and copies the contents into STGSPACE4. It will be created in user auxiliary storage pool 3.

Error messages for CRTNWSSTG

*ESCAPE Messages

CPFA42D

Storage space &1 not created.

CRTNODGRP (Create Node Group) Command Description

CRTNODGRP Command syntax diagram

Purpose

The Create Node Group (CRTNODGRP) command creates a node group to be used for creating distributed database files.

Required Parameters

NODGRP

Specifies the name of the node group being created.

The name of the node group can be qualified by one of the following library values:

***CURLIB:** The node group is created in the current library for the job. 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 node group is created.

node-group-name: Specify the name of the node group being created.

RDB Specifies the names of the relational databases to be included in the node group. A maximum of 18 characters can be specified for the relational database name.

relational-database-name: Specify the names of the relational databases to be used. These must have already been defined in the system's relational database directory using the ADDRDBDIRE command. At least two relational database names must be specified. One of the entries must correspond to remote iSeries 400. Up to 32 relational database names may be specified.

When the node group is created, a node number is assigned for each relational database specified. Node numbers are assigned consecutively, starting with 1. The first relational database is assigned node number 1, the second database is assigned node number 2, and so on. Once the node group has been created, you can use the DSPNODGRP (Display Node Group) command to see the correspondence between node numbers and relational database names.

Optional Parameters

PTNFILE

Specifies the name of the file being used to determine the partitioning attributes for the node group. The node group contains a table with 1024 partitions. Each partition contains a node number. The partitioning file allows you to set the node number for each of the 1024 partitions. For a complete description of the format of a partitioning file, refer to the DB2 Multisystem for OS/400 book.

The name of the partitioning 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.

***NONE:** A partitioning file will not be used to set the partitioning attributes for the node group object. Each valid node number will be assigned to equal number of partitions. For example, if two relational databases are specified there will be two valid node numbers (1 and 2), and the partitions will be divided equally so that 512 partitions have a node number of 1 and the other 512 partitions have a node number of 2.

partitioning-file-name: Specify the name of the partitioning file being used.

PTNMBR

Specifies the member in the partitioning file being used to determine the partitioning attributes for the node group.

***FIRST:** The first member in the partitioning file is used.

partitioning-member-name: Specify the name of the member.

Note: This parameter is not valid when PTNFILE(*NONE) is specified.

AUT Specifies the authority given to users who do not have specific authority to the node group, who are not on an authorization list, and whose user group has no specific authority to the node group. More information on this parameter is in Commonly used parameters.

***LIBCRTAUT:** The public authority for the node group is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the node group). The public authority is

determined when the node group is created. If the CRTAUT value for the library changes after the node group is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the node group except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the node group. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the node group.

***USE:** The user can perform basic operations on the node group, such as running a program or reading a file. The user cannot change the node group. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the node group.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the node group. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTNODGRP

Example 1: Creating a Group with Default Partitioning

```
CRTNODGRP  NODGRP(LIB1/GROUP1)
          RDB(SYSTEMA SYSTEMB SYSTEMC SYSTEMD)
          TEXT('Node group for test files')
```

This command creates a node group containing four nodes. The partitioning attributes default to assigning one-fourth of the partitions to each node number. This node group can be used on the NODGRP parameter of the Create Physical File (CRTPF) CL command to create a distributed file. Distributed files created specifying this node group will have their data spread across the four node systems. If the records in the distributed file contain a uniform distribution of values for those fields which comprise the partition key, the records will be spread evenly between the node systems.

Example 2: Creating a Group with Specific Partitioning

```
CRTNODGRP  NODGRP(LIB1/GROUP2)
          RDB(SYSTEMA SYSTEMB SYSTEMC)
          PTNFILE(LIB1/PTN1)
          TEXT('Partition most of the data to SYSTEMA')
```

This command creates a node group containing three nodes. The partitioning attributes are taken from the file called PTN1. This file can be set up to force a higher percentage of the records (or rows) to be located on a particular system.

Error messages for CRTNODGRP

*ESCAPE Messages

CPF3165

Node group &1 in library &2 could not be created.

CRTNODL (Create Node List) Command Description

CRTNODL Command syntax diagram

Purpose

The Create Node List (CRTNODL) command allows the user to create a node list object. This object is used to store node names that identify a set of systems in a network.

Note: Node lists can be used by system functions to indicate an operation is to be performed on a set of systems.

Required Parameter

NODL Specifies the qualified name of the node list object that is to be created.

The name of the node list can be qualified by one of the following library values:

***CURLIB:** The node list is created in the current library for the job. 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 node list is created.

node-list-object-name: Specify the name of the node list that is to be created.

Optional Parameters

AUT Specifies the authority given to users who do not have specific authority to the node list, who are not on an authorization list, and whose user group has no specific authority to the node list.

***LIBCRTAUT:** The public authority for the node list is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the node list). The public authority is determined when the node list is created. If the CRTAUT value for the library changes after the node list is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the node list except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the node list. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the node list.

***USE:** The user can perform basic operations on the node list, such as running a program or reading a file. The user cannot change the node list. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the node list.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the node list. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTNODL

Example 1: Node List Creation without Text Description

```
CRTNODL  NODL(QGPL/NODL01)
```

This command creates a node list in library QGPL called NODL01. The node list has the same public authority as that defined for QGPL and it does not have a text description.

Example 2: Node List Creation with Text Description

```
CRTNODL  NODL(MYLIB/NODL02)  AUT(*EXCLUDE)  
TEXT('This is my Node List number 2')
```

This command creates node list NODL02 in library MYLIB with public *EXCLUDE authority. The text description for this node list is 'This is my Node List number 2'.

Error messages for CRTNODL

*ESCAPE Messages

CPF2108

Object &1 type *&3 not added to library &2.

CPF2112

Object &1 in &2 type *&3 already exists.

CPF2113

Cannot allocate library &1.

CPF2151

Operation failed for &2 in &1 type *&3.

CPF2182

Not authorized to library &1.

CPF2283

Authorization list &1 does not exist.

CPF9810

Library &1 not found.

CPF9820

Not authorized to use library &1.

CRTOUTQ (Create Output Queue) Command Description

CRTOUTQ Command syntax diagram

Purpose

The Create Output Queue (CRTOUTQ) command creates a new output queue for spooled files. An entry is placed on the output queue for each spooled file. The order in which the files are written to the output device is determined by the output priority of the file and the value of the SEQ parameter described below.

Required Parameter

OUTQ Specifies the qualified name of the output queue.

The name of the output queue can be qualified by one of the following library values:

***CURLIB:** The output queue is created in the current library for the job. 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 output queue is created.

Note: The temporary library QTEMP is not a valid library name. Output queues must be in permanent libraries.

output-queue-name: Specify the name of the output queue being created.

Optional Parameters

DSPDTA

Specifies whether users who have authority to read the output queue can display the output data of any spooled file on the queue or only the data in their own files.

***NO:** Users authorized to use the queue can display, copy, or send the output data of their own files only unless they have some other special authority.

***YES:** Any user having authority to read the queue can display, copy, or send the data of any file on the queue.

***OWNER:** The owner of the file or a user with *SPLCTL special authority can display, copy, or send the spooled files on the queue.

JOBSEP

Specifies, for each job with files on the output queue, the number of separators placed at the beginning of the output for the job. Each separator contains information that identifies the job, such as the job name, the job user's name, the job number, and the time and date when the job is run.

This parameter is used only by printer writers, all other types of writers will ignore the value specified for this parameter.

0: No job separators are printed preceding each job's output.

***MSG:** A message is sent to a message queue notifying the operator of the end of each job. This message queue is specified when a printer writer is started to process the output queue.

number-of-job-separators: Specify a value, ranging from 0 through 9, that specifies the number of separators to be placed preceding each job's output.

OPRCTL

Specifies whether a user (an operator) who has job control authority is allowed to manage or control the files on this output queue. Users have job control authority if SPCAUT(*JOBCTL) is specified in their user profiles.

***YES:** A user with job control authority can control the queue and make changes to the files on the queue.

***NO:** This queue and its files cannot be controlled or changed by users with job control authority unless they also have some other special authority.

DTAQ Specifies the name of the data queue associated with the output queue. Entries are logged in the data queue when spooled files are in ready (RDY) status on the output queue. A user program can determine when a spooled file is available on an output queue using the Receive Data Queue API (QRCVDTAQ) to receive information from a data queue.

Each time a spooled file on the output queue reaches RDY status, an entry is sent to the data queue. A spooled file can have several changes in status (for example, RDY to held (HLD) to release (RLS) to RDY again) before it is taken off the output queue. These status changes result in entries in the data queue for a spooled file each time the spooled file goes to RDY status.

When the data queue is created using the Create Data Queue (CRTDTAQ) command, the maximum message length (MAXLEN parameter) value should be at least 128 and the sequence (SEQ parameter) value should be *FIFO or *LIFO. For more information about data queues on

output queues, see the Printer Device Programming  book.

***NONE:** No data queue is associated with the output queue.

The name of the data queue 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.

data-queue-name: Specify the name of the data queue associated with the output queue.

MAXPAGES

Specifies the maximum spooled file size in pages that will be allowed to print between a starting and ending time (based on the 24-hour clock). 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.) Time must be specified in hhmmss format, on a 24 hour clock.

***NONE:** There is no limit on the size of spooled files allowed to print from this output queue.

Element 1: Number of Pages

number-of-pages: Specify the largest spooled file, in pages, that is allowed to print.

Element 2: Starting Time

starting-time: Specify the time of day that the maximum spooled file size limit is to start.

Element 3: Ending Time

ending-time: Specify the time of day that the maximum spooled file size limit is to end.

SEQ Specifies the order of the spooled files on the output queue.

***FIFO:** The spooled files are processed first-in first-out within priority groups on the queue. That is, new spooled files are placed after all other entries on the queue 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) or Change Spooled File Attributes (CHGSPLFA) command.
- A change in status from held (HLD), closed (CLO), or open (OPN) to available (RDY).
- A change in status from available (RDY) to not available (HLD, CLO, OPN).
- A spooled file added to the queue when the file is opened.
- Using the Change Spooled File Attributes (CHGSPLFA) command to move a spooled file to an output queue that has SEQ(*FIFO) specified.

***JOBNBR:** Within priority groups, the queue entries for spooled files are sorted by 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.

When using SEQ(*JOBNBR), more spooled files of a job tend to be grouped together even when SCHEDULE(*JOBEND) is not specified.

Also, when using SEQ(*JOBNBR) for jobs of equal priority, the first job always has its spooled files produced first.

AUTCHK

Specifies whether the commands that check the requester's authority to the output queue also check for ownership authority or data authority.

***OWNER:** The requester must have ownership authority to the output queue in order 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:** The requester must have the appropriate data authority to the output queue (*READ, *ADD, and *DELETE) in order to pass the output queue authorization test.

RMTSYS

Specifies the remote system to send files to 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.

***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.

***PASTHR:** The system a user passed through from (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 on the CNNTYPE 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.

remote-system-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 iSeries 400 changes the name to upper case.

RMTprtQ

Specifies the printer queue on the remote system (RMTSYS parameter) to which the remote writer sends spooled files.

***USER:** The user profile that created the spooled file determines the user ID on the remote system. 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 iSeries 400, 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 CNNTYPE(*SNA) or CNNTYPE(*USRDFN) is specified for the connection type and DESTTYPE(*OS400) or DESTTYPE(*S390) is specified for the destination type.

printer-queue-name: Specifies the name for the printer queue on the remote system. For remote systems that are iSeries 400, 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 iSeries 400 changes the name to upper case. For destination systems that are not iSeries 400, 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, the value *LIBL is used as the default.

AUTOSTRWTR

Specifies the number of remote writers that will be started automatically by the system. For user created output queues with the remote system (RMTSYS parameter) specified as *NONE, this parameter will be ignored.

***NONE:** There are no writers auto-started by the system to this output queue.

number-of-writers: Specify the number of writers to be auto-started to this output queue. Valid values range from 1 through 10.

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.

The name of the message queue 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.

QSYSOPR: Messages are sent to the QSYSOPR message queue.

message-queue-name: Specify the name of the message queue to which messages created by the remote writer are sent.

CNNTYPE

Specifies the type of connection with the remote system.

***SNA:** The spooled files are sent using SNADS. This is similar to the Send Network Spooled File (SNDNETSPLF) command and requires that SNADS be configured.

***IP:** The spooled files are 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.

***USRDFN:** The spooled files are sent using a user-defined connection.

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.

***OS400:** The spooled files are to be sent to an ISeries 400 system running OS/400 V3R1M0, or later, 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 an ISeries 400 system running OS/400 versions prior to V3R1M0. This value is only valid when CNNTYPE is *SNA or when CNNTYPE is *USRDFN.

***S390:** The spooled files are to be sent to a System/390 system. This value is only valid when CNNTYPE is *SNA or when CNNTYPE is *USRDFN.

***PSF2:** The spooled files are to be sent to a personal computer running the PSF/2 product. This value is valid only when the CNNTYPE is *IP or when CNNTYPE is *USRDFN.

➤ ***NDS:** The spooled files are to be sent to NETWARE4. This value is valid only when the CNNTYPE is *IP. ⬅

***OTHER:** The spooled files are to be sent to a system not matching any of the other special values. This includes ISeries 400 systems running OS/400 version 1, as well as System/36 and System/38 systems.

MFRTYPMDL

Specifies the manufacturer, type, and model for a printer using the host print transform function or user data transform program.

Note:

If *WSCSTxxx is specified for MFRTYPMDL, a workstation customizing object must be specified.

See the Manufacturer Type and Model (MFRTYPMDL Parameter) table at the end of this command description for a list of the manufacturers, types, and models for printers using the host print transform function.

This parameter is only prompted when TRANSFORM(*YES) is specified or a user data transform program is specified.

***IBM42011:** The IBM 4201-1 Proprinter is used.

***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.

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 is used.

***NONE:** No workstation customizing object is specified.

The name of the workstation customizing object 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.

workstation-customizing-object: Specify a valid workstation customizing object, which has been created with the Create Work Station Customizing Object (CRTWSCST) command.

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 at the end of this command description for a list of the image configuration objects provided.

See the Image Configuration Objects (IMGCFG Parameter) by Printer Type table at the end of this command description for the suggested IMGCFG object for many popular printers.

***NONE:** No image configuration specified.

image-configuration: Specify image configuration for a output queue.

INTNETADR

Specifies the internet address of the remote system to which the print request is sent.

Note: This parameter is valid only when RMTSYS(*INTNETADR) and CNNTYPE(*IP) or CNNTYPE(*USRDFN) are specified.

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 a command line.

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.

A: The class is A.

class-value: Specify a distribution class value. Valid values range from A through Z and 0 through 9.

FCB Specifies the forms control buffer used when sending files to a VM/MVS host system.

Note: This parameter is valid only when CNNTYPE(*SNA) and DESTTYPE(*S390) are specified.

***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.

forms-control-buffer-name: Specify the name of the forms control buffer to be used.

AUT Specifies the authority given to users who do not have specific authority to the out queue, who are not on an authorization list, and whose user group has no specific authority to the out queue.

***USE:** The user can perform basic operations on the out queue, such as running a program or reading a file. The user cannot change the out queue. *USE authority provides object operational authority, read authority, and execute authority.

Note: The user can change the output queue description and control files created by other users if AUTCHK(*DTAAUT) is specified.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the out queue.

***EXCLUDE:** The user cannot access the out queue.

***LIBCRTAUT:** The public authority for the out queue is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the out queue). The public authority is determined when the out queue is created. If the CRTAUT value for the library changes after the out queue is created, the new value does not affect any existing objects.

authorization-list-name: Specify the name of the authorization list used.

TRANSFORM

Specifies whether or not to make use of the host print transform function to transform a spooled file of device type *SCS or *AFPDS into ASCII data when the file is processed by the writer.

Note: This parameter is not valid when the CNNTYPE is specified as *SNA or *NONE.

***YES:** The SCS or AFPDS data streams are transformed.

***NO:** The SCS or AFPDS data streams are not transformed.

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(*IP) and DESTTYPE(*NDS) or CNNTYPE(*IP) is specified, this field is used to determine how spooled files are handled once they are sent to the remote system. ⚡

***NONE:** No destination options are specified.

***USRDFNTXT:** The user-defined text of the user profile when the spooled file was created is used.

***NOWAIT:** ➤ When CNNTYPE(*IP) and DESTTYPE(*NDS) or 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.

USRDTATFM

Specifies the qualified name of the data transform program to be used by the driver program.

Note:

This parameter is valid only when RMTSYS is not *NONE.

***NONE:** No data transform program is specified.

The name of the data transform 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.

library-name: Specify the name of the library to be searched.

data-transform-program-name: Specify the name of the data transform program to be used by the driver program.

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) and DESTTYPE(*PSF2), DESTTYPE(*OS400) or DESTTYPE(*OTHER) are specified. ⚡

***YES:** A separator page is requested.

***NO:** A separator page is not requested.

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.

***NONE:** No user-defined option is specified.

user-defined-option: Specify the user-defined option to be used by user applications or user-specified programs that process spooled files. All characters are acceptable.

USRDFNOBJ

Specifies, for spooled output only, the qualified name and type of the user-defined object to be used by user applications or user-specified programs that process spooled files.

***NONE:** No user-defined object is specified.

Element 1: Name of User-Defined Object

The name of the user-defined object 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.

user-defined-object-name: Specify the name of the user-defined object to be used by user applications or user-specified programs that process spooled files.

Element 2: Type of User-Defined Object

object-type: The user object type can be one of the following:

***DTAARA**

Data Area

***DTAQ**

Data Queue

***FILE** File

***PSFCFG**

PSF Configuration Object

***USRIDX**

User Index

***USRQ**

User Queue

***USRSPC**

User Space

USRDRVPGM

Specifies the qualified name of the user-specified driver program used to process spooled files.

Note:

This parameter is valid only when RMTSYS is not *NONE.

***NONE:** No driver program is specified.

The name of the driver 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.

library-name: Specify the name of the library to be searched.

user-driver-program-name: Specify the name of the user-specified driver program to process spooled files.

SPLFASP

Specifies the auxiliary storage pool (ASP) where the spooled files physically reside.

***SYSTEM:** The spooled files reside in the system ASP.

***OUTQASP:** The spooled files reside in the same ASP that the output queue resides in.

TEXT Specifies the text that briefly describes the output queue. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTOUTQ

```
CRTOUTQ  OUTQ(DEPTAPRT)  AUT(*EXCLUDE)  SEQ(*FIFO)
          TEXT('SPECIAL PRINTER FILES FOR DEPTA')
```

This command creates an output queue named DEPTAPRT and puts it in the current library. Because AUT(*EXCLUDE) is specified and OPRCTL(*YES) is assumed, the output queue can be used and controlled only by the user who created the queue and users who have job control authority or spool control authority. Because SEQ(*FIFO) is specified, spooled files are placed in first-in first-out order on the queue. If users in Department A are authorized to use this output queue, the Grant Object Authority (GRTOBJAUT) command must be used to grant them the necessary authority. Data contained in files on this queue can be displayed only by users who own the files, by the owner of the queue, by users with job control authority, or by users with spool control authority. By default, no job separator is printed at the beginning of the output for each job.

Table 1. Manufacturer Type and Model (MFRTPMDL Parameter)***

*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 LaserPrinter 4039-10D (HP Mode) IBM LaserPrinter 4039-10D Plus (HP Mode) IBM LaserPrinter 4039-10R (HP Mode) IBM LaserPrinter 4039-10R Plus (HP Mode) IBM LaserPrinter 4039-12R (HP Mode) IBM LaserPrinter 4039-12R Plus (HP Mode) IBM LaserPrinter 4039-12L (HP Mode) IBM LaserPrinter 4039-12L Plus (HP Mode) IBM LaserPrinter 4039-16L (HP Mode) IBM LaserPrinter 4039-16L Plus (HP Mode)

*IBM4070	IBM 4070 IJ
*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
*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)
*IBM4244MAN	IBM4244 Printer (single tractor or manual feed selection)
*IBM4244ASF	IBM4244 Printer (single tractor feed and ASF)
*IBM4244DUAL	IBM4244 Printer (dual tractor feeds)
*IBM4247MAN	IBM4247 Printer (single formfeed or manual selection)
*IBM4247DUAL	IBM4247 Printer (dual tractor feeds)
*IBM4247ASF	IBM4247 Printer (single tractor feed and ASF)
*IBM4312	IBM Network Printer 12
*IBM4317	IBM Network Printer 17
*IBM4320	IBM InfoPrint 20
*IBM4324	IBM Network Printer 24
*IBM4332	IBM InfoPrint 32
*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
*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
*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
*IBMPAGES300	IBM Network Printer 12 (with PAGES feature)
	IBM Network Printer 17 (with PAGES feature)
	IBM Network Printer 24 (with PAGES feature)
*IBM6400	IBM 6400 Printers (IBM Mode)

*IBM6400EP	IBM 6400 Printers (Epson Mode)
*IBM6404	IBM 6404 Printers (IBM Mode)
*IBM6404EP	IBM 6404 Printers (Epson Mode)
*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)
*CANLIPS3	Canon LIPS3 DBCS Printers
*CPQPM15	COMPAQ** PageMark 15 (HP Mode)
*CPQPM20	COMPAQ PageMark 20 (HP Mode)
*HPDBCS	HP LaserJet-compatible printers for Double Byte Character Set (DBCS) input.
*HP11	HP LaserJet** Series II
*HP11D	HP LaserJet IID
*HP11P	HP LaserJet IIP
*HP11I	HP LaserJet III
*HP11ID	HP LaserJet IIID
*HP11IP	HP LaserJet IIIP
*HP11ISI	HP LaserJet IIISi
*HP1200C	HP DeskJet 1200C
*HP1600C	HP DeskJet 1600C
*HP310	HP DeskJet 310
*HP320	HP DeskJet 320
*HP4	HP LaserJet 4
*HP4000	HP LaserJet 4000 series
*HP5	HP LaserJet 5 series
*HP500	HP DeskJet 500
*HP520	HP DeskJet 520
*HP540	HP DeskJet 540
*HP550C	HP DeskJet 550C
*HP560C	HP DeskJet 560C
*HP5000	HP LaserJet 5000 series
*HP5Si	HP LaserJet 5Si
*HP6	HP LaserJet 6 series

*HP8000	HP LaserJet 8000 series
*HPCOLORLJ	HP Color LaserJet 5
*HPPAINT	HP PaintJet
	HP PaintJet XL
	HP PaintJet XL300
*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
*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
*ESCPDBCS	Epson ESC/P DBCS Printers
*EPAP2250	Epson ActionPrinter 2250
*EPAP3250	Epson ActionPrinter 3250
*EPAP5000	Epson ActionPrinter 5000
*EPAP5500	Epson ActionPrinter 5500
*EPDFX5000	Epson DFX-5000
*EPDFX8000	Epson DFX-8000
*EPFX850	Epson FX-850
*EPFX870	Epson FX-870
*EPFX1170	Epson FX-1170
*EPLQ570	Epson LQ-570
*EPLQ860	Epson LQ-860
*EPLQ870	Epson LQ-870
*EPLQ1070	Epson LQ-1070
*EPLQ1170	Epson LQ-1170
*EPLQ510	Epson LQ-510
*EPLQ2550	Epson LQ-2550
*EPLX810	Epson LX-810
*EPSQ870	Epson SQ-870
*EPSQ1170	Epson SQ-1170
*EPEPL7000	Epson EPL-7000

*EPEPL8000	Epson EPL-8000
*NECPR201	NEC** PC-PR101
	NEC** PC-PR201
*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
*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
*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)
*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)
*WSCST	Printer is not listed
*WSCSTLETTER	Printer is not listed (letter-sized paper)
*WSCSTLEGAL	Printer is not listed (legal-sized paper)
*WSCSTLEDGER	Printer is not listed (ledger-sized paper)
*WSCSTEXECUTIVE	Printer is not listed (executive-sized paper)
*WSCSTA3	Printer is not listed (A3-sized paper)
*WSCSTA4	Printer is not listed (A4-sized paper)
*WSCSTA5	Printer is not listed (A5-sized paper)
*WSCSTB4	Printer is not listed (B4-sized paper)
*WSCSTB5	Printer is not listed (B5-sized paper)
*WSCSTCONT80	Printer is not listed (8-inch continuous forms)
*WSCSTCONT132	Printer is not listed (13.2 inch continuous forms)
*WSCSTNONE	Printer is not listed (paper size not specified)

Table 2. Image Configuration Object (IMGCFG Parameter) 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 w/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 w/larger no-print border
*IMGB15	Postscript 300-dpi color printer w/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 w/no-print border
*IMGC06	IPDS 300-dpi printer w/no-print border
*IMGC07	IPDS 600-dpi printer w/no-print border
*IMGC08	IPDS 1200-dpi printer w/no-print border
*IMGC09	IPDS 240-dpi printer (IM/1 image only)
*IMGC10	IPDS 240-dpi printer w/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 w/larger no-print border

Table 3. Recommended Image Configuration Objects by Printer

Compaq Pagemarc 20	*IMGD01
Epson EPCL-4 Printer	*IMGA01
Epson EPCL-5 Printer	*IMGA02
Epson Stylus Photo w/Postscript	*IMGB10
Epson Stylus Color 600, 800 w/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 w/Postscript	*IMGB01
HP Laserjet III, IIID, IIISi, 4L	*IMGA01
HP Laserjet III, IIID, IIISi, 4L w/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 w/IPDS feature	*IMGD02
IBM 3112, 3116 Page Printer (ASCII/LAN)	*IMGA02
IBM 3112, 3116 Page Printer w/Postscript	*IMGD02
IBM 3130, 3160-1 AF Printer (240-pel mode)	*IMGC01
IBM 3130 AF Printer (300-pel mode)	*IMGC02
IBM InfoPrint 20 w/IPDS feature	*IMGC02
IBM InfoPrint 20 (ASCII)	*IMGA02
IBM InfoPrint 32 w/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 (w/AFIG)	*IMGC01
IBM 3829 AF Printer	*IMGC01
IBM 3835-001 AF Printer	*IMGC10
IBM 3835-001 AF Printer (w/AFIG)	*IMGC05
IBM 3835-002, 3900 AF Printer	*IMGC05
IBM 3912, 3916 Page Printer (ASCII/LAN)	*IMGA01
IBM 3912, 3916 Page Printer w/IPDS feature (twinax)	*IMGC06
IBM 3930-02 Page Printer (IPDS diskette)	*IMGC01
IBM 3930-03 Page Printer	*IMGA01
IBM 3930-03 Page Printer w/Postscript	*IMGD01
IBM 3935 AF Printer	*IMGC02
IBM 4019 LaserPrinters (HP mode)	*IMGA09
IBM 4019 LaserPrinters w/Postscript	*IMGB01
IBM 4028 LaserPrinters	*IMGC06
IBM 4029 LaserPrinters	*IMGA01
IBM 4029 LaserPrinters w/Postscript	*IMGB02
IBM 4039 LaserPrinters	*IMGA01
IBM 4039 LaserPrinters w/Postscript	*IMGD07
IBM 4049 LaserPrinters	*IMGA02
IBM 4049 LaserPrinters w/Postscript	*IMGD02
IBM 4079 Color Jetprinter PS	*IMGB09
IBM 4303 Network Color Printer	*IMGB05
IBM 4312, 4317, 4324 NP w/IPDS feature (twinax)	*IMGC06
IBM 4312, 4317, 4324 NP w/IPDS feature (LAN)	*IMGC06

IBM 4312, 4317, 4324 NP (ASCII/LAN)	*IMGA02
IBM 4312, 4317, 4324 NP w/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

Error messages for CRTOUTQ

***ESCAPE Messages**

CPF2182

Not authorized to library &1.

CPF2192

Object &1 cannot be created into library &3.

CPF2207

Not authorized to use object &1 in library &3 type *&2.

CPF2212

Not able to allocate library &1.

CPF2402

Library &1 not found

CPF2799

Message queue &1 in library &2 not found.

CPF33F1

Data queue &1 in library &2 not found.

CPF3352

Temporary library &1 invalid for output queue &2.

CPF3353

Output queue &1 in &2 already exists.

CPF3354

Library &1 not found.

CPF3356

Cannot allocate library &1.

CPF3371

Spool user profile QSPL damaged or not found.

CPF34D6

Output queue &1 in &2 not created due to errors.

CPF9818

Object &2 in library &3 not created.

CRTOVL (Create Overlay) Command Description

CRTOVL Command syntax diagram

Purpose

The Create Overlay (CRTOVL) command creates an overlay resource from a physical file. The physical file contains the overlay resource information. The overlay resource information, can, for example, come from a S/370 host system and be in the Systems Application Architecture (SAA) format.

Required Parameters

OVL Specifies the qualified name of the overlay being created.

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

***CURLIB:** The overlay is created in the current library for the job. 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 overlay is created.

overlay-name: Specify the name of the overlay being created.

FILE Specifies the qualified name of the file being used to create the overlay.

The name of the 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.

file-name: Specify the name of the file to create the database file.

Optional Parameters

MBR Specifies the name of the file member used to create the overlay.

***OVL:** The name of the file member that contains the input data is the same as the overlay being created.

member-name: Specify the name of the file member that contains the overlay input data.

DATATYPE

Specifies the source type of the input file.

***AFPDS:** The input is a pre-built *AFPDS file from a System/370.

***AFPU:** The input is an *AFPU source file created with Advanced Functions Printing Facilities for OS/400.

REPLACE

Specifies whether the page definition is replaced.

***YES:** The specified page definition is replaced.

***NO:** No replacement occurs.

AUT Specifies the authority given to users who do not have specific authority to the overlay, who are not on an authorization list, and whose user group has no specific authority to the overlay.

***LIBCRTAUT:** The public authority for the overlay is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the overlay). The public authority is determined when the overlay is created. If the CRTAUT value for the library changes after the overlay is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the overlay.

***USE:** The user can perform basic operations on the overlay, such as running a program or reading a file. The user cannot change the overlay. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the overlay.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the program and its function. More information on this parameter is in Commonly used parameters.

***MBRTXT:** The text is taken from the file member being used to create the overlay.

The user can add or change text for a database source member by using either the Add Physical File Member (ADDPFM) command or the Change Physical File Member (CHGPFM) command. If the source file is an inline file or a device file, the text is blank.

***BLANK:** No text is specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTOVL

```
CRTOVL OVL(MYLIB/MYSIGNTR) FILE(MYLIB/MYSIGNTR)
      MBR(MYSIGNTR) AUT(*EXCLUDE)
      TEXT('representation of my signature')
```

This command creates the overlay MYSIGNTR into MYLIB. File name MYSIGNTR in library MYLIB with member MYSIGNTR, is used as input. Specifying *EXCLUDE does not allow any other user access to the signature. The text describes the overlay.

Error messages for CRTOVL

*ESCAPE Messages

CPF2283

Authorization list &1 does not exist.

CPF8056

File &1 in &2 not a physical file.

CPF88C1

Printer resource type &1 &2 was not created in library &3.

CPF88C2

Data type parameter value of *AFPU incorrect for &1 command.

CPF9809

Library &1 cannot be accessed.

CPF9810

Library &1 not found.

CPF9812

File &1 in library &2 not found.

CPF9822

Not authorized to file &1 in library &2.

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.

CPF9870

Object &2 type *&5 already exists in library &3.

CRTPAGDFN (Create Page Definition) Command Description

CRTPAGDFN Command syntax diagram

Purpose

The Create Page Definition (CRTPAGDFN) command creates a page definition by copying a user-supplied iSeries 400 database file to an internal space object. The user must load the source data into the database from a remote system (such as a System/370 system) or external medium (usually tape), and put it in the SAA format that can be processed by the OS/400 system.

Restriction: If networking spooled files to a System/370 system, the first two characters of the page definition name must be 'P1'.

Required Parameters

PAGDFN

Specifies the qualified name of the page definition to be created.

The name of the page definition can be qualified by one of the following library values:

***CURLIB:** The page definition is created in the current library for the job. 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 page definition is created.

page-definition-name: Specify the up to 8 characters for the name of the page definition.

FILE Specifies the qualified name of the database file that contains the page definition records sent to this system.

The name of the database 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.

file-name: Specify the name of the database file.

Optional Parameters

MBR Specifies the name of the database file member containing the page definition records.

***PAGDFN:** The name specified on the PAGDFN parameter of this command is used.

data-file-member-name: Specify the name of the database file member.

REPLACE

Specifies whether an existing page definition with the same name as the one being created is replaced.

***YES:** The page definition is replaced.

***NO:** No replacement occurs.

AUT Specifies the authority given to users who do not have specific authority to the object, who are not on the authorization list, and whose user groups have no specific authority to the object.

***LIBCRTAUT:** The system determines the authority for the object by using the value specified on the CRTAUT parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified on the CRTAUT parameter is changed, the new value will not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the page definition.

***USE:** The user can perform basic operations on the page definition, such as running a program or reading a file. The user cannot change the page definition. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the page definition.

authorization-list-name: Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

TEXT Specifies the text that briefly describes the page description. More information on this parameter is in Commonly used parameters.

***MBRTXT:** The text is taken from the database file member used to create the page definition.

***BLANK:** No text is specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTPAGDFN

```
CRTPAGDFN  PAGDFN(*CURLIB/P1DFLT)  FILE(*CURLIB/PAGDFNS)
          MBR(*PAGDFN)  AUT(*EXCLUDE)
          TEXT('Default page definition')
```

This command creates page definition P1DFLT in the current library or in library QGPL if there is no current library. Input is taken from source file PAGDFNS with member P1DFLT in the current library. Specifying *EXCLUDE for authority restricts use of the object to the owner. The text describes the page definition.

Error messages for CRTPAGDFN

*ESCAPE Messages

CPF2283

Authorization list &1 does not exist.

CPF8056

File &1 in &2 not a physical file.

CPF88C1

Printer resource type &1 &2 was not created in library &3.

CPF9822

Not authorized to file &1 in library &2.

CPF9809

Library &1 cannot be accessed.

CPF9810

Library &1 not found.

CPF9812

File &1 in library &2 not found.

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.

CPF9870

Object &2 type *&5 already exists in library &3.

C RTPAGSEG (Create Page Segment) Command Description

C RTPAGSEG Command syntax diagram

Purpose

The Create Page Segment (C RTPAGSEG) command creates a page segment physical file. The physical file contains the page segment information. The page segment information, can, for example, come from a S/370 host system and be in the Systems Application Architecture (SAA) format.

Required Parameters

PAGSEG

Specifies the qualified page segment name (library-name/page-segment-name) that is being created.

The name of the page segment can be qualified by one of the following library values:

***CURLIB:** The page segment is created in the current library for the job. 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 page segment is created.

page-segment-name: Specify the name of the page segment being created.

FILE Specifies the qualified name of the file being used to create the database file.

The name of the 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.

file-name: Specify the name of the file to create the database file.

Optional Parameters

MBR Specifies the name of the file member being used to create the member.

***PAGSEG:** The name of the file member that contains the input data is the same as the member name.

member-name: Specify the name of the member name that contains the member input data.

REPLACE

Specifies whether the page segment is replaced.

***YES:** The page segment is replaced.

***NO:** No replacement occurs.

AUT Specifies the authority given to users who do not have specific authority to the page segment, who are not on an authorization list, and whose user group has no specific authority to the page segment.

***LIBCRTAUT:** The public authority for the page segment is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the page segment). The public authority is determined when the page segment is created. If the CRTAUT value for the library changes after the page segment is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the page segment.

***USE:** The user can perform basic operations on the page segment, such as running a program or reading a file. The user cannot change the page segment. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the page segment.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the page segment. More information on this parameter is in Commonly used parameters.

***MBRTXT:** The text is taken from the file member used to create the page segment. Text can be added or changed in a database member by using either the Add Physical File Member (ADDPFM) command or the Change Physical File Member (CHGPFM) command. If the source file is an inline file or a device file, the text is blank.

***BLANK:** No text is specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTPAGSEG

```
CRTPAGSEG  PAGSEG(MYLIB/PAGSEG1)
           FILE(*LIBL/PAGSGMNTS) MBR(*PAGSEG)
           AUT(*ALL) TEXT('canned paragraph 1')
```

This command creates the page segment PAGSEG1 in MYLIB and uses the PAGSGMNTS member, PAGSEG1 as input to the command. Specifying *ALL for the AUT parameter allows the user to perform most object-oriented commands against it. The text contains the description of the object.

Error messages for CRTPAGSEG

*ESCAPE Messages

CPF2283

Authorization list &1 does not exist.

CPF8056

File &1 in &2 not a physical file.

CPF88C1

Printer resource type &1 &2 was not created in library &3.

CPF9809

Library &1 cannot be accessed.

CPF9810

Library &1 not found.

CPF9812

File &1 in library &2 not found.

CPF9822

Not authorized to file &1 in library &2.

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.

CPF9870

Object &2 type *&5 already exists in library &3.

CRTPNLGRP (Create Panel Group) Command Description

CRTPNLGRP Command syntax diagram

Purpose

The Create Panel Group (CRTPNLGRP) command is used to create groups of help panels. Panel groups contain one or more help items used in conjunction with the user's data description specifications (DDS) panels, search index, or CL commands to display help information.

Restrictions: The user must have *READ and *ADD authority for the library where the panel group is being created.

Required Parameter

PNLGRP

Specifies the qualified name of the panel group being created.

The possible library values are:

***CURLIB:** The panel group is created in the current library for the job. 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 panel group is created.

panel-group-name: Specify the name of the panel group being created.

Optional Parameters

SRCFILE

Specifies the qualified name of the source file containing the panel group description source statements. The source-file record length ranges from 13 through 92.

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.

QPNSRC: Source file QPNSRC contains the panel group description source statements.

source-file-name: Specify the name of the source file that contains the panel group description source statements.

SRCMBR

Specifies the member of the source file containing the panel group description.

***PNLGRP:** The member containing the panel group description has the same name as the panel group specified on the PNLGRP parameter.

source-member-name: Specify the name of the source file member containing the panel group description.

OPTION

Specifies whether a source listing is produced during panel group creation and whether the listing includes message text.

Source Listing Options

***SOURCE or *SRC:** A source listing is produced.

***NOSOURCE or *NOSRC:** No source listing is produced unless errors with a severity level of 30 or greater are detected.

Second-Level Message Text Options

***NOSECLVL:** Second-level message text is not printed with the first-level message text at the end of the listing.

***SECLVL:** Second-level message text is printed with the first-level message text at the end of the listing.

Event File Creation Options

***NOEVENTF:** The compiler does not produce an event file for the CoOperative Development Environment/400 (CODE/400) product.

***EVENTF:** The compiler produces an event file that can be used by the CODE/400 product. The event file is created as a member in the file EVFEVENT in your object library. The CODE/400 product uses this file to offer error feedback integrated with the CODE/400 editor. This value is normally specified by the CODE/400 product on your behalf.

INCFILE

Specifies the name of the source file containing the members being included in the panel group.

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.

***SRCFILE:** The name specified on the SRCFILE parameter is used.

source-file-name: Specify the name of the source file containing the members to be included in the panel group.

Note:

If the coded character set identifier (CCSID) of the source file is different than the CCSID of the primary source file specified on the SRCFILE parameter, the CCSID is changed to the CCSID of the primary source file. The CCSID must be the same for all source members of the panel group.

CHRID

Specifies whether the character identifier (graphic character set and code page) of the dialog variables or the panel group is changed when the panel group is displayed.

***DEV D:** No change occurs. The character identifier of the dialog variables and the panel group is the same as the character identifier of the device.

***SYSVAL:** The character identifier of the dialog variables is changed to the default QCHRID system value for the device. The character identifier of the panel group is the same as the character identifier of the device.

***JOBCCSID:** The character identifier of the dialog variables is changed from the CCSID of the job to the character identifier of the device. The character identifier of the panel group is changed from the CCSID of the source file specified on the SRCFILE parameter to the character identifier of the device.

Element 1: Character Set

character-set: Specify the graphic character set values that match the values of the applications that are to use this panel group, and match the values of the data to be set into dialog variables for the applications.

Element 1: Code Page

code-page: Specify the code page values that match the values of the applications that are to use this panel group, and match the values of the data to be set into dialog variables for the applications.

AUT

Specifies the authority given to users who do not have specific authority to the object, are not on the authorization list, or whose user group has no specific authority for the object.

***LIBCR TAU T:** The authority from the library in which the panel group is being created is used as the authority for the panel group.

***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 also can change ownership of the panel group.

***USE:** The user can perform basic operations on the panel group, such as running a program or reading a file. The user cannot change the panel group. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the panel group.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

authorization-list-name: Specify the name of an authorization list.

REPLACE

Specifies whether an existing panel group of the same name in the specified library is replaced.

Note: The panel group cannot be replaced if it is in use by this job or another job.

***YES:** The existing panel group is replaced by moving it to the system library QRPLOBJ.

***NO:** No replacement occurs.

TEXT Specifies the text that briefly describes the panel group. More information on this parameter is in Commonly used parameters.

***SRCMBRTXT:** The text is obtained from the text associated with the specified source file member.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTPNLGRP

```
CRTPNLGRP PNLGRP(PAYLIB/PAYROLL)
          SRCFILE(QPNLSRC) OPTION(*SECLVL)
```

This command creates a panel group named PAYROLL in library PAYLIB, uses source file QPNLSRC in the library list, and prints the second-level message text in the listing.

Error messages for CRTPNLGRP

*ESCAPE Messages

CPF5A02

Panel group &1 not created in library &2.

CRTPFRTA (Create Performance Data) Command Description

CRTPFRTA Command syntax diagram

Purpose

The Create Performance Data (CRTPFRTA) command creates a set of performance database files from performance information stored in a management collection (*MGTCOL) object. See the topic performance database files and file fields for more information about these files.

Performance database files and file members will be created as needed based on the data contained in the management collection object and the information requested on this command. If database files already exist and the requested member exists in any of them, the member will be cleared before the collection is generated.

Required Parameter

FROMMGTCOL

Specifies the name of the management collection object from which a set of performance database files is to be created.

The possible library values are:

QPFRDATA: The data is located in the IBM-supplied performance data library, QPFRDATA.

library-name: Specify the name of the library for the management collection object.

from-management-collection-name: Specify the name of the management collection object that is to be used.

Single Value

***ACTIVE:** The currently active collection object will be used. If *ACTIVE is specified, but no active collection is in progress, the command will end with escape message CPF0A1A.

Optional Parameters

TOMBR

Specifies the database file member name to which the output data is written. If a member by this name does not exist in each performance database file, one will be created with the specified name.

***FROMMGTCOL:** The name of the management collection object is used as the performance database file member name.

to-member-name: Specify the name of the member to which the output should be written.

TOLIB Specifies the library where the database files for performance data are to exist. Each file that is not found in the specified library is automatically created in that library.

***FROMMGTCOL:** The performance database files are located or created in the same library as the management collection object (FROMMGTCOL parameter).

to-library-name: Specify the name of the library where the performance database files are located or should be created.

TEXT Specifies the text that briefly describes the database member receiving the performance data. More information on this parameter is in Commonly used parameters.

Note:

The specified text is used for each member across the set of performance database files associated with the collection.

***SAME:** If the member already exists, no change is made.

***FROMMGTCOL:** Text associated with the management collection object is used as the member text.

***GEN:** The following text will be generated - "Created from <collection name> in library <library name>". If the member already exists, no change is made.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

CGY Specifies the categories in the management collection object which will be processed into database files.

***FROMMGTCOL:** All of the categories present in the management collection object will be processed into database files.

category-name: Specify the name of the category of performance information to be processed from the management collection object. Multiple category names may be specified. Valid category names are:

Name	Description
------	-------------

*APPN	
--------------	--

	APPN
--	------

*CMNBASE	
-----------------	--

	Communications (Base)
--	-----------------------

*CMNSAP	
----------------	--

	Communications (SAP)
--	----------------------

*CMNSTN	
----------------	--

	Communications (Station)
--	--------------------------

*DISK	Disk
--------------	------

>> *DOMINO	
-------------------------	--

	Domino for iSeries <<
--	-----------------------

*HDWCFG	
----------------	--

	Hardware configuration
--	------------------------

>> *HTTP	
-----------------------	--

	HTTP Server (powered by Apache) <<
--	------------------------------------

*IOPBASE	
-----------------	--

	IOP (Base)
--	------------

*IPCS	>> Integrated xSeries Server <<
--------------	---------------------------------

*JOBMI	
---------------	--

	Jobs (task and thread data)
--	-----------------------------

*JOBOS	
---------------	--

	Jobs (job data)
--	-----------------

*LCLRSP	
----------------	--

	Local response time
--	---------------------

*POOL	
--------------	--

	Pool
--	------

*POOLTUNE	
------------------	--

	Pool Tuning
--	-------------

- *SNADS**
SNADS
- *SUBSYSTEM**
Subsystem
- *SYSBUS**
System Bus
- *SYSCPU**
System CPU
- *SYSLVL**
System Level Data
- *TCPBASE**
TCP/IP (base)
- *TCPIFC**
TCP/IP (interface)
- >> *USRTNS**
User-defined transaction data <<

INTERVAL

Specifies the time interval (in minutes) between successive entries in the database file(s). Within the database, these collection intervals will be identified by interval number and interval time.

Interval numbers will begin with 1 and increment with each interval. Interval time will be based on time at the end of the interval synchronized to the clock time (e.g. if INTERVAL(15) is specified, intervals could be generated as 01:00:00, 01:15:00, 01:30:00, and 01:45:00).

***FROMMGTCOL:** The default collection interval from the management collection object will be used.

number-of-minutes: Specify an interval value ranging from 0.25 (15 seconds) through 60 minutes.

FROMTIME

Specifies the starting date and time of the performance data in the management collection object which will be used to create the performance database files. This time combined with the interval value will determine the date and time for each data base interval.

***FROMMGTCOL:** The starting date and time is the date and time that the management collection object was created.

Element 1: Starting Date

starting-date: Specify the starting *date* for which collection data is generated. The date must be entered in the format specified by the system value QDATFMT and, if separators are used, as specified by the system value QDATSEP.

Element 2: Starting Time

starting-time: Specify the starting *time* on the specified starting date for generating the database intervals. The time is specified in 24-hour format with or without a time separator as follows:

- With a time separator, specify a string of 5 or 8 digits, where the time separator for the job separates the hours, minutes, and seconds. If you issue this command 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 fails.
- 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 through 23. Valid values for **mm** and **ss** range from 00 through 59.

If the starting date is specified and the starting time is not, the starting time will default as follows:

- If the starting date specifies the first date of the collection, the starting time will be set to the start time of the collection.
- If the starting date does not specify the first date of the collection, the starting time will be set to midnight (00:00:00).

TOTIME

Specifies the date and time of the last performance data in the management collection object which will be used to create the performance database files.

***FROMMGTCOL:** The date and time of the end of the collection in the management collection object will be the ending date and time for database generation.

***ACTIVE:** The generation of the database will continue until the currently active collection ends.

This option causes the database to be generated concurrently with the active collection. The data base will be generated based on the start time specified for any data currently in the management collection object. Additional data will be processed as it is added to the collection object. This will continue until the current collection is ended or cycled.

Because this option can result in processing for a very long time, it is recommended that TOTIME(*ACTIVE) be specified only when running CRTPFRTDA in a batch job.

Element 1: Ending Date

ending-date: Specify the ending date for which data from the collection object is used to generate the database files. The date must be entered in the format specified by the system value QDATFMT and, if separators are used, as specified by the system value QDATSEP.

Element 2: Ending Time

ending-time: Specify the time for the specified ending date for which data from the collection object is used to generate the database files.

See the description of *start-time* for details about how time can be specified.

If the ending date is specified and the ending time is not, the ending time will default as follows:

- If the ending date specifies the last date of the collection, the ending time will be set to the ending time of the collection.
- If the ending date does not specify the last date of the collection, the ending time will be set to 23:59:59.

Examples for CRTPFRTDA

Example 1: Generating All Data

```
CRTPFRTDA FROMMGTCOL(Q099365001)
          TOMBR(JAN1) TOLIB(MYLIB)
```

In this example, the database is generated for all categories contained within the management collection object Q099365001 in library QPFRDATA. The performance database files will be created into library MYLIB and the collection member name will be JAN1.

Data is generated from the start of data collection within this management collection object to the end of that collection. The database interval is the default collection interval that was specified at the time the collection was started.

Example 2: Selecting Specific Data

```
CRTPFDRDA FROMMGTCOL(Q099364002)
  TOMBR(JAN1J) TOLIB(MYLIB)
  CGY(*JOBMI) INTERVAL(15)
  FROMTIME(('01/01/98' '14:00:00'))
  TOTIME(('01/01/98' '16:00:00'))
```

In this example, only the database file QAPMJOBMI is generated using *JOBMI category information from management collection Q099364002 in library QPFRDATA. The database interval will be 15 minutes even if the data was collected more frequently (for example, the management collection object may contain data collected every 5 minutes). The generated file will contain only data that was collected between 2:00 PM and 4:00 PM even though the collection object may contain data for a larger time interval.

Error messages for CRTPFDRDA

*ESCAPE Messages

None. >>

CRTPEXDTA (Create Performance Explorer Data) Command Description

CRTPEXDTA Command syntax diagram

Purpose

The Create Performance Data (CRTPEXDTA) command creates the PEX database files based on the data in a PEX management collection object (object type *MGTCOL).

Additional information about the performance explorer tool can be found in the Performance Tools for

iSeries  book.

Restrictions:

1. This command is shipped with PUBLIC *EXCLUDE authority.
2. The user must have add and execute authority to the specified TOLIB library, and read and execute authority to the FROMLIB library.
3. The user must have read authority to the management collection object.
4. To use this command you must have *SERVICE special authority, or be authorized to the Service Trace function of Operating System/400 through iSeries Navigator's Application Administration support. The Change Function Usage Information (QSYCHFUI) API, 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.
5. The following user profiles have private authorities to use the command:
 - QPGMR
 - QSRV

Required Parameter

FROMMGTCOL

Specifies the name of the PEX management collection object. The data in this object will be stored in the PEX database files in the specified member.

QPEXDATA: The QPEXDATA library is the recommended library for storing data collected by the performance explorer tool. The first time the performance explorer tool is used, this library is created for the user.

data-library-name: Specify the name of the library where the management collection object exists.

management_collection_object-name: Specify the name of the management collection object.

Optional Parameters

TOMBR

Specifies the member name used to store the data in the PEX database files. the specified member.

***FROMMGTCOL:** The name of the management collection object is used as the member name.

member-name: Specify the name of the member for the database used to store the PEX data.

TOLIB Specifies the library used to store the data in the PEX database files.

***FROMMGTCOL:** The library specified for the management collection object is used.

library-name: Specify the name of the library for the database used to store the PEX data.

RPLDTA

Specifies whether to replace the data in an existing set of file members with new performance data.

***NO:** If a member already exists with the same name, an error message is sent to the user. This prevents the user from inadvertently writing over existing data.

***YES:** If a member already exists with the same name, the old data is lost and is replaced by the new data.

NBRTHD

Specifies the number of concurrent threads that CRTPEXDTA will use to process the data in the session being ended. Specifying a number greater than 1 will allow CRTPEXDTA to take advantage of available CPU cycles, especially on a multi-processor system. While this may speed up CRTPEXDTA processing, it may also degrade the performance of other jobs on the system. You can minimize this impact by changing the priority of the job that runs CRTPEXDTA to a higher number. You should also verify the disk subsystem can handle the additional threads. Typically, CRTPEXDTA will need at least one disk arm for each active thread.

***CALC:** The system will calculate a reasonable number of threads to do the CRTPEXDTA processing which will not use excessive CPU or disk resources. Usually this is one or two threads for each available processor.

'number-of-threads': Specify the number of threads for CRTPEXDTA to use to process the collected data.

TEXT Specifies the text that briefly describes the type of data collected. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTPEXDTA

Example 1: Creating PEX data

```
CRTPEXDTA FROMMGTCOL(QAPEXDTA/MYCOL) TOMBR(TEST)
TOLIB(QAPEXDTA) NBRTHD(2)
```

This command creates PEX data in member name TEST in library QAPEXDATA. The collected data exists in the management collection object found in QAPEXDTA/MYCOL. Two threads will be used to process the data.

Error messages for CRTPEXDTA

CRTPF (Create Physical File) Command Description

CRTPF Command syntax diagram

Purpose

The Create Physical File (CRTPF) command creates a physical file in the database. A physical file is created from the file description parameters in the CRTPF command and (optionally) from a previously entered data description specification (DDS) source file that contains the source description of the file. If the desired physical file has a record format with only one character field in arrival sequence or if the file is a source file, a DDS source file is not needed. To override attributes of the file after it has been created, use the Override Database File (OVRDBF) command before the file is opened. To change attributes of the file after it has been created, use the Change Physical File (CHGPF) command.

Restrictions:

1. A saved keyed physical file can contain up to 3999 members. A saved nonkeyed physical file can contain up to 7999 members. A single save operation can save up to 8000 objects. Information on how many internal objects are saved for each
2. In multithreaded jobs, this command is not threadsafe for distributed files and fails for distributed files that use relational databases of type *SNA.
3. The processing done for the *EVENTF value of the OPTION keyword is not threadsafe

OS/400 system object type is in the Backup, Recovery, and Availability topic in the Information Center.

Required Parameter

FILE Specifies the qualified name of the file being created. If the file is used by a high-level language (HLL) program, the file name must be consistent with the naming rules of that language; otherwise, the file must be renamed in the program.

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

***CURLIB:** The file is created in the current library for the job. 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 file is created.

physical-file-name: Specify the name of the physical file.

Optional Parameters

SRCFILE

Specifies the qualified name of the source file used when the physical file is created. 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 specifications that are made in DDS are described in the Database Programming topic in the Information Center and DDS Reference topic in the Information Center.

If SRCFILE is specified, the RCDLEN parameter cannot be specified.

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.

QDDSSRC: The source file, QDDSSRC, contains the DDS used to create the physical file.

source-file-name: Specify the name of the source file that contains the DDS used to create the physical file.

RCDLEN

Specifies the length (in bytes) of the records stored in the physical file. If RCDLEN and FILETYPE(*DATA) are specified, the physical file is created with a record format that has only one field. The file is then restricted to an arrival sequence access path. The record format and the field are both assigned the same name as that of the file, specified in the FILE parameter. A value ranging from 1 through 32766 bytes can be specified for the record length.

If RCDLEN and FILETYPE(*SRC) are specified, the record format has three fields: source sequence number, date, and source statement. The RCDLEN parameter must provide six positions for the source sequence number, six positions for the date field, and one position for source start, which are required in each record. These fields are defined with fixed attributes and names. If records are copied into the file by the CPYF command and the records are longer than the length specified, the records are truncated on the right.

If RCDLEN is specified, SRCFILE and SRCMBR cannot be specified; RCDLEN is used to specify a fixed record length for the record format when a source file is not needed (when only one field exists in each record or when the file being created is a source file). The high-level language program that processes the file must describe the fields in the record in the program.

Double-Byte Character Set Considerations:

If IGCDTA(*NO) is specified, the field is assigned the data type of character whose length is the same as the record length specified. A value ranging from 1 to 32766 bytes can be specified for the record length. If IGCDTA(*YES) is specified, the field is assigned the data type of DBCS-open and a value ranging from 4 to 32766 can be specified.

The RCDLEN parameter must provide six positions for the source sequence number, six positions for the date field, and four positions for source start when FILETYPE(*SRC) and IGCDTA(*YES) are specified.

SRCMBR

Specifies the name of the source file member that contains the DDS for the physical file being created; the member is in the source file specified in the SRCFILE parameter (or its default, QDDSSRC). If SRCMBR is specified, RCDLEN cannot be specified.

***FILE:** The source file member name is the same as that of the physical file being created.

source-file-member-name: Specify the name of the member in the source file specified by SRCFILE used to create the physical file.

OPTION

Specifies the type of output produced when the file is created. 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 underlined value is used.

Note:

The underlined values for this parameter are *similar* to, but not *actually* default values, and therefore, cannot be changed with the CHGCMDDEF (Change Command Default) command.

Source Listing Options

***SRC** or ***SOURCE**: A printout is created of the source statements used to create the file, and of 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 Options

***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**: An expanded source printout is not created.

Second-Level Message Text Options

***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 Options

***NOEVENTF**: The compiler does not produce an event file for the CoOperative Development Environment/400 (CODE/400) product.

***EVENTF**: The compiler produces an event file that can be used by the CODE/400 product. The event file is created as a member in the file EVFEVENT in your object library. The CODE/400 product uses this file to offer error feedback integrated with the CODE/400 editor. This value is normally specified by the CODE/400 product on your behalf.

SYSTEM

Specifies the system on which the physical file is created.

***LCL**: The physical file is created on the local system.

***RMT**: The physical file is created on a remote system using distributed data management (DDM). The physical file name specified on the FILE parameter must be the name of the DDM file (created using the CRTDDMF command). The DDM file contains the name of the physical file being created (RMTFILE parameter on the CRTDDMF command) and the name of the remote system (RMTLOCNAME parameter on the CRTDDMF command) on which the file is created.

***FILETYPE**: If the name specified on the FILE parameter is a DDM file, the physical file is created on the remote system specified by CRTDDMF(RMTLOCNAME) for the DDM file. Otherwise, the name on the FILE parameter cannot be the same as an existing file, since a physical file of that name is created on the local system.

GENLVL

Specifies the severity level at which the create operation fails. If errors occur that have a severity level greater than or equal to this value, the operation ends.

Note:

This parameter applies only to messages created while processing the DDS source. Messages created elsewhere in the file creation process are not affected by this parameter.

20: If errors occur in the DDS source file with a severity level greater than or equal to 20, the file is not created.

severity-level: Specify a severity level ranging from 0 through 30. The file is not created if the severity level specified for this parameter equals 0 or is less than the severity level that occurs in the data description specifications (DDS) source. This value must be greater than or equal to value specified on the FLAG parameter.

FLAG Specifies the minimum severity level of messages to be listed in the DDS source listing.

0: The spooled file is owned by the original user profile of the job. If the job has switched to a new user profile, the original user profile is still the owner of the spooled file.

severity-level: Specify the minimum severity level of messages to be listed. Valid values range from 0 through 30. The severity level specified must be less than or equal to the severity level specified on the GENLVL parameter.

FILETYPE

Specifies whether each member of the physical file being created contains data records or contains source records (statements) for a program or another file. The file can contain, for example, RPG source statements for an RPG program or DDS source statements for another physical, logical, or device file. More information on this parameter is in Commonly used parameters.

Note:

FILETYPE(*SRC) is specified only when including DDS field definitions in the source file. Otherwise, use the Create Source Physical File (CRTSRCPF) command to create a source file.

***DATA:** The physical file contains data records.

***SRC:** The physical file contains source records.

MBR Specifies the name of the physical file member added when the physical file is created. Other members can be added to the file after it is created by using the Add Physical File Member (ADDPFM) command.

***FILE:** The member being added has the same name (specified in the FILE parameter) as the physical file that contains the member.

***NONE:** No member is added when the file is created.

physical-file-member-name: Specify the name of the member added when the physical file is created.

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.

Note:

An attempt to open a file member that has an expiration date that has been exceeded causes an error message to be sent to the user. The RMVM command is used to remove the member from the file.

***NONE:** No expiration date is specified.

expiration-date: Specify the date after which the physical file member is not used. The date must be in the format specified by the QDATFMT and QDATSEP job attributes. The date must be enclosed in apostrophes if special characters are used in the format.

MAXMBRS

Specifies the maximum number of members that the physical file being created can have at any time.

1: Only one member can be contained in the file.

***NOMAX:** The system maximum is used.

maximum-members: Specify the value for the maximum number of members that the physical file can have. Valid values range from 1 through 32767.

ACCPHSIZ

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 physical 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.

This parameter does not apply to access paths that are created for logical files or for queries that refer to the data in a physical file.

***MAX1TB:** The access paths associated with this file can occupy a maximum of one terabyte (1,099,511,627,776 bytes) of auxiliary storage.

Note:

This value is not supported on releases of the system earlier than Version 3 Release 6 Modification 0 (V3R6M0). Therefore, if an attempt is made to save a physical file that has this attribute, and the save operation specifies a target release earlier than V3R6M0, the save operation might be unsuccessful, or if successful, the access paths are not saved. If the save operation is successful and the saved version of the file is then used to restore the physical file, the system rebuilds all of the access paths.

***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.

MAINT

Specifies, for files with keyed sequence access paths only, the type of access path maintenance used for members of the physical file.

***IMMED:** The access path is maintained for each physical file member whether the source physical file is opened or closed. The access path is changed whenever a record is updated, added to, or deleted from a member of this file or a logical file member based on a member of this file.

***REBLD:** The access path is completely rebuilt when a file member is opened during the running of the program. The access path is continuously maintained until the member is closed; the access path maintenance is then ended. *REBLD is not valid for access paths that require unique key values.

***DLY:** The maintenance of the access path is delayed until the physical file member is opened for use. Then, the access path is changed only for records that have been added, deleted, or changed since the file was last opened. While the file is *open*, changes made to its members are immediately reflected in the access paths of those members, no matter what is specified for MAINT. 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 successive opens are small; that is, when the file is opened frequently or when the 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 and the next open reaches approximately 10 percent of the access path size, the system stops saving changes and the access path is completely rebuilt the next time the file is opened.

RECOVER

Specifies, for files having immediate or delayed maintenance on their access paths, when recovery processing of the file is performed after a system failure has occurred while the access path was being changed. This parameter is valid only for a file with a keyed access path.

If *IMMED is specified for the MAINT parameter, the access path can be rebuilt during initial program load (IPL) (before any user can run a job), or after IPL has ended (during jobs running at the same time), or when the file is next opened. While the access path is being rebuilt, the file cannot be used by any job.

During the IPL, an Override Access Path Recovery display lists those access paths that must be recovered and the RECOVER parameter value for each access path. The user can override the RECOVER parameter value on this display. More information on access paths is in the Backup, Recovery, and Availability topic in the Information Center.

If *REBLD is specified for the MAINT parameter, the access path is rebuilt the next time its file is opened.

***NO:** The access path of the file is not rebuilt during or after an IPL. The file's access path, if not valid, is rebuilt when the file is next opened.

Note: *NO is the default for all files that do not require unique keys.

***AFTIPL:** The file's access path is rebuilt after the completion of the IPL. This option allows other jobs not using this file to start processing immediately after the completion of the IPL. If a job tries to allocate the file while its access path is being rebuilt, a file open exception occurs.

Note: *AFTIPL is the default for all files that require unique keys.

***IPL:** The file's access path is rebuilt during the IPL. This ensures that the file's access path is rebuilt before the first user program tries to use it; however, no jobs can start running until after all files that specify RECOVER(*IPL) have their access paths rebuilt.

FRCACPTH

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 whenever the access path is changed. FRCACCPATH(*YES) minimizes (but does not remove) the possibility that an abnormal job end may cause damage to the access path that requires it to be rebuilt.

***NO:** The access path and changed records are not forced to auxiliary storage whenever the access path is changed.

***YES:** The access path and changed records are forced to auxiliary storage whenever the access path is changed. If FRCACCPATH(*YES) is specified, MAINT(*REBLD) cannot be specified.

FRCACCPATH(*YES) slows the response time of the system if the access path is changed in an interactive job. If the access path is changed frequently, the overall performance of the system is decreased.

SIZE Specifies the *initial* number of records in each member of the file, the number of records in each increment that can be automatically added to the member size, and the number of times the increment can be 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).

When the maximum number of records has been reached, a message (stating that the member is full) is sent to the system operator, giving the choice of ending the request or extending the member size. The operator can extend the member by 10% or by the number of records specified as the increment value, whichever is greater, each time the message is received.

A list of three values is specified to indicate the initial size of each member and the automatic extensions that can be added when needed, or *NOMAX can be specified. If SIZE is not specified, SIZE(10000 1000 3) is assumed by the system.

Element 1: Number of Records

Use one of the following to specify the initial number of records in the member before automatic extension of the member occurs. The ALLOCATE parameter determines when the required space for the initial number of records is allocated. If *YES is specified, the space is allocated when a new member is added. If *NO is specified, the initial space is allocated as determined internally by the system.

10000: Initially, up to 10,000 records can be inserted into each member of the file before any extension occurs.

number-of-records: Specify the number of records (ranging from 1 through 16777215) 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 Value

Use one of the following to specify the number of records that can be additionally inserted in the member when the initial member size is exceeded and an automatic extension occurs. The minimum size of an increment is 10% of the size of the member at the time the maximum number of records is reached.

1000: The member size is increased by 10% or 1000 records, whichever is greater.

increment-value: Specify the number of additional records (ranging from 0 through 32767) which, if greater than 10% of the size of the member when the maximum number of records is reached, are to be added to the member during an automatic extension.

If the number specified is not greater than 10% of the member size and not equal to zero, the member size is increased by 10%.

Specify 0 to prevent automatic extensions. This value must be 0 if the value for the number of increments is 0.

Element 3: Maximum Number of Increments

Use one of the following to specify the maximum number of increments that are automatically added to the member. If 0 is specified for the increment amount (element 2), the number of increments are not specified; 0 is the default value instead of 3 (a message is sent to the user issuing the command).

3: Up to three increments is automatically added to the member size.

number-of-increments: Specify the maximum number of increments, ranging from 0 through 32767, that are automatically added to the member. To prevent automatic extensions, specify a value of 0.

Other Single Values

***NOMAX:** The system maximum is used.

ALLOCATE

Specifies whether storage space is allocated for the initial number of records (SIZE parameter) for each physical file member when it is added. The allocation provides enough space to hold the number of records specified by the SIZE parameter. Allocations that occur when a record cannot be added to a member without exceeding its capacity are determined by the system and by the SIZE parameter values.

***NO:** When a new member is added, the system determines whether additional space is needed and allocates that amount.

***YES:** The amount of storage space specified in the first value of the SIZE parameter is allocated each time a new member is added. If that amount of storage space is unavailable, the member is not added, and a message is sent to the user. If this parameter value is used, SIZE(*NOMAX) cannot be specified.

CONTIG

Specifies whether records in the initial allocation in each physical file member are stored contiguously (next to each other) on auxiliary storage. If so, and the necessary contiguous space is unavailable, the system sends a message to the job log and allocates the storage space noncontiguously. The file is still entirely usable. This parameter does not affect additional allocations that might be needed later, which would probably be noncontiguous.

***NO:** The storage space for each member does not have to be contiguous.

***YES:** The system allocates contiguous space for each member of the physical file being added. If it cannot, the user is notified and a message is put in the job log. The affected member is still added, even if the storage space is allocated noncontiguously. The member is just as usable in noncontiguous form. If *YES is specified for CONTIG, then ALLOCATE(*YES) must also be specified.

UNIT This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 3 Release 6 Modification 0 of the AS/400 system. For information on using auxiliary storage pools (ASPs), refer to the Backup, Recovery, and Availability topic in the Information Center.

You can specify the value *ANY or a value ranging from 1 through 255 on this parameter. Specifies whether a file is stored on a specific auxiliary storage unit. The system attempts to allocate the storage space for the file and for all its members and their associated access paths on the specified unit. This includes the initial allocation when each member is added and any extensions that occur later for each member in the file. If the system cannot allocate the storage space for each member on the specified unit, it allocates the space on any available unit and sends a message to the job log. The file is entirely usable in all cases.

The unit identifier is a number ranging from 1 through 255, assigned when a new disk device is configured. The configured disk device can be shown and changed by using the Work with Disk

Devices display from the Start System Services Tool (STRSST) command. More information on System Services Tool (SST) is in the Backup, Recovery, and Availability topic in the Information Center.

***ANY:** The storage space for the file and its members is allocated on any available auxiliary storage unit.

unit-identifier: Specify the storage unit on which the system attempts to allocate the storage space for the file's access path.

If the unit specified is part of any user auxiliary storage pool (ASP) (ASP 2 through 16), the system allocates space from ASP 1, the system auxiliary storage pool.

FRCRATIO

Specifies the number of inserted, updated, or deleted records that are processed before they are forced to auxiliary (permanent) storage.

More information on this parameter is in Commonly used parameters. If this physical file is being journaled, either a large number or *NONE should be used. *NONE may cause long synchronization of the journal and physical files. More information on journal management is in the Journal management article in the Information Center.

***NONE:** There is no force write ratio; the system determines when the records are written to auxiliary storage.

number-of-records-before-force: Specify the number of inserted, updated, or deleted records processed before being explicitly forced to auxiliary storage.

IGCDTA

Specifies whether the program-defined physical files can contain double-byte character set (DBCS) data.

Note:

This parameter has no meaning with DDS files, because the use of DBCS data is specified in the DDS.

***NO:** The file does not process DBCS data.

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

Double-Byte Character Set Considerations:

If the user creates a physical file and specifies the RCDLEN parameter, the system creates a default record format.

- If IGCDTA(*YES) is specified, the default record format can contain DBCS data (as if the record were specified with the DBCS-open (O in column 35 of DDS specification) data type).
- If IGCDTA(*NO) is specified, the default record format cannot contain DBCS data (as if the record were specified with the character (A or blank in column 35 of DDS specification) data type).

The system ignores the IGCDTA parameter value if a value for the RCDLEN parameter is not specified.

The user cannot override the IGCDTA value for a physical file.

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 those resources are not allocated within the specified wait time, an error message is sent to the program. More information on this parameter is in Commonly used parameters.

Note:

An immediate allocation of the device by the device resource is required when an acquire operation is performed to the file.

***IMMED:** The program does not wait; when the file is opened, an immediate allocation of the file resources is required.

***CLS:** The job default wait time is used as the wait time for the file resources being allocated.

number-of-seconds: Specify the number of seconds a program waits for the file resources to be allocated to the job. Valid values range from 1 through 32767 seconds.

WAITRCD

Specifies the number of seconds that a program waits for a record to be updated or deleted, or for a record read in the commitment control environment with LCKLVL(*ALL) specified. More information on record locking is in the Database Programming topic in the Information Center. If the record is not allocated in the specified wait time, an error message is sent to the program.

60: The program waits for 60 seconds.

***IMMED:** The program does not wait; when a record is locked, an immediate allocation of the record is required.

***NOMAX:** The system maximum is used.

number-of-seconds: Specify the number of seconds a program waits for the file resources to be allocated to the job. Valid values range from 1 through 32767 seconds.

SHARE

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

More information on shared database files is in the Database Programming topic in the Information Center.

***NO:** The ODP created by the program with this attribute is not shared with other programs in the routing step. Every time a program opens the file with this attribute, a new ODP to the file is created and activated.

***YES:** The ODP created with this attribute is shared with each program in the routing step that also specifies SHARE(*YES) when it opens the file, provided the scope specified on the OPNSCOPE keyword for the subsequent open of the file is compatible with the scope of the original open.

Note:

When SHARE(*YES) is specified and control is passed to a program, a read operation in that program retrieves the next input record. A write operation produces the next output record.

DLTPCT

Specifies the maximum percentage of deleted records allowed for any member in the physical file. The percentage is based on the number of deleted records compared with the total record count in a member. The percentage check is made when a member of the file is closed or a logical file

member based on a member of the file is closed. If the number of deleted records exceeds the percentage, a message is sent to the system history log (QHST) to inform the user.

***NONE:** No percentage is specified; the number of deleted records in the file members is not checked when a member is closed.

deleted-records-threshold-percentage: Specify the largest percentage of deleted records in any member in the file. Valid values range from 1 through 100. If this percentage is exceeded, a message is sent to the system history log (QHST) when the file is closed.

REUSEDLT

Specifies whether the space used by deleted data entries is reclaimed by future insert requests.

Note:

If a *YES value is specified for this parameter, the key ordering attribute for the physical file must be allowed to default or must be FCFO instead of FIFO or LIFO. If *YES is specified for this parameter, the key ordering attributes of FIFO and LIFO are not allowed.

***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 the Database Programming topic in the Information Center.

SRTSEQ

Specifies the sort sequence used for this file. The sort sequence is used with the LANGID and CCSID parameters to determine which sort sequence table is used.

***SRC:** The table specified in the data description specification (DDS) on the ALTSEQ keyword is used. If ALTSEQ is not used in the DDS, use the value specified for *JOB on this parameter.

***JOB:** The sort sequence value used is the value for the job issuing this command to create 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.

The name of the table 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.

table-name: Specify a table name.

LANGID

Specifies the language identifier used when *LANGIDSHR or *LANGIDUNQ is specified on the

SRTSEQ parameter. The language identifier is used with the SRTSEQ and CCSID parameters to determine which sort sequence table the file will use.

***JOB:** The language identifier specified for the job is used.

language-identifier: Specify a language identifier.

CCSID

Specifies the coded character set identifier (CCSID) used to describe character data in the fields of the file. If this parameter is specified, the RCDLEN parameter and FILETYPE(*SRC) must also be specified.

A CCSID is a 16-bit number identifying a specific set of encoding scheme identifiers, character set identifiers, code page identifiers, and additional coding-related information that uniquely identifies the coded graphic representation used.

***JOB:** The current job's default CCSID 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.

coded-character-set-identifier: Specify the CCSID to be used. More information on valid CCSIDs is in the Globalization topic in the Information Center.

ALWUPD

Specifies whether records can be updated in the physical file. Records in a logical file can be updated only when the records in each physical file, on which the logical file is based, can be updated.

***YES:** Records can be updated in the physical file.

***NO:** Records cannot be updated in this physical file or in any logical file built over this physical file.

ALWDLT

Specifies whether records can be deleted from the physical file. Records in a logical file can be deleted only when the records in each physical file on which the logical file is based can be deleted.

***YES:** Records can be deleted in this physical file.

***NO:** Records cannot be deleted in this physical file or from any logical file built over this physical file.

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.

***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.

AUT

Specifies the authority given to users who do not have specific authority to the physical file, who are not on an authorization list, and whose user group has no specific authority to the physical file. More information on this parameter is in Commonly used parameters.

***LIBCRTAUT:** The public authority for the physical file is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the physical file). The public authority is determined when the physical file is created. If the CRTAUT value for the library changes after the physical file is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the physical file except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the physical file. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the physical file.

***USE:** The user can perform basic operations on the physical file, such as running a program or reading a file. The user cannot change the physical file. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the physical file.

authorization-list-name: Specify the name of the authorization list used.

NODGRP

Specifies the name of a node group across which the file is distributed.

***NONE:** The file is not a distributed file. All data associated with the file is on the local system.

The name of the node group 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.

node-group-name: Specify the name of a node group associated with this file.

PTNKEY

Specifies the field, or set of fields, that is used as the partition key for distributing data. Up to 300 names can be specified.

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.

partition-key-field-name: Specify the name of a field to be used to define the partition key.

TEXT Specifies the text that briefly describes the physical file. More information on this parameter is in Commonly used parameters.

***SRCMBRTXT:** The text is taken from the source file member being used to create the physical file. If the source file is a database file, the text is taken from the source member. Text can be added or changed for a database source member by using the Source Entry Utility or by using either the Add Physical File Member (ADDPFM) command or the Change Physical File Member (CHGPFM) command. If the source file is an inline file or a device file, the text is blank.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTPF

Example 1: Creating a Physical File

```
CRTPF FILE(PAYLIB/PAYTXS) SRCFILE(SRCLIB/PAYTXS)
      MBR(*NONE) MAXMBRS(5)
```

This command creates a physical file named PAYTXS in the PAYLIB library. The source descriptions in the member PAYTXS in source file PAYTXS in the SRCLIB library are used to create the physical file. The file is created without members (*NONE was specified); therefore, no data can be put into the file until a member is added later. As many as five members can be contained in the file.

By default, each file member added later will contain data records. The access path of each member is continuously maintained. Each member can have up to 10,000 records before automatic extensions (three increments maximum) occur that add 1000 records to the capacity of the member. Storage space for each member is allocated only as needed, with no restrictions on whether the space is contiguous; there is no initial storage allocation. The public has object operational, read, add, delete, and update authority for the file.

Example 2: Creating a Physical File and Member

```
CRTPF FILE(ORDERCTL/ORDERS)
      SRCFILE(ORDERCTL/ORDERSRC)
      SRCMBR(MFGORD) MAXMBRS(50) SIZE(1000 100 5)
      ALLOCATE(*YES)
```

This command creates a physical file and physical file member, both named ORDERS in the ORDERCTL library. The file and its member are created from the MFGORD source member of the ORDERSRC source file in the same library. Storage space for the records placed in the file need not be contiguous. Up to 50 members can be contained in the file. The initial allocation of storage provides for up to 1000 records, and up to five increments of additional space for 100 records each can be added automatically. These allocation values also apply to each member of this physical file that is added later.

Error messages for CRTPF

*ESCAPE Messages

CPF3204

Cannot find object needed for file &1 in &2.

CPF323C

QRECOVERY library could not be allocated.

CPF5702

File either not DDM file or not found.

CPF7302

File &1 not created in library &2.

CRTPDG (Create Print Descriptor Group) Command Description

CRTPDG Command syntax diagram

Purpose

The Create Print Descriptor Group (CRTPDG) command creates a space on the iSeries 400 into which information about a print descriptor group and its associated print descriptor names can be stored.

Required Parameter

PDG Specifies the qualified name of the print descriptor group being created.

The name of the descriptor group can be qualified by one of the following library values:

***CURLIB:** The descriptor group is created in the current library for the job. 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 descriptor group is created.

print-descriptor-group-name: Specify the name of the print descriptor group being created.

Optional Parameters

AUT Specifies the authority given to users who do not have specific authority to the print descriptor group, who are not on an authorization list, and whose user group has no specific authority to the print descriptor group. More information on this parameter is in Commonly used parameters.

***LIBCRTAUT:** The public authority for the print descriptor group is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the print descriptor group). The public authority is determined when the print descriptor group is created. If the CRTAUT value for the library changes after the print descriptor group is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the print descriptor group.

***USE:** The user can perform basic operations on the print descriptor group, such as running a program or reading a file. The user cannot change the print descriptor group. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the print descriptor group.

authorization-list-name: Specify the name of the authorization list used.

TEXT Specifies the text that briefly describes the print descriptor group. More information on this parameter is in Commonly used parameters.

***BLANK:** No text is specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTPDG

```
CRTPDG PDG(LETTERS)
```

This command creates print descriptor group LETTERS.

Error messages for CRTPDG

*ESCAPE Messages

CPF2283

Authorization list &1 does not exist.

CRTPSFCFG (Create Print Services Facility Configuration) Command Description

CRTPSFCFG Command syntax diagram

Purpose

The Create Print Services Facility Configuration (CRTPSFCFG) command creates a Print Services Facility (PSF) configuration object from the information specified on this command.

A PSF configuration object allows you to specify additional parameters for an AFP printer device that are not supported on the CRTDEVPRT command.

The Create Print Services Facility Configuration command creates the object in the specified library. This PSF configuration object is stored on the OS/400 as object type *PSFCFG.

Restrictions:

1. One of the four PSF/400 features must be licensed and installed to use this command.
2. *IOSYSCFG authority is required to use this command.

Required Parameter

PSFCFG

Specifies the name and library of the PSF configuration object to be created.

The name of the PSF configuration object can be qualified by one of the following library values:

***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.

PSF-configuration-name: Specify the name of the PSF configuration object being changed.

Optional Parameters

USRRSCLIBL

Specifies the user resource library list to be used for searching AFP resources. The user resource library list (USRRSCLIBL) is searched first and then the device resource library list (DEVRSCLIBL) is searched when attempting to find an AFP resource specified with the spool file.

***JOBLIBL:** The job's library list at the time the spool file is created is used to search for AFP resources.

***CURLIB:** The current library for the job that created the spool file is used for searching for AFP resources. If no library is specified as the current library for the job, then library QGPL is used.

***NONE:** No user resource library list is used for searching for AFP resources. Only the device resource library list is used.

DEVRSCLIBL

Specifies the device resource library list to be used for searching AFP resources. The user

resource library list (USRRSCLIBL) is searched first and then the device resource library list (DEVRSCLIBL) is searched when attempting to find an AFP resource specified with the spool file.

***DFT:** The following libraries (if present on system) are used in searching for AFP resources.

- QFNTCPL
- QFNT01 - QFNT19
- QFNT61 - QFNT69

Note:

Should the user choose the *DFT option on the DEVRSCLIBL parameter, and all the system libraries in the above list have not been created, it is possible for the user to create libraries by the name of the missing system libraries. The user could then place resources in the libraries that could subsequently be found by other users. To prevent this from occurring, the system administrator can create all of the missing system libraries with PUBLIC *USE authority.

device-resource-library-names: Specify a list of up to 30 library names to be used to search for AFP resources.

IPDSPASTHR

Specifies whether IPDS pass-through is done for the device.

Not all SCS or IPDS spooled files are eligible for IPDS pass-through. They may contain special functions that require transform to AFPDS for correct printing. Specifying IPDS pass-through on this command or printer file allows only those spooled files eligible for IPDS pass-through to bypass the extra transforms. Those spooled files not eligible for IPDS pass-through will still undergo the transforms to AFPDS and back to IPDS.

***NO:** No IPDS pass-through is done.

***YES:** IPDS pass-through is done for the device for all spool files that are eligible for IPDS pass-through.

IPDS pass-through is not valid for all PSF/400 supported printer devices. Any printer device (or attachment) that does not support resident fonts cannot support IPDS pass-through. This is because the resident font references in the data stream must be mapped to host fonts which are downloaded to the printer device. The following IPDS printer devices can support IPDS pass-through (when AFP(*YES) is specified):

- Any printer which supports resident fonts.

The following IPDS printer devices cannot support IPDS pass-through (when AFP(*YES) is specified):

- 3820, 3825, 3827, 3828, 3829
- 3831, 3835, 3900-001
- Any DPF-attached printer device. DPF (Distributed Print Function) is a function supported by the PSF for OS/2 print server which blocks the usage of printer-resident fonts.

ACTRLSTMR

Specifies the point at which the release timer (RLSTMR) is activated.

***NORDYF:** The release timer is activated when there are no spooled files in the printer's output queue with a status of RDY and the last page of the last spooled file processed has printed. If the release timer expires, the session to the printer device is released; the writer does not terminate. When the session is released, another PSF can start a session to the printer device.

Use this value when you want the writer to print all files with a status of RDY before the releasing the session.

The value of *NORDYF is supported only for printers and devices attached to an iSeries 400 using APPC or TCP/IP. For an APPC connection, use this value only with the PSF Direct support provided by PSF for OS/2 and PSF for AIX. For a TCP/IP connection, this value can be used for any printer device. This value is not supported for Twinax-attached printer devices.

***IMMED:** The release timer is activated immediately after PSF has successfully linked to the printer device. If the release timer expires, the session to the printer device is released; PSF does not terminate. If a file is being printed when the release timer expires, the writer releases the session after all pages of the spooled file have printed. When the session is released, another PSF can start a session to the printer device.

Use this value when you want the writer to time-share the printer device. The value used for release timer determines the length of time the writer will “keep” the printer device before releasing the session.

The value of *NORDYF is supported only for printers and devices attached to an iSeries 400 using APPC or TCP/IP. For an APPC connection, use this value only with the PSF Direct support provided by PSF for OS/2 and PSF for AIX. For a TCP/IP connection, this value can be used for any printer device. This value is not supported for Twinax-attached printers device.

***PRTNORDYF:** This value can be specified if you are using a printer device that allows control over the exchange of IPDS data (the IPDS dialog).

This value specifies that the release timer is to be activated:

- After the writer receives an indication from the printer device to release the IPDS dialog,
- There are no spooled files in the printer device’s output queue with a status of RDY and
- The last page of the last spooled file processed has printed.

If the release timer expires, the writer releases the IPDS dialog with the printer device; the session is not released. The port in use by the writer is not available to another PSF. However, another print driver can start a dialog with the printer device on a different printer port.

If the writer detects that the printer device is not capable of controlling the IPDS dialog, then the value of *PRTNORDYF is treated as if *NORDYF has been specified.

Use this value when you want the writer to print all files with a status of RDY before the releasing the IPDS dialog.

The value of *PRTNORDYF is supported on a Twinax, TCP/IP or APPC connection.

***PRTIMMED:** This value can be specified if you are using a printer device that allows control over the exchange of IPDS data (the IPDS dialog).

This value specifies that the release timer is activated immediately after the writer receives an indication from from the printer device to release the IPDS dialog. If the release timer expires, the writer releases the IPDS dialog with the printer device; the session is not released. The port in use by the writer is not available to another PSF. However, another print driver can start a dialog with the printer device on a different printer port. If a file is being printed when the release timer expires, the writer releases the dialog after all pages of the spooled file have printed.

Use this value when you want to specify the length of time the writer controls the printer device after the printer device has indicated that it is needed by a print driver at another printer port.

If the writer detects that the printer device is not capable of telling the writer to stop the flow of data, then this value is ignored. PSF behaves as if RLSTMR(*NOMAX) was specified.

The value of *PRTIMMED is supported on a Twinax, TCP/IP or APPC connection.

RLSTMR

Specifies the amount of time to wait before a session or dialog is released without terminating the writer. The ACTRLSTMR parameter specifies when this timer is to be activated.

***NOMAX:** The dialog or session with the printer device is not released unless ENDWTR is executed.

***SEC15:** PSF/400 waits 15 seconds before releasing the session or dialog with the printer device.

***SEC30:** PSF/400 waits 30 seconds before releasing the session or dialog with the printer device.

length-of-wait: Specify the number of minutes PSF/400 waits before releasing the session or dialog with the printer device.

RESTRTMR

Specifies the amount of time to wait before the writer attempts to re-establish either a session or dialog. To determine whether a session or dialog is to be re-established, the writer considers the following factors:

- What value was specified for ACTRLSTMR.
- Whether or not the printer device supports IPDS dialog management.
- Whether the type of link is Twinax, APPC or TCP/IP.

If ACTRLSTMR(*NORDYF) or ACTRLSTMR(*IMMED) are specified, the session is retried.

If ACTRLSTMR(*PRTNORDYF) or ACTRLSTMR(*PRTIMMED) are specified, the dialog is retried.

***IMMED:** The writer attempts to re-establish the session or dialog as soon as a spooled file has a status of RDY.

number-of-minutes: Specify the number of minutes the writer waits, after a session or dialog have been released, before attempting to connect. Valid values range from 1 through 1440.

RETRY

Specifies the number of times to retry a session start request when attempting to establish a session with a printer device. This parameter applies to printers and devices configured in a printer device description as either

- AFPATTACH(*APPC) and AFP(*YES), or
- DEVCLS(*LAN), LANATTACH(*IP) and AFP(*YES).

The possible values are:

15: Fifteen retry attempts are made to establish a session. If after fifteen retries, PSF/400 still cannot establish a session, the printer writer terminates.

***NOMAX:** No limit is put on the number of retries. PSF/400 continues issuing session start requests until either the session is established or the printer writer is ended using ENDWTR OPTION(*IMMED).

number-of-retries: Specify the number of retry attempts to establish a session. Valid values range from 1 through 99.

RETRYDLY

Specifies the number of seconds PSF/400 pauses after it receives notification that a session start request has failed. After the specified time has elapsed, another session start request is issued. The number of retries performed by PSF/400 is controlled by parameter RETRY. This parameter applies to printers and devices configured as AFPATTACH(*APPC) and AFP(*YES) in the printer device description.

The possible values are:

90: Specifies that there is a 90 second delay between retry attempts.

number-of-seconds-between-retries: Specify the number of seconds to pause between retry attempts to establish a session. Valid values range from 0 through 999.

AUTOSSNRCY

Specifies whether PSF/400 will automatically attempt to resume printing when a session has been unexpectedly ended by a device. This parameter applies to printer devices configured in a printer device description as either

- AFPATTACH(*APPC) and AFP(*YES), or
- DEVCLS(*LAN), LANATTACH(*IP) and AFP(*YES).

You may also specify whether an information or inquiry message is to be issued when automatic session recovery is being performed.

***NO:** Specifies that PSF/400 ends when a session has been unexpectedly ended by a device.

Element 1: Enabled

***YES:** Specifies that PSF/400 attempts to re-establish a session which has been unexpectedly ended by a device.

- If you are using a printer device description which specifies AFPATTACH(*APPC) and AFP(*YES), note the following:
 - PSF configuration object parameters RETRY and RETRYDLY are used when PSF/400 is attempting to re-establish a session.
 - **»** If a PSF configuration object is not specified in a printer device description, then a maximum of 15 retries with a 90-second delay between them are used.**«**
 - You must use an APPC controller description and an APPC device description which specify APPN(*YES). Additionally, the APPC controller description must have MINSWTSTS(*VRYONPND) specified.
- If you are using a printer device description which specifies DEVCLS(*LAN), LANATTACH(*IP) and AFP(*YES), then PSF configuration object parameter RETRY is used when PSF/400 is attempting to re-establish a session.
 - »** If a PSF configuration object is not specified in a printer device description, then a maximum of 15 retries is used.**«**

To avoid reprinting pages, you may want to consider the setting for this parameter's second element, or the value used for ACKFRQ (Acknowledgment frequency).

Element 2: Message option

The possible values are:

***INFO:** An informational message is sent to the message queue associated with the writer when PSF/400 is performing automatic session recovery.

***INQ:** An inquiry message is sent to the message queue associated with the writer when PSF/400 is performing automatic session recovery. This message lets you specify the page number from which a writer should begin printing the last spooled file being processed.

This element is ignored if the value for element 1 is *NO.

ACKFRQ

Specifies the frequency, in pages, with which PSF/400 sends IPDS acknowledgment requests to a printer device. The acknowledgment request responses from the printer device contain information as to the status of pages sent to the printer device.

If a spooled file contains fewer pages than specified for ACKFRQ, an acknowledgment is requested after the last page of the spooled file is sent.

Consider adjusting this value when specifying AUTOSSNRCY(*YES). When a connection with a printer device is abnormally terminated, PSF/400 may reprint pages because the printer device was unable to return the status of pages printed. By increasing the frequency with which acknowledgments are sent, the number of pages which might be reprinted is decreased when a severed connection is restored. However, if acknowledgments are requested with great frequency, such as once per page, you may notice a performance degradation.

Acknowledgment frequency is supported on all attachments: Twinaxial, APPC and TCP/IP. Note that AUTOSSNRCY is supported on APPC and TCP/IP attachments only.

The possible values are:

100: Specifies that an acknowledgement is sent to the printer device after every 100 pages.

number-of-pages: Specifies the number of pages after which PSF/400 sends an acknowledgment to the printer device. Valid values range from 1 through 32767.

PRTRSPTMR

Specifies the length of time for which a writer should wait for a response from a printer device. This timer is used after a session has been started and PSF/400 is sending data. This parameter is used only for printer devices configured for a TCP/IP connection.

***NOMAX:** Specifies that there is no limit on the length of time for which a writer waits for a response from a printer device.

number-of-seconds: Specify the number of seconds for which a writer waits for a response from a printer device. Valid values range from 5 through 3600. The writer is ended if the printer does not respond within the specified amount of time. If this happens, a message is sent to the message queue.

BLANKPAGE

Specifies whether PSF/400 issues a blank page after every separator page and spool file copy that contains an odd number of pages. The blank pages assure that the printer device output is placed into the output stacker in a manner suitable for bursting. This parameter applies only to the following continuous forms printer devices:

1. 3831
2. 3835
3. 3900-001
4. All AFCCU continuous forms printers.

***YES:** PSF/400 issues a blank page after every separator page and spool file copy that contains an odd number of pages.

***NO:** PSF/400 does not issue a blank page after every separator page and spool file copy that contains an odd number of pages.

PAGSIZCTL

Specifies whether PSF/400 sets the page size (forms) in the printer device. This parameter only applies to the 4224, 4230, 4234, 4247, 4028, 6404, 6408, and 6412 printer devices.

***NO:** PSF/400 does not set the page size (forms) in the printer devices.

***YES:** PSF/400 sets the page size (forms) in the printer device.

RESFONT

Specifies whether PSF/400 should use resident fonts to print the spooled file.

***YES:** PSF/400 can use resident fonts to print the spooled file.

***NO:** PSF/400 will not use resident fonts to print the spooled file. PSF/400 maps the resident font referenced in the spool file to its equivalent host font and then download the host font to the printer device.

RSCRET

Specifies whether PSF/400 should use resource retention across spool files.

***YES:** PSF/400 stores page segments and overlays in the printer device across spool file boundaries. This minimizes data transfers, especially when a user is printing multiple spooled files that reference the same resources.

***NO:** PSF/400 does not store page segments and overlays in the printer device across spool file boundaries. They are deleted after each spool file.

Note that the page segments and overlays are deleted in the printer device when the printer writer is terminated.

EDGEORIENT


When the page rotation value of a spooled file is *COR or *AUTO and the system rotates the output, 90 degree rotation is normally used. When this parameter is *YES, PSF/400 rotates the output 270 degrees instead of 90 degrees.

***NO:** The output remains at its original orientation.

***YES:** Landscape output of 90 or 270 degrees is rotated an additional 180 degrees before printing.

USEOUTLFTNT

Specifies whether downloadable AFP raster font character sets and coded fonts should be replaced with the equivalent downloadable outline fonts.

See the Printer Device Programming  book for more information regarding this parameter's relationship with the FNTRSL parameter.

***NO:** No mapping to outline font character set equivalents will be done. All references to font character sets will be used as is.

***YES:** All references to font character sets will be mapped to the equivalent downloadable outline font character set if possible.

PSDFNOPT

Specifies a value as defined by IBM.

***NONE:** No PSF-defined options are specified. For V3R2, this is a restricted value since no new options are defined for this release.

PSF-defined-option: Specify a value as defined by IBM. One or more values may be made available between releases of OS/400. If a value is made available, a PTF cover letter will contain the required syntax.

FNTSUBMSG

Specifies whether PSF/400 will issue messages indicating that a successful font substitution was performed.

***YES:** Specifies that messages indicating that a successful font substitution was performed are to be issued.

***NO:** Specifies that messages indicating that a successful font substitution was performed are not to be issued. The following messages will not be issued:

PQT2066

Font substitution was performed.

PQT2077

Font substitution was performed.

PQT2072

Font substitution was performed.

PQT3531

Font substitution was performed.

PQT3533

Font substitution was performed.

PQT3535

Font substitution was performed.

PQT3537

Font substitution was performed.

PQT3539

Font substitution was performed.

PQT3541

Font substitution was performed.

PQT3542

Font substitution was performed.

PQT3544

Font substitution was performed.

PQT3545

Font substitution was performed.

PQT3546

Font substitution was performed.

Messages indicating that a font substitution attempt failed will still be issued.

FNTCAPTURE

Specifies whether the printer device should capture host downloaded fonts. Host character sets and code pages may be marked as eligible for capturing using the CRTFNTRSC or CHGFNTRSC commands. The OS/2 Type Transformer(5648-113) product will also create font resources marked as eligible for capture.


***NO:** Specifies that the printer device should not capture the host fonts.

***YES:** Specifies that the printer device should capture the host fonts.

FNTRSL

Specifies the resolution PSF/400 should use to print the spooled file when printing to a multiple resolution printer device and the printer device is configured to report support of multiple resolutions and the spooled file does not specify the font metrics and resolution with which to print the spooled file or the font is not available at that resolution. If the printer device is configured to

report support of either 240 pels per inch or 300 pels per inch only, then PSF/400 will produce the same results as if going to a single resolution printer device.

For more information regarding the algorithm used for searching a library list for a font resource, see the Printer Device Programming  book section entitled User and Device Resource Library Lists in the chapter called Working With PSF Configuration Objects.

***SEARCH:** Specifies to search the library list for the first occurrence of a host font with a name match. The resolution of that font will be used to print the spooled file. Message PQT3546 will be issued when this value is selected to indicate to the user the resolution of the font that was finally selected.

240: Specifies that the font resolution used to print the spooled file should be 240 pels per inch.


300: Specifies that the font resolution used to print the spooled file should be 300 pels per inch.

FNTTBL

Specifies the name of a printer resident to printer resident font table. This printer resident font table is used by PSF/400 when printing to a printer device that supports printer resident fonts and the print job specifies a printer resident font which is not supported by the printer device.

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 device, 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 device, 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 device, 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 device, then the system will use its internal font substitution tables to perform the font substitution.

Refer to Appendix D in the Printer Device Programming  book for more information on supported printer resident fonts. See the CRTFNTTBL, DSPFNTTBL, ADDFNTTBLE, CHGFNTTBLE, and RMVFNTTBLE commands for more information on user font tables.

***NONE:** No printer resident to printer resident font table is specified. For a print job that references a printer resident font, if the font is not supported by the printer device, then the system will substitute an another resident font.

The name of the printer resident to printer resident font table can be qualified by one of the following library values:

The font table must exist in a library in the job's library list when the CRTPSFCFG command is run. The library name where the font table is found is stored in the PSF configuration object.

library-name: Specify the name of the library where the font table is located.

font-table-name: Specify the name of the printer resident to printer resident font table.

CSEMODE

Specifies to what degree PSF/400 will do size checking of the document when using Cut Sheet Emulation.

***NONE:** Specifies that no checking will be done to verify that the document page will fit on half the continuous forms physical page.

***CHKFIRST:** Specifies that the first page of each copy group will be checked to determine if the page will fit on half the continuous forms physical page.

***CHKALL:** Specifies that each front side page will be checked to determine if the page will fit on half the continuous forms physical page.

MAPIGCFNT

Specifies whether to use outline DBCS simulation fonts. Outline DBCS simulation fonts are outline coded fonts which simulate older raster DBCS fonts. The writer processes all coded font names beginning with X0 by changing the first two characters of the name to XZ and searching for a coded font of this name. If no match is found for the XZnnnnnn coded font the writer performs a second search using the original X0nnnnnn name.

***NO:** No mapping of coded fonts will be done.

***YES:** ➤ All coded font references will be mapped to outline coded font equivalents. ⬅ Coded font names of the form X0nnnnnn will be mapped to XZnnnnnn. If the XZnnnnnn coded font is found it will be used, else the original X0nnnnnn coded font will be used.

PDFGEN

Specifies whether the user would like the spooled file converted to PDF via the IPDS to PDF transform and if so what to do with the associated PDF output. This parameter is valid only for printer devices configured AFP(*YES).

***NONE:** Specifies that no PDF generation of the spooled file should be performed.

***SPLF:** Specifies that the PDF output should be placed on the output queue identified in parameter PDFOUTQ.

***STMF:** Specifies that the PDF output should be placed into a stream file in the directory specified in the PDFDIR parameter.

***MAIL:** Specifies that the PDF output should be electronically mailed.

PDFDEVTYPE

Specifies the type of device that the IPDS to PDF transform virtual printer device should emulate.

***IP40240:** Specifies that the virtual printer device should emulate an IP40 printer device configured at 240 pels per inch resolution.

***IP40300:** Specifies that the virtual printer device should emulate an IP40 printer device configured at 300 pels per inch resolution.

***4028:** Specifies that the virtual printer device should emulate a 4028 printer device.

***3812:** Specifies that the virtual printer device should emulate a 3812 printer device.

PDFPPRDWR1

Specifies the paper size to use for drawer 1 during the IPDS to PDF transform process.

***LETTER:** Specifies to use the dimensions of letter paper.

- ***LEGAL**: Specifies to use the dimensions of legal paper.
- ***STATEMENT**: Specifies to use the dimensions of statement paper.
- ***EXECUTIVE**: Specifies to use the dimensions of executive paper.
- ***LEDGER**: Specifies to use the dimensions of ledger paper.
- ***A5**: Specifies to use the dimensions of A5 paper.
- ***A4**: Specifies to use the dimensions of A4 paper.
- ***A3**: Specifies to use the dimensions of A3 paper.
- ***B5**: Specifies to use the dimensions of B5 paper.
- ***B4**: Specifies to use the dimensions of B4 paper.

PDFPPRDWR2

Specifies the paper size to use for drawer 2 during the IPDS to PDF transform process.

- ***LETTER**: Specifies to use the dimensions of letter paper.
- ***LEGAL**: Specifies to use the dimensions of legal paper.
- ***STATEMENT**: Specifies to use the dimensions of statement paper.
- ***EXECUTIVE**: Specifies to use the dimensions of executive paper.
- ***LEDGER**: Specifies to use the dimensions of ledger paper.
- ***A5**: Specifies to use the dimensions of A5 paper.
- ***A4**: Specifies to use the dimensions of A4 paper.
- ***A3**: Specifies to use the dimensions of A3 paper.
- ***B5**: Specifies to use the dimensions of B5 paper.
- ***B4**: Specifies to use the dimensions of B4 paper.

» PDFMULT

Specifies the action the IPDS to PDF transform should take when encountering multiple groups within the input data.

Single Values

***NO**: Specifies that the groups should be ignored and a single output file should be created.

Element 1: Separate PDF files

***YES**: Specifies that the IPDS to PDF transform should process the multiple groups.

Element 2: Separation option

The possible values are:

***SPLIT**: Multiple PDF output files should be generated at the group boundaries.

***INDEX**: An index tag should be placed at the group boundaries in the single output file.

PDFINCFNT

Specifies whether the PDF output generated by the IPDS to PDF transform should carry the necessary fonts inline.

***YES**: Specifies that the fonts should be carried inline with the PDF output.

***NO**: Specifies that the fonts should not be carried inline with the PDF output. The user will need access to the fonts for printing or displaying the file. <<

PDFDTAQ

Specifies the name and library of the data queue where PSF will log the IPDS to PDF transformation completion notifications.

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 this command is issued, the error will not be detected.

***NONE:** Specifies that no data queue should be used to log completions.

library-name: Specify the name of the library where the data queue is located.

data-queue-name: Specify the name of the data queue.

➤ PDFMAILSVR

Specifies what mail server to use for emailing the resulting PDF files from the IPDS to PDF transform.

***SNDDST:** Specifies that the SNDDST (Send Distribution) command should be used for emailing PDF output.

***LOCAL:** Specifies the local machine as a mail server. The SMTP protocol is used for sending the email. *LOCAL may be specified in any position in a list of mail servers.

mail-server-name: Specifies the mail server at the provided domain name or Internet address be used for mailing PDF output. The SMTP protocol is used for sending the email.

You may specify up to 4 mail servers. The writer uses the mail servers in the order in which they are listed. If the writer detects that the first mail server cannot be used, the writer will attempt to use any additional servers you have specified. If another server can be used, the writer will reorder the list of servers so that the current working server is the first one in the list. The re-organized list is used while a writer is active. The PSF configuration object is not modified. If all specified servers cannot be used, the action taken by the writer is determined by the value specified for PRTERMSG in the printer device description. If PRTERMSG(*INFO) is specified, the writer is ended. If PRTERMSG(*INQ) is specified, then an inquiry message is issued. Replies to the inquiry message are Retry and Cancel. ⏪

PDFSENDER

Specifies the owner/sender from whom the PDF output file is electronically mailed. The sender must be a valid user profile on the the system and be enrolled in the System Distribution Directory.

➤ If you have specified PDFMAILSVR(mail-server-name), the entry in the System Distribution Directory must have both an SMTP user ID and SMTP domain specified. ⏪ This parameter is only valid when the PDFGEN parameter has a value of *MAIL.

***SPLFOWN:** Specifies that the owner of the original spooled file should be the sender of the electronically mailed PDF file.

QSPLJOB: Specifies that owner of the electronically mailed PDF file will be QSPLJOB.

mail-file-sender: Specifies the name of a valid user profile to be used as the sender of the electronically mailed PDF file.

PDFMAPPGM

Specifies the qualified name of a user-defined mail mapping program. The mail mapping program

will resolve the mail tag found in the data stream and return one or more mail addresses to use for electronic mailing of the PDF output. It is possible that the mail tag is an actual/real electronic mail address that will simply be returned from the mapping program. This parameter is only valid when PDFGEN has a value of *MAIL. The user mapping program must exist and the user must have the appropriate authority at the time the command is issued.

***NONE:** Specifies that no user program was specified. When this occurs, PSF/400 will assume that the mail tag is a valid mail address and will attempt to use it for electronic mailing purposes.

library-name: Specify the name of the library where the user mapping program is located.

user-program-name: Specify the name of the user mapping program.

PDFOUTQ

Specifies the qualified name of an output queue that should be used when spooling PDF output. This parameter is only valid when the PDFGEN parameter has a value of *SPLF.

Note:

Because it is not required that an output queue exist at the time the command is issued, the error will not be flagged. Existence and authority errors will be detected at run-time.

library-name: Specify the name of the library where the output queue is located.

output-queue-name: Specify the name of the output queue.

PDFDIR

Specifies the directory where the PDF file should be stored. If the user plans to use the PDF file with the Send Distribution (SNDDST) command, the PDF file needs to be stored in the /QDLS file system. The parameter is valid only when the PDFGEN parameter has a value of *STMF.

PDF-directory-name: Specifies the path where the PDF file should be stored. The field must begin with a /. The directory name(s) in the path cannot contain any of the following characters: \ < > “ ? : * |.

REPLACE

Specifies whether an existing PSF configuration object with the same name as the one being created is replaced.

***YES:** The existing PSF configuration object is replaced.

***NO:** If a PSF configuration object with same name exists in the library specified, the create operation fails. The existing PSF configuration object is not replaced.

AUT

Specifies the authority you are giving to users who do not have specific authority to the object, who are not on an authorization list, and whose group profile has no specific authority to the object.

***LIBCRTAUT:** The system determines the authority for the object by using the value specified on the Create authority prompt (CRTAUT parameter) on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified on the Create authority prompt (CRTAUT parameter) is changed, the new value will not affect any existing objects.

***CHANGE:** Change authority allows the user to change and perform basic functions on the object. Change authority provides object operational authority and all data authorities.

***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 change ownership of the object.

***USE:** Use authority provides object operational authority, read authority, and execute authority.

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

authorization-list-name: Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

TEXT Specifies the text that briefly describes the object.

***BLANK:** No text is specified.

'text-description': Specify no more than 50 characters of text, enclosed in apostrophes.

Example for CRTPSFCFG >>

```
CRTPSFCFG PSFCFG(QGPL/P5001)
  PDFGEN(*MAIL) PDFDEVTYPE(*4028) PDFPPRDWR1(*LETTER)
  PDFPPRDWR2(*LEGAL) PDFMULT(*YES *INDEX)
  PDFDTAQ(*NONE) PDFINCFNT(*YES)
  PDFMAILSVR(*SNDDST) PDFSENDER(QSPLJOB)
  PDFMAPPGM(*NONE)
```

This command creates a Print Services Facility configuration object named P5001 in library QGPL. The PSF configuration (via the PDFGEN parameter) is requesting that the IPDS to PDF transform be performed and that the output be emailed using the SNDDST command. The transform is told to emulate a 4028 printer with paper sizes in drawers 1 and 2 to be letter and legal respectively.

The requested output will have PDF index tags at the group boundaries, the necessary fonts will be placed inline with the output file, the sender is PSF. Since there is no mapping program the mail tag information associated with the file is assumed to be valid email addresses.

There will be no completion message logged to a data queue because this parameter has a value of *NONE. <<

Error messages for CRTPFSCFG

*ESCAPE Messages

CPF2283

Authorization list &1 does not exist.

CPF88C1

Printer resource type &1 &2 was not created in library &3.

CPF9810

Library &1 not found.

CPF9820

Not authorized to use library &1.

CPF9845

Error occurred while opening file &1.

CRTPRTF (Create Printer File) Command Description

CRTPRTF Command syntax diagram

Purpose

The Create Printer File (CRTPRTF) command creates a printer device file. The printer file contains the file description, which identifies the device used and specifies the spooling requirements, but does not contain data. The printer file is used to send records to the printer.

The printer file description is made up of information specified in two places: (1) in the source file that contains the data description specifications (DDS), if used; and (2) in the CRTPRTF command. The DDS contains the specifications for each record format in the printer file and for the fields in each record format.

Required Parameter

FILE Specifies the qualified name of the file being created. If the file is used by a high-level language (HLL) program, the file name must be consistent with the naming rules of that language; otherwise, the file must be renamed in the program.

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


***CURLIB:** The printer file is created in the current library for the job. 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 printer file is created.

printer-device-file-name: Specify the name of the printer file to be created.

Optional Parameters

SRCFILE

Specifies the qualified name of the source file, if one exists, that contains the data description specifications (DDS) for the records in the printer file. More information on the specifications that can be made in DDS is in the Printer Device Programming  book and the DDS Reference topic in the Information Center.

***NONE:** There is no DDS source file for this printer file; the printer file has only one record format with no fields, and the program that uses this printer file must describe the record formats and their fields.

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.

source-file-name: Specify the name of the source file that contains the DDS for this printer file.

SRCMBR

Specifies the name of the member in the source file that contains the DDS for this printer file.

***FILE:** The source file member name is the same as the device file name specified in the FILE parameter.

source-file-member-name: Specify the name of the member in the source file specified on the SRCFILE parameter that is used to create the printer file.

OPTION

Specifies the type of output produced when the printer file is created. 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 underlined value is used.

Note:

The underlined values for this parameter are *similar* to, but not *actually* default values, and therefore, cannot be changed with the CHGCMDDEF (Change Command Default) command.

Source Listing Options

***SRC** or ***SOURCE:** A printout is created showing the source statements used to create the printer file and any 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 parameter or record format that caused the error.

Program Listing Options

***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:** An expanded source printout is not created.

Second-Level Message Text Options

***NOSECLVL:** The messages section of the printout does not contain the second-level message text for the errors found during processing of DDS source statements.

***SECLVL:** Second-level message text is printed.

Event File Creation Options

***NOEVENTF:** The compiler does not produce an event file for the CoOperative Development Environment/400 (CODE/400) product.

***EVENTF:** The compiler produces an event file that can be used by the CODE/400 product. The event file is created as a member in the file EVFEVENT in your object library. The CODE/400 product uses this file to offer error feedback integrated with the CODE/400 editor. This value is normally specified by the CODE/400 product on your behalf.

GENLVL

Specifies the severity level at which the create operation fails. If errors occur that have a severity level greater than or equal to this value, the operation ends.

Note:

This parameter applies only to messages issued while processing the DDS source. Messages issued anywhere else in the file creation process are not affected by this parameter.

20: If errors occur in the DDS source with a severity level greater than or equal to 20, the file is not created.

severity-level: Specify a severity level ranging from 0 through 30. The file is not created if the severity level specified for this parameter equals 0 or is less than the severity level that occurs in the data description specifications (DDS) source. This value must be greater than or equal to value specified on the FLAG parameter.

FLAG Specifies the minimum severity level of messages to be listed in the DDS source listing.

0: The spooled file is owned by the original user profile of the job. If the job has switched to a new user profile, the original user profile is still the owner of the spooled file.

severity-level: Specify the minimum severity level of messages to be listed. Valid values range from 0 through 30. The severity level specified must be less than or equal to the severity level specified on the GENLVL parameter.

DEV Specifies the name of a printer device description. For nonspooled output, this identifies the printer device used to produce the printed output. For spooled output, the file is placed on the output queue determined by the OUTQ parameter. If OUTQ(*DEV) is used, the file is placed on the output queue with the same name as the device.

***JOB:** The printer device specified in the job description is used.

***SYSVAL:** The value specified in the system value QPRTDEV is used.


device-name: Specify the name of the printer associated with this display station. The printer and the display station must be attached to the same controller. When printing double-byte character set (DBCS) data, specify a DBCS printer (5553 or 5583).

DEVTYPE

Specifies the type of data stream created for a printer file.

***SCS:** An SNA character stream (SCS) is created. This parameter must be specified when using the 3287, 3812 SCS, 3816 SCS, 4214, 4234 SCS, 4245, 5219, 5224, 5225, 5256, 5262, 6252, or 6262 work station printers.

- If *SCS is specified and the spooled printer file is directed to an IPDS* printer, the SCS printer file is converted to emulate an IPDS printer file. More information is in the Printer Device

Programming  book.

Double-Byte Character Set Consideration:

When using the 5553 and 5583 DBCS-capable printers, DEVTYPE(*SCS) must be specified.

***IPDS:** An intelligent printer data stream* (IPDS*) is created. This parameter can be specified when using an IPDS printer.

- If *IPDS is specified and the spooled printer file is directed to a printer other than an IPDS printer, the IPDS printer file is converted to an SCS printer file. More information is in the Printer

Device Programming  book.

***USERASCII:** An ASCII data stream is placed on a spooled output queue. The user is responsible for placing the entire hexadecimal data stream in the buffer, since the iSeries 400 does not change or validate the values that are passed. This value cannot be specified with SPOOL(*NO).

***AFPDS:** An advanced function print data stream (AFPDS) is created. Some systems refer to this data stream as MODCA-P. *AFPDS spooled files require PSF/400 to print on an IPDS attached printer or Host Print Transform to print on an ASCII attached printer.

***AFPDSLINE:** Mixed data (line data and AFPDS data) is created. This value can be specified when using the 3812 IPDS, 3816 IPDS, 3820, 3825, 3827, 3828, 3829, 3831, 3835, 3900, 3912, 3916, 3930, 3925, 4028, 4224, 4230, 4234, 4312, 4317, 4324, 6406, 6408, or 6412 IPDS printers. Also for the InfoPrint 20, InfoPrint 32, InfoPrint 40, InfoPrint 60, InfoPrint 3000, and InfoPrint 4000 printers. *AFPDSLINE spooled files require PSF/400 to print on an IPDS attached printer. The printer must be configured with AFP(*YES).

***LINE:** Line data is created. This value can be specified when using the 3812 IPDS, 3816 IPDS, 3820, 3825, 3827, 3828, 3829, 3831, 3835, 3900, 3912, 3916, 3930, 3925, 4028, 4224, 4230, 4234, 4312, 4317, 4324, 6406, 6408, or 6412 IPDS printers. Also for the InfoPrint 20, InfoPrint 32, InfoPrint 40, InfoPrint 60, InfoPrint 3000, and InfoPrint 4000 printers. *LINE spooled files require PSF/400 to print on an IPDS attached printer. The printer must be configured with AFP(*YES).

PAGESIZE

Specifies the length and width of the printer forms used by this printer file. The length is specified in lines per page or by the units specified for the UOM parameter. The width is specified in print positions (characters) per line or by the units specified for the UOM parameter.

The page size must be specified with reference to the way the data is printed on the page. For example, if using 8.5 inch wide by 11.0 inch long forms and printing at 6 lines per inch with a 10-pitch font, specify PAGESIZE(66 85) PAGRTT(0). However, to rotate the page, specify the page size for an 11.0 inch wide by 8.5 inch long page and enter PAGESIZE(51 110) PAGRTT(90).

Note:


Specify PAGRTT(*AUTO) or PAGRTT(*DEVD) and PRTQLTY(*DRAFT) on this command to enable automatic reduction or rotation if the data does not fit on the paper.

Specify PAGRTT(*COR) on this command to enable automatic reduction whether or not the data fits on the paper.

Element 1: Page Length Value

66: The page length is 66 print lines per page.

page-length: Specify the page length that is used by this printer file. Although a value ranging from 1 through 255 can be specified as the page length, the value specified must not exceed the actual length of the forms used.

More information about the page lengths that are valid for each printer type is in Printer Device Programming  book.

Element 2: Page Width Value

132: The page width is 132 printed characters per line.

page-width: Specify the page width used by this printer file. The value specified must not exceed the actual width of the forms used.

More information about page width is in Printer Device Programming  book.

Element 3: Method of Measure


***ROWCOL:** Page length and page width are measured as numbers of rows and columns.

***UOM:** Page length and page width are measured in the units specified on the UOM parameter.

LPI Specifies the line spacing setting on the printer, in lines per inch, used by this printer file.

The line spacing on the 5256 printer must be set manually. When the lines per inch (LPI) value on this parameter changes (from the value on the previous printer file), an inquiry message is sent to the message queue associated with the printer that requests a change to the LPI value.

The line spacing on the 4214, 4224, 4230, 4234, 4245, and 5262 Printers is set by a print command. These also allow setting the lines per inch spacing on the control panel of the printer. The lines per inch value must not be set at the printer. If the LPI value is overridden at the control panel, the system overrides the value set with the LPI value of the next printer file received.

More information about the lines per page and lines per inch that are valid for each printer type is in Printer Device Programming  book.

6: The line spacing on the printer is 6 lines per inch.

3: The line spacing on the printer is 3 lines per inch. This value is valid only for double-byte character set (DBCS) data.

4: The format of this tape is FMT3480. The data density on this tape volume is formatted to support a 3480 device. This density is used for 1/2 inch cartridge tapes.

7.5: The line spacing on the printer is 7.5 lines per inch. This value is valid only for double-byte character set (DBCS) printers.

8: The data density on the tape volume is 38,000 bits per inch, which is used for 1/2 inch reel tapes.

9: The line spacing on the printer is 9 lines per inch.

12: The line spacing on the printer is 12 lines per inch.

CPI Specifies the printer character density, in characters per inch (CPI), used by this printer file.

For the printers that support fonts, the value specified in the font special value implies the CPI. If FONT(*CPI) is specified, the font used is based on the CPI value. The following diagram describes the default font ID for each CPI value:

CPI FONT ID DEFAULT

5 245

10 011

12 087


13.3 204

15 222

16.7 400

18 252

20 281

More information about the characters per page and characters per inch that are valid for each printer type is in Printer Device Programming  book.

10: Character density is 10 characters per inch.

5: The format of this tape is QIC525, which is used for 1/4 inch cartridge tapes that can hold 525 megabytes of data.

12: Character density is 12 characters per inch.

13.3: Character density is 13.3 characters per inch. This value is valid only for double-byte character set (DBCS) printers.

15: Character density is 15 characters per inch.

16.7: Character density is 16.7 characters per inch.

18: Character density is 18 characters per inch. This value is valid only on double-byte character set (DBCS) printers.

20: The format of this tape is QIC120, which is used for 1/4 inch cartridge tapes that can hold 120 megabytes of data.

FRONTMGN

Specifies the offset, down and across, of the origin from the edge on the front side of the paper. The offsets are in the units of measure specified on the UOM parameter. If UOM(*CM) is specified, valid values range from 0 through 57.79, and if UOM(*INCH) is specified, valid values range from 0 through 22.57. This parameter can only be used for printer files with DEVTYPE(*AFPDS) specified.

***DEVDP:** The no-print border from the printer is used to place the text on the page when printing to a printer configured as AFP(*YES). A margin of 0 is used for IPDS* printers without a no-print border, or which are configured as AFP(*NO).

Element 1: Offset Down

offset-down: Specify the offset of the origin from the top of the page.

Element 2: Offset Across

offset-across: Specify the offset of the origin from the left side of the page.

BACKMGN

Specifies the offset, down and across, of the origin from the edge on the back side of the paper. The offsets are in the units of measure specified on the UOM parameter. If UOM(*CM) is specified, valid values range from 0 through 57.79, and if UOM(*INCH) is specified, valid values range from 0 through 22.57. This parameter can only be used for printer files with DEVTYPE(*AFPDS) specified.

***FRONTMGN:** The offsets specified on the FRONTMGN parameter are used.

***DEVDP:** The no-print border from the printer is used to place the text on the page when printing to a printer configured as AFP(*YES). A margin of 0 is used for IPDS* printers without a no-print border, or which are configured as AFP(*NO).

Element 1: Offset Down

offset-down: Specify the offset of the origin from the top of the page.

Element 2: Offset Across

offset-across: Specify the offset of the origin from the left side of the page.

OVRFLW

Specifies the line number on the current page at which overflow to a new page begins. Generally, after the specified line is printed, the printer overflows to the next page before printing continues. Margins specified for the printer file are ignored when determining overflow. More information is in

the Printer Device Programming  book.

60: The data density on the tape volume is 1,600 bits per inch, which is used for 1/2 inch reel tapes.

overflow-line-number: Specify the line number on the current page at which overflow to a new page begins, whether or not printing has occurred on that line. The value specified must not be greater than the page length (PAGESIZE). Margins specified for the printer file are ignored when determining overflow.

FOLD Specifies whether all positions in a record are printed when the record length exceeds the page width (specified by the PAGESIZE parameter). When folding is specified and a record exceeds the page width, any portion of the record that cannot be printed on the first line continues (is folded) on the next line or lines until the entire record has been printed.

The FOLD parameter is ignored under the following conditions:

- When DEVTYPE(*SCS) is not specified.
- When printing through OfficeVision*.
- When in the S/36 execution environment.

Double-Byte Character Set Considerations:

The system ignores this parameter when printing double-byte character set (DBCS) files. The system assumes that DBCS records fit on a printed line. If the record exceeds the page width, the system continues printing the record on the next line.

***NO**: Records are not folded; if a record is longer than the page width, only the part of the record that fits on one line is printed.

***YES**: Records whose length exceeds the page width are folded on the following lines.

RPLUNPRT

Specifies (1) whether unprintable characters are replaced and (2) which substitution character (if any) is used. An *unprintable* character is a character the printer is unable to print.

Double-Byte Character Set Considerations:

For double-byte character set (DBCS) data, an unprintable character is one that cannot be processed. When using DBCS-capable printers, consider the following:

- If IGCEXNCHR(*YES) is also specified, the system replaces unprintable extension characters with DBCS underline characters. There may be some cases in which the system is unable to replace an unprintable character with a DBCS underline character. In this case, the undefined character is printed.
- If IGCEXNCHR(*NO) is also specified, the device replaces all extension characters with the undefined character. Choosing a blank as the replacement character for alphanumeric characters might improve system performance.

More information is in the Printer Device Programming  book.

Element 1: Replace Character?

***YES:** Unprintable characters are replaced. The program is not notified when unprintable characters are detected. Note the DBCS considerations above.

***NO:** Unprintable characters are not replaced. When an unprintable character is detected, a message is sent to the program.

Element 2: Replacement Character

' ': Specify, if *YES is also specified on this parameter, that a blank is used as the substitution character when an unprintable character is detected.

'*replacement-character*': Specify, if *YES is also specified on this parameter, the replacement character that is used each time an unprintable character is detected. Any printable EBCDIC character can be specified. Valid values range from 40 through 99 and A1 through FE.

ALIGN

Specifies whether the page must be aligned in the printer before printing is started. If ALIGN(*YES) and SPOOL(*NO) are specified, and forms alignment is required, the system sends a message to the message queue specified in the printer device description and waits for a reply to the message. When spool (*YES) is specified on the CRTPRTF command and ALIGN(*FILE) is specified on the STRPRTWTR command, then this parameter is used to determine whether an alignment message is sent by the system.

This parameter is ignored when cut sheets are used (spooled and direct output). Page alignment can be done only for text-only files. Page alignment cannot be done for print jobs containing graphics or bar codes.

***NO:** No page alignment is required.

***YES:** The page is aligned before the output is printed.

CTLCHAR

Specifies whether the printer file supports input with print control characters. Any invalid control characters that are found are ignored, and single spacing is assumed.

***NONE:** No print control characters are passed in the data being printed.

***FCFC:** The first character of every record contains an American National Standards Institute (ANSI) forms control character. If *FCFC is specified, the record length must include one extra position for the first-character forms-control code. This value is not valid for externally described printer files.

***MACHINE:** The first character of every record contains a machine code control character. If *MACHINE is specified, the record length must include one extra position for the first character forms control code. This value is not valid for externally described printer files.

If TBLREFCHR(*YES) is also specified, then the record length must include two extra positions for the control character and the table reference character.

CHLVAL

Specifies a list of channel numbers with their assigned line numbers. Use this parameter only if CTLCHAR(*FCFC) has been specified.

Note:

If one or more channel-number/line-number combinations are changed, all other combinations must be re-entered.

***NORMAL:** The default values for skipping to channel identifiers are used. The default values are found in the following table.

Figure 1. ANSI First-Character Forms-Control Codes

Code	Action before Printing a Line
' '	Space one line (blank code)
0	Space two lines
-	Space three lines
+	Suppress space
1	Skip to line 1
2-11	Space one line
12	Skip to overflow line (OVRFLW parameter)

Element 1: Channel Number

channel-value: Specify an American National Standard channel number to be associated with a corresponding 'skip to' line number. Valid values for this parameter range from 1 through 12, corresponding to channels 1 through 12. The CHLVAL parameter associates the channel number with a page line number. For example, if you specify CHLVAL(2 20), channel identifier 2 is allocated with line number 20; therefore, if you place the forms-control 2 in the first position of a record, the printer skips to line 20 before printing the line.

Note:

If the printer stops and the next record processed has a channel value forms-control number that is the same value as the line number the printer is on, the printer advances to that value (line number) on the next page. However, if the printer is positioned at the top of the page (line number one) and the channel value forms-control value is associated with line number one, the printer does not advance to a new a new page.

If no line number is specified for a channel identifier, and that channel identifier is encountered in the data, a default of 'space one line' before printing is used. Each channel number can be specified only once.

Element 2: Line Number

line-number: Specify the line number assigned for the channel number in the same list. Valid line numbers range from 1 through 255. If no line number is assigned to a channel number, and that channel number is encountered in the data, a default of 'space one line' before printing is used. Each line number can be specified only once.

FIDELITY

Specifies whether printing continues when print errors are found for printers configured with AFP(*YES).

***CONTENT**: Printing continues when errors are found.

***ABSOLUTE**: Printing stops when errors are found.

PRTQLTY

Specifies, for the 3812 SCS, 3816 SCS, 4214, 4224, 4230, 4234, and 5219 printers, the quality of print produced.

For the 5219 Printer, different print qualities are produced by varying the speed at which the print ribbon advances. Quality mode (*STD or *NLQ) results in normal print ribbon advancement. In draft mode (*DRAFT), the ribbon advances at a rate of one-third the distance it advances in quality mode. The 5219 Printer has a conserve ribbon switch that overrides the value of *DRAFT specified by this parameter.

For the 3812 SCS and 3816 SCS Printers, the automatic hardware selection of computer output reduction printing selected through soft switches on the printers occurs only when *DRAFT is specified for PRTQLTY and PAGRTT is *DEVD. If PAGRTT(*COR) is specified, the PRTQLTY parameter does not affect the printed output.

For the 4224, 4230, and 4234 Printers, standard print quality is produced by varying the density of the dot matrix pattern used to create printable characters. Standard mode (*STD) is the normal mode. Quality mode (*NLQ) requires multiple passes by the printer to produce a line of data. Draft mode (*DRAFT) results in high-speed printing.

For the 4214 printer, only draft (*DRAFT), quality (*NLQ), and device default (*DEVD) modes are supported. Other values are set to quality (*NLQ) mode.

More information about the valid values for the 4214, 4224, 4230, 4234, and 5219 Printers is in

Printer Device Programming  book.

Notes:

1. For the 4214 Printer, quality mode (*STD or *NLQ) is only supported for 10 and 12 characters per inch. If PRTQLTY(*STD or *NLQ) and 5, 15, or 16.7 characters per inch is specified, the data is printed in draft mode.
2. For the 4234 Printer, only a limited character set (62 characters) is supported when PRTQLTY(*DRAFT) is specified. A description of the character set supported with draft print quality is in the *4234 Printer Operator's Guide*.
3. For the 4224 and 4230 printers, the fonts supported are not available for all three print qualities. The OCR-A and OCR-B fonts are supported only with PRTQLTY(*NLQ). The Courier and Essay fonts are available only with PRTQLTY(*NLQ) and PRTQLTY(*STD). The Gothic font is available only with PRTQLTY(*DRAFT) or PRTQLTY(*FASTDRAFT). If there is a mismatch between the print quality and the font selected, the font is changed to match the print quality.
4. Specify PAGRTT(*DEVD) and PRTQLTY(*DRAFT) on this command to enable automatic rotation if the data does not fit on the paper.

***STD:** The output is printed with standard quality.

***DEVD:** The print quality is set on the printer by the user, if it is not set within the data stream.

***DRAFT:** The output is printed with draft quality.

***NLQ:** The output is printed with near letter quality.

***FASTDRAFT:** The output is printed at a higher speed and with lower quality than it would be if you specified *DRAFT. This value is only supported by the 4230 printer.

FORMFEED

Specifies the form feed attachment used by this printer device file.

***DEVD:** The forms are fed into the printer in the manner specified in the device description.

***CONT:** Continuous forms are used by the printer. The tractor feed attachment must be on the device.

***CONT2:** Continuous forms are used by the printer. The form is fed from the secondary tractor feed attachment. The secondary tractor feed attachment must be on the printer device.

***CUT:** Single-cut sheets are used by the printer. Each sheet must be manually loaded. For cut sheets, the forms alignment message is not sent.

***AUTOCUT:** The sheet-feed attachment must be on the printer. Single-cut sheets are automatically fed into the printer. The forms alignment message is not sent for cut sheets.

DRAWER

Specifies the source drawer used when single-cut sheets are fed into the printer (specified by FORMFEED(*AUTOCUT)).

1: The paper is fed from the first drawer on the sheet-feed paper handler.

***E1:** The envelopes are fed from the envelope drawer on the sheet-feed paper handler.

***FORMDF:** The paper is fed from the source drawer specified in the form definition. If a form definition is not specified, then source drawer 1 is used.

source-drawer: Specify the drawer from which the paper is fed. Valid values range from 1 through 255.


OUTBIN

Specifies the destination of the output on printers capable of multiple output bins.

***DEV D:** The destination of the output is the device default output bin.

output-bin: Specify the output bin for the destination of the output. Valid values range from 1 through 65535.

FONT Specifies the font identifier and point size used with this printer device file. If a font identifier or point size is not specified, the system automatically sets them.

More information about the valid font identifiers, the display value, the characters per inch value implied with each font style, a description of each font style, and whether the font is supported on a particular printer is in Printer Device Programming  book.

Note:

Some fonts can be substituted by the printer. Consult the various printer reference guides for details.

***CPI:** The identifier of the font with the specified pitch (characters per inch (CPI)) is used.

***DEV D:** The font identifier and point size specified in the device description are used.

Element 1: Font Identifier

identifier: Specify the numeric font identifier associated with this printer. If one is not specified, the system automatically sets one.


Element 2: Point Size

***NONE:** The point size is supplied by the system and is determined by the specified font identifier.

point-size: Specify a point size ranging from 0.1 through 999.9. If one is not specified, the system automatically sets one.

CHRID

Specifies the character identifier (graphic character set and code page) for the file. This parameter allows printing of text that is in different character identifier (graphic character set and code page) coding. The value specified on this parameter is used to instruct the printer device to interpret the hexadecimal byte string to print the same characters that were intended when the text was

created. More information about the character identifier is in the Printer Device Programming  book. A list of valid CHRID values and applicable printers is in the “CHRID Values and Applicable

Printers (CHRID parameter)” table in Printer Device Programming  book.

***DEV**: The default CHRID value that the device is designed to handle is used. The *DEV value means character selection is normal because the file has the same character identifier as the device default.

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

***JOBCCSID**: The character identifier for the printer file is taken from the coded character set identifier (CCSID) of the job.

***CHRIDCTL**: The system checks the CHRIDCTL job definition attribute to determine whether to use *JOBCCSID or *DEV on the CHRID command parameter for this file.

Element 1: Character Set

graphic-character-set: Specify the graphic character set values that match the attributes of the printer. Valid values range from 1 through 32767.

Element 2: Code Page

code-page: Specify the code page value that matches the attributes of the printer. Valid values range from 1 through 32767.

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.

***JOB**: Use the decimal format value from the DECfmt job attribute when the file is opened.

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

FNTCHRSET

Specifies a downloaded font consisting of a character set and code page. For an outline font, a point size is required. For a raster font, the point size is ignored. This parameter can only be used for printer files with DEVTYPE(*AFPDS) specified.

***FONT**: The value specified on the FONT parameter is used. The value specified on the FONT parameter is used.

Element 1: Font Character Set

The name of the font character set 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.

character-set: Specify the font character set to use.

Element 2: Code Page Name

The name of the code page 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.

code-page: Specify the code page name to use.

Element 3: Point Size

***NONE:** The point size is supplied by the system and is determined by the specified font identifier.

point-size: Specify a point size ranging from 0.1 through 999.9.

CDEFNT

Specifies the coded font that the system uses for single-byte character set (SBCS) printing. For coded fonts that reference an outline font, a point size may also be specified. This parameter can only be used for printer files with DEVTYPE(*AFPDS) specified.

***FNTCHRSET:** The font specified on the FNTCHRSET parameter is used.

The name of the coded font 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.

coded-font-name: Specify the coded font name to use.

Element 2: Point Size

***NONE:** The point size is supplied by the system and is determined by the specified font identifier.

point-size: Specify a point size ranging from 0.1 through 999.9.

PAGDFN

Specifies the qualified name of the page definition to be used to format line data.

You can specify a page definition with *LINE or *AFPDSLIN data. PSF/400 will convert the line data and page definition to IPDS.

When you specify a page definition on the printer file, some printer file parameters may be ignored when the spooled file is printed by PSF/400. The following print file parameters will be ignored

- CDEFNT
- CHRID
- CPI
- FNTCHRSET
- FOLD
- FONT
- LPI

- MULTIP
- PAGESIZE
- PAGRTT
- REDUCE

Because PSF/400 requires a page definition when *LINE or *AFPSDLINE is specified, an inline page definition is built from the print file parameters and passed to PSF/400 when *NONE is specified.

***NONE:** No page definition is specified.

The name of the page definition 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.

page-definition-name: Specify the name of the page definition that must exist in the library specified. Valid values range from 1 to 8 characters.

Device type *AFPSDLINE or *LINE must be specified when using a page definition.

FORMDF

Specifies the form definition to use when printing the file. A form definition is a resource object that defines the characteristics of the form, including overlays, position of page data on the form, and number of copies of pages and modifications to pages. The form definition is located inline with the file being printed, or in a library.

When you specify a form definition (*DEVD or form definition name) on the printer file, some printer file parameters may be ignored when the spooled file is printed by PSF/400. The following print file parameters will be ignored:

- DUPLEX (If *FORMDF specified)
- DRAWER (If *FORMDF specified)
- PAGRTT
- PRTQLTY
- FORMFEED
- FRONTMGN
- BACKMGN
- MULTIUP
- REDUCE

Because PSF/400 requires a form definition, an inline form definition is built from the print file parameters and passed to PSF/400 when *NONE is specified.

***NONE:** No form definition is used.

***DEVD:** The name of the form definition is specified in the printer device description.

The name of the form definition 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.

form-definition-name: Specify the name of the form definition that must exist in the library specified. Valid values range from 1 to 8 characters.

AFPCHARS

Specifies one or more AFP characters (coded fonts) to be used with line data and a page definition.

***NONE:** No AFP character (coded fonts) specified.

user-defined-data: Specify up to four 4-byte names of coded fonts to be specified with line data and a page definition. The 4-byte names would be concatenated to X0 to identify up to four coded fonts which are to be used when TBLREFCHR is being used within the data.

TBLREFCHR

Specifies whether table reference characters are present in the line data.

***NO:** No table reference character is present in line data.

***YES:** Table reference characters are present in line data.

If forms control characters are used with the data, the table reference character follows the forms control character but precedes the data bytes. If forms control characters are not used, the table reference character is the first byte of the data record. As with forms control character, if table reference characters are used, every data record must contain a TRC byte.

PAGRRT

Specifies the degree of text rotation for the 3112, 3116, 3130, 3812, 3816, 4028, 3820, 3825, 3827, 3829, 3831, 3835, 3900, 3916, 3930 and 3935 printers. This parameter allows the user to specify the degree of rotation of the text on the page with respect to the way the form is loaded into the printer. See the note under the PAGESIZE parameter for directions on specifying page size when rotating the page.

Specify *AUTO or *DEV D for this parameter and PRTQLTY(*DRAFT) on this command to enable automatic rotation if the data does not fit on the paper.

***AUTO:** Indicates that automatic rotation of output is done to fit the printed data on the form. If rotation does not accomplish this, computer output reduction is performed automatically (regardless of the print quality being used). This parameter is valid only for printers supporting rotation.

***DEV D:** The operating system sends a device default rotation value to the printer. Page rotation is dependent on your printer's specifications. See your printer or printer emulation documentation to determine how page rotation is affected.

***COR:** Computer output reduction is done. Computer output reduction allows printed output intended for a 13.2 inch wide by 11.0 inch long form to be printed on an 11 inch wide by 8.5 inch long form.

For computer output reduction printing, the following operations are done for the 3112, 3116, 3130, 3812, 3816, 4028, 3820, 3825, 3827, 3829, 3831, 3835, 3900, 3916, 3930 and 3935 printers:

- Automatic rotation to *COR is not done if the file contains graphics, bar codes, variable LPI, variable font, variable page rotations, or variable drawer.
- The text is rotated 90 degrees clockwise from the 0 degree rotation position (lower left corner of the first edge loaded into the printer).

Note:

For landscape paper on a 3835 printer, the rotation is counter-clockwise from the 0 degree rotation position (upper right corner of the first edge loaded into the printer).

- A top and left margin of 0.5 inches is added to the printed output.
- The 12-pitch fonts are changed to a 15-pitch font and 15-pitch fonts are changed to a 20-pitch font. All other font widths are changed to a 13.3-pitch font, except for the 4028 printer where they are changed to a 15-pitch font.
- Vertical spacing (specified by the LPI parameter) is 70 percent of the normal spacing.
- The page size is set to 8.5 inches wide by 11 inches long.

0: The format of this tape is QIC3040, which is used for 1/4 inch minicartridge tapes that can hold up to 840 megabytes of data.

90: Rotation of the text is done 90 degrees clockwise from the 0 degree writing position.

180: Rotation of the text is done 180 degrees clockwise from the 0 degree writing position.

270: Rotation of the text is done 270 degrees clockwise from the 0 degree writing position.

MULTIUP

Specifies, for spooled output only, the number of pages printed on a single physical page.

Note:

Overlays are not reduced when more than one page is printed on a side.

For examples and more details see the Printer Device Programming  book.

1: One page of output is printed on one physical sheet of paper.

2: Two pages of output are printed on 1 physical sheet of paper.

3: Three pages of output are printed on 1 physical sheet of paper.

4: Four pages of output are printed on 1 physical sheet of paper.

REDUCE

Specifies whether or not to reduce the output when doing multiple up printing.

For examples and more details see the Printer Device Programming  book.

***TEXT:** The text output is reduced when doing multiple up printing.

***NONE:** The output is not reduced when doing multiple up printing.

PRTTXT

Specifies up to 30 characters of text to be printed at the bottom of each page of output. More information on this parameter is in Commonly used parameters.

***JOB:** The value for the current job is used.

***BLANK:** Text is not specified.

'print-text': Specify the character string printed at the bottom of each page. No more than 30 characters of text can be entered, enclosed in apostrophes.

JUSTIFY

Specifies the printing positions of the characters on a page so the right-hand margin of printing is regular. Justification is done to the record length on the printer file opened.

Note:

The JUSTIFY parameter is supported only on the 3812 SCS, 3816 SCS, and 5219 Printers.

0: The format of this tape is FMT3480. The data density on this tape volume is formatted to support a 3480 device. This density is used for 1/2 inch cartridge tapes.

50: Spaces are added to the blanks in the text so that the right margin is more closely aligned but not flush.

100: The text is expanded by spaces (added where the blanks already exist) until the right margin is flush.

DUPLEX

Specifies whether output is printed on one side or two sides of the paper.

***NO:** The output is printed on one side of the paper.

***YES:** The output is printed on both sides of the paper with the top of each printed page at the same end of the paper.

***TUMBLE:** The output is printed on both sides of the paper with the top of one printed page at the opposite end of the sheet from the top of the other printed page. This is usually used for output that is bound at the top.

***FORMDF:** The output is printed on both sides of the paper if the duplex value is specified in the form definition. If a form definition is not specified, then the output is printed on one side of the paper.

UOM Specifies the unit of measure that is used.

***INCH:** An inch is used as the unit of measure.

***CM:** A centimeter is used as the unit of measure.

FRONTOVL

Specifies the qualified name of the object that contains both the overlay that is printed on the FRONT side of the page and the offset, down and across, from the point of origin used when the overlay is printed.

***NONE:** No overlay is used.

Element 1: Overlay Name

The name of the overlay 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.

overlay-name: Specify the name of the overlay.

Element 2: Offset Down

0: No offset down from the point of origin is used.

offset-down: Specify the offset down from the point of origin at which to begin printing the overlay. If UOM(*CM) is specified, valid values range from 0 through 57.79, and if UOM(*INCH) is specified, valid values range from 0 through 22.57.

Element 3: Offset Across

0: No offset across from the point of origin is used.

offset-across: Specify the offset across from the point of origin at which to begin printing the overlay. If UOM(*CM) is specified, valid values range from 0 through 57.79, and if UOM(*INCH) is specified, valid values range from 0 through 22.57.

BACKOVL

Specifies the object name and library name containing both the overlay that is printed on the BACK side of the page and the offset, down and across, from the point of origin used when the overlay is printed.

*FRONTOVL: The values that are specified on the FRONTOVL parameter are used.

*NONE: No overlay is used.

Element 1: Overlay Name

The name of the overlay 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.

overlay-name: Specify the name of the overlay.

Element 2: Offset Down

0: No offset down from the point of origin is used.

offset-down: Specify the offset down from the point of origin at which to begin printing the overlay. If UOM(*CM) is specified, valid values range from 0 through 57.79, and if UOM(*INCH) is specified, valid values range from 0 through 22.57.

Element 3: Offset Across

0: No offset across from the point of origin is used.

offset-across: Specify the offset across from the point of origin at which to begin printing the overlay. If UOM(*CM) is specified, valid values range from 0 through 57.79, and if UOM(*INCH) is specified, valid values range from 0 through 22.57.

Element 4: Constant Back

The constant back function allows you to print overlays on blank pages without adding blank pages to the print application. Specifying the constant back function would cause, for each page generated by the application program, a blank page to be generated onto which the specified back overlay could be printed. The generated blank pages are called constant forms because no variable data from the user's program is printed on the pages. The constant back function is only supported for duplex printing. It is ignored when DUPLEX(*NO) is specified on the printer file.

Note that the offset down and offset across values are ignored when *CONSTANT is specified for constant back. An offset of 0.0 is assumed for these values.

***NOCONSTANT**: No constant back is specified.

***CONSTANT**: Constant back is specified.

CVTLINDTA

Specifies whether line data is converted to Advanced Function Presentation Data Stream (AFPDS) before the data is written to the spooled file. When DEVTYPE(*LINE) or DEVTYPE(*AFPDSLIN) is specified, and a page definition is specified (PAGDFN Parameter), this parameter allows the line data to be converted to AFPDS before the data is written to spooled file. For device types of *SCS,*USERASCII, *IPDS, and *AFPDS, this parameter is ignored. For device types of *LINE and *AFPDSLIN, if a page definition is not specified, then this parameter is ignored.

To print AFPDS spooled files on an OS/400 requires Host Print Transform when printing to ASCII attached printers and PSF/400 (optional feature of OS/400) for IPDS attached printers.

***NO**: Line data is not converted to AFPDS.

***YES**: Specifies that line data is converted to AFPDS before the data is written to the spooled file.

IPDSPASTHR

Specifies whether IPDS (Intelligent Printer Data Stream) pass-through is done for the spooled file.

***DEV**: The value specified for IPDSPASTHR in the PSF configuration object specified for a printer device description is used. If no PSF configuration object is specified for the device, a value of *NO is used.

***NO**: No IPDS pass-through is done.

***YES**: Specifies that IPDS pass-through is to be done if the spooled file is eligible for IPDS pass-through.

Note:

Not all SCS or IPDS spooled files are eligible for IPDS pass-through. They may contain special functions that require transform to AFPDS for correct printing. Specifying IPDS pass-through on the printer file allows only those spooled files eligible for IPDS pass-through to bypass the extra transforms. Those spooled files not eligible for IPDS pass-through will still undergo the transforms to AFPDS and back to IPDS.

IPDS pass-through will not be valid for all PSF/400 supported printers. Any printer (or attachment) that does not support resident fonts can not support IPDS pass-through. This is because the resident font references in the data stream must be mapped to host fonts which are downloaded to the printer. All IBM IPDS printers, except for the following, can be supported with IPDS pass-through: 3820, 3825, 3827, 3828, 3829, 3831, 3835, 3900-001 and any printer attached using Print Services Facility for OS/2's Distributed Print Function.

For V3R7, V4R1 and V4R2, IPDSPASTHR can be specified with the USRDFNDDTA parameter in a printer file. You may continue using this support with existing printer files and PSF configuration objects by specifying IPDSPASTHR(*DEVDD) in the printer file. If you specify a value of anything other than *DEVDD for the IPDSPASTHR parameter, any IPDS pass-through value in the USRDFNDDTA parameter is ignored.

USRRSCLIBL

Specifies the list of user resource libraries to be used for searching for AFP resources for a spooled file. If the AFP resource is not found in the user resource libraries, then the library list specified in the DEVRSCLIBL parameter of the PSF configuration object is searched. If no PSF configuration object is specified for the device, then libraries QFNTCPL, QFNT01-QFNT19, and QFNT61-69 are searched.

***DEVDD:** The value specified for USRRSCLIBL in the PSF configuration object specified for a printer device description is used. If no PSF configuration object is specified for the device, a value of *JOBLIBL is used.

***NONE:** No user libraries are specified.

***JOBLIBL:** Specifies that the library list of the job that created the spool file is used in searching for AFP resources. This library list is saved with the spool file when it is created.

***CURLIB:** Specifies that the current library of the job that created the spool file is used for searching for AFP resources. If no library is specified as the current library for the job, then library QGPL is used.

user-resource-library-name: Specify the name of a library that will be used to search for AFP resources. Up to four library names may be specified.

For V3R7, V4R1 and V4R2, USRRSCLIBL can be specified with the USRDFNDDTA parameter in a printer file. PSF/400 uses that value if USRRSCLIBL(*PRTF) is specified in a PSF configuration object which is specified in the printer device description. You may continue using this support with existing printer files and PSF configuration objects by specifying USRRSCLIBL(*DEVDD) in the printer file. If you specify a value of anything other than *DEVDD for the USRRSCLIBL parameter, any user resource library value in the USRDFNDDTA parameter is ignored.

CORNERSTPL

Specifies the reference corner to be used for a corner staple. A staple is driven into the media at the reference corner. Refer to your printer's documentation for information as to which reference corners are supported.

Page rotation does not affect the placement of a corner staple.

***NONE:** A corner staple is not specified.

***DEVD:** The reference corner is the default reference corner used by the device.

***BOTRIGHT:** The reference corner is the bottom right corner of the media.


***TOPRIGHT:** The reference corner is the top right corner of the media.

***TOPLEFT:** The reference corner is the top left corner of the media.

***BOTLEFT:** The reference corner is the bottom left corner of the media.

EDGESTITCH

Specifies the placement of staples along the finishing margin in either inches or centimeters (specified in the unit of measure (UOM) field). The finishing margin can be thought of as an imaginary line parallel to the edge of the paper where the staples will be placed.

See the Printer Device Programming  book for more information.

Page rotation does not affect the placement of an edge stitch.

Single Value

***NONE:** An edge stitch is not specified.

Element 1: Reference Edge

Specifies the reference edge to be used for an edge stitch. An edge stitch is formed by having one or more staples driven into the media along the finishing operation axis.

***DEVD:** The reference edge is the default reference edge used by the device.

***BOTTOM:** The reference edge is the bottom edge of the media.

***RIGHT:** The reference edge is the right edge of the media.

***TOP:** The reference edge is the top edge of the media.

***LEFT:** The reference edge is the left edge of the media.

Element 2: Reference Edge Offset

Specifies the offset of the edge stitch from the reference edge toward the center of the media.

***DEVD:** The reference edge offset is the default reference edge offset used by the device.

reference-edge-offset: Specify the offset of the edge stitch from the reference edge. If UOM(*CM) is specified, valid values range from 0 through 57.79, and if UOM(*INCH) is specified, valid values range from 0 through 22.57. This value is converted to millimeters for the printer. Fractional millimeters are not supported and are discarded when conversion to millimeters is performed.

Element 3: Number of Staples

Specifies the number of staples that are to be applied along the finishing operation axis.

***DEVD:** The number of staples depends on the value of the Staple Offsets element of this parameter. If *DEVD is also specified or defaulted for the Staple Offsets element value, then the number of staples is the default number of staples used by the device. If one or more offsets are specified for Staple Offsets, the number of staples is the same as the number of staple offsets specified.

number-of-staples: Specify the number of staples to be used for the edge stitch. Valid values range from 1 to 122 staples. If one or more offsets are specified for Staple Offsets, the number of staples is the same as the number of staple offsets specified.

Element 4: Staple Offsets

Specifies the offset of the staples along the finishing operation axis. The offset is measured from the point where the finishing operation axis intersects either the bottom edge or the left edge of the media, toward the center of the media. Each consecutive value is used to position a single finishing operation centered on the specified point on the finishing operation axis.

***DEV D:** The staple offsets are the default staple positions used by the device. If a value was specified for the Number of Staples element, the staple position of each staple will be calculated automatically by the printer.

staple-offset: Specify the staple offset for each staple in the edge stitch. Up to 122 staple offsets may be specified. If one or more offsets are specified, and a value was specified for Number of Staples, the number of staple offsets will take precedence. If UOM(*CM) is specified, valid values range from 0 through 57.79, and if UOM(*INCH) is specified, valid values range from 0 through 22.57. This value is converted to millimeters for the printer. Fractional millimeters are not supported and are discarded when when conversion to millimeters is performed.

SADLSTITCH

Specifies where one or more staples are driven into the media along the finishing operation axis, which is positioned at the center of the media parallel to the reference edge.

Page rotation does not affect the placement of a saddle stitch.

Single Value

***NONE:** A saddle stitch is not specified.

Element 1: Reference Edge

Specifies the reference edge to be used for a saddle stitch. A saddle stitch is formed by having one or more staples driven into the media along the finishing operation axis, which is positioned at the center of the media parallel to the reference edge.

***DEV D:** The reference edge is the default reference edge used by the device.

***TOP:** The reference edge is the top edge of the media.

***LEFT:** The reference edge is the left edge of the media.

Element 2: Number of Staples

Specifies the number of staples that are to be applied along the finishing operation axis.

***DEV D:** The number of staples depends on the value of the Staple Offsets element of this parameter. If *DEV D is also specified or defaulted for the Staple Offsets element value, then the number of staples is the default number of staples used by the device. If one or more offsets are specified for Staple Offsets, the number of staples is the same as the number of staple offsets specified.

number-of-staples: Specify the number of staples to be used for the saddle stitch. Valid values range from 1 to 122 staples. If one or more offsets are specified for Staple Offsets, the number of staples is the same as the number of staple offsets specified.

Element 3: Staple Offsets

Specifies the offset of the staples along the finishing operation axis. The offset is measured from the point where the finishing operation axis intersects either the bottom edge or the left edge of the media, toward the center of the media. Each consecutive value is used to position a single finishing operation centered on the specified point on the finishing operation axis.

***DEV D:** The staple offsets are the default staple positions used by the device. If a value was specified for the Number of Staples element, the staple position of each staple will be calculated automatically by the printer.


staple-offset: Specify the staple offset for each staple in the saddle stitch. Up to 122 staple offsets may be specified. If one or more offsets are specified, and a value was specified for Number of

Staples, the number of staple offsets will take precedence. If UOM(*CM) is specified, valid values range from 0 through 57.79, and if UOM(*INCH) is specified, valid values range from 0 through 22.57. This value is converted to millimeters for the printer. Fractional millimeters are not supported and are discarded when conversion to millimeters is performed.

FNTRSL

Specifies the resolution PSF/400 uses when printing to a multiple resolution printer configured to report multiple resolutions, but the spooled file does not specify the font metrics and resolution or the font is not available at the resolution that is contained in the spooled file.

For more information regarding the algorithm used for searching a library list for a font resource,

see the Printer Device Programming  book section entitled User and Device Resource Library Lists in the chapter called Working With PSF configuration objects.

***DEV:** The value specified in the FNTRSL parameter of the PSF configuration object for the device is used. If no PSF configuration object is specified for the device, a value of *SEARCH is used.

***SEARCH:** Specifies to search the library list for the first occurrence of a host font with a name match. The resolution of that font is used to print the spool file. Message PQT3546 is sent to specify the resolution of the font that was selected.

240: The font resolution is 240 pels per inch.

300: The font resolution is 300 pels per inch.

DFRWRT

Specifies how much output is held in the system buffer before being sent to the printer.

***YES:** The system controls the amount of output that is held in the buffer before being sent to the printer.

If SPOOL(*YES) is specified along with SCHEDULE(*IMMED), output is held in the buffer until a page of output is available or until the system buffer is full.

***NO:** If SPOOL(*NO) is specified, output is not held in the buffer. Output is sent to the printer immediately after the program performs a write operation.

If the spooled output schedule is not immediate, specifying DFRWRT(*NO) has no effect.

SPOOL

Specifies whether the output data for the printer file is spooled. If SPOOL(*NO) is specified, the following parameters in this command which only apply to spooled files are ignored: OUTQ, COPIES, PAGERANGE, MAXRCDS, FILESEP, SCHEDULE, HOLD, SAVE, OUTPTY, USRDTA, SPLFNAME, SPLFOWN, USRDFNOPT, USRDFNDDTA, and USRDFNOBJ. In addition, several other parameters in this command are not supported for SPOOL(*NO) because they either require PSF/400 or are only supported for certain device types which cannot be specified with SPOOL(*NO). These parameters are: FRONTMGN, BACKMGN, FIDELITY, FNTCHRSET, CDEFNT, PAGDFN, FORMDF, AFPCHARS, TBLREFCHR, REDUCE, FRONTOVL, BACKOVL, IPDSPASTHR, USRRSCLIBL, CORNERSTPL, EDGESTITCH, SADLSTITCH, FNTRSL, and CVTLINDTA.

***YES:** The data is spooled for processing by a diskette writer or a print writer.

***NO:** The data is not spooled; it is sent directly to the device and printed as the output becomes available.

OUTQ Specifies, for spooled output only, the qualified name of the output queue.

***JOB:** The output queue associated with the job is used.

***DEV:** The output queue associated with the printer specified on the DEV parameter is used. The output queue has the same name as the printer.

The name of the output queue 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.

output-queue-name: Specify the name of the output queue to which the output data is spooled.

FORMTYPE

Specifies the type of form on which the output is printed. The identifiers used to indicate the type of forms are user-defined and can be a maximum of 10 characters in length.

***STD:** The standard form type is used.

form-type: Specify the identifier of the form type used with this device file for printed output from jobs. Up to 10 alphanumeric characters can be specified. When the device file is opened, the system sends a message identifying the form type to the system operator, and requests that the identified forms be in the printer.

COPIES

Specifies, for spooled files, the number of copies being printed.

1: One copy of the output is printed.

number-of-copies: Specify a value, ranging from 1 through 255, that indicates the number of identical printouts produced when this printer file is used.

PAGERANGE

Specifies the page range to print for each copy of the file to be printed.

Element 1: Starting Page to Print

1: Page 1 is the page on which to start printing.

***ENDPAGE:** Only the ending page is printed.

starting-page: Specify the page on which to start printing.

Element 2: Ending Page to Print

***END:** The last page in the file is printed.

ending-page: Only the ending page is printed.

MAXRCDS

Specifies, for spooled output only, the maximum number of records that can be in the spooled file for jobs using this printer file. If this maximum is reached, an inquiry message is sent to the program message queue.

100000: Up to 100,000 records can be in the spooled file for each job that uses this printer file.

***NOMAX:** The system maximum is used.

maximum-records: Specify a value, ranging from 1 through 999999, that specifies the maximum number of records allowed in the spooled file.

FILESEP

Specifies, for spooled output only, the number of separator pages placed at the start of each

printed file, including those between multiple copies of the same output. Each separator page has the following items printed on it: file name, file number, job name, user name, and the job number.

0: The format of this tape is FMT3490E. The data density on this tape volume is formatted to support a 3490E device. This density is used for 1/2 inch cartridge tapes.

number-of-file-separators: Specify the number of separator pages used at the start of each printed output file produced by this device file. Valid values range from 0 through 9. If 0 is specified, no separator pages are printed for the file. In this case, the printed output for each file (or copy of a file) starts at the top of a new page.

SCHEDULE

Specifies, for spooled output only, when the spooled file is available to a writer.

***FILEEND:** The spooled file is made available to the writer as soon as the file is closed in the program.

***JOBEND:** The spooled file is made available to the writer only after the entire job is completed.

***IMMED:** The spooled file is made available to the writer as soon as the file is opened in the program.

HOLD Specifies, for spooled output only, whether the spooled file is held. The spooled file can be released by using the Release Spooled File (RLSSPLF) command.

***NO:** The spooled printer file is not held by the output queue. The spooled output is available to a writer based on the SCHEDULE parameter value.

***YES:** The spooled file is held until released by the Release Spool File (RLSSPLF) command.

SAVE Specifies, for spooled output only, whether the spooled file is saved (left on the output queue) after the output has been produced.

***NO:** The spooled file data is not saved on the output queue after it has been produced.

***YES:** The spooled file data is saved on the output queue until the file is deleted. After the file is produced, the number of copies (see COPIES parameter) is set to 1, and its status is changed from WTR to SAV. Refer to the Release Spooled File (RLSSPLF) command for information on how to produce the spooled file again.

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. More information on this parameter is in Commonly used parameters.

***JOB:** The output priority associated with the job that created the spooled file is used.

output-priority: Specify the output priority. Valid values range from 1 (high priority) through 9 (low priority).

USRDTA

Specifies, for spooled output only, the user-specified data that identifies the file.


***SOURCE:** If the spooled file was created by an application program, the name of the program is used. Otherwise, blanks are used.

user-data: Specify up to 10 characters of text.

SPLFOWN

Specifies, for spooled output only, who the owner of the spooled file is.

***CURUSRPRF:** The spooled file is owned by the current effective user of the current job or thread.


See the Printer Device Programming  book for information on how the SPLFOWN parameter is affected when using any of the following APIs:

- QWTSETP - Set Profile

- `qsysuid()` - Set User ID
- `qsysuserid()` - Set Effective User ID
- `qsysreuid()` - Set Real and Effective User ID

***JOB:** The spooled file is owned by the original user profile of the job. If the job has switched to a new user profile, the original user profile is still the owner of the spooled file.

***CURGRPPRF:** The spooled file is owned by the current effective group profile of the current job or thread. If there is no current effective group profile, ownership of the spooled file is determined

in the same manner as ***CURUSRPRF**. See the Printer Device Programming  book for information on how the SPLFOWN parameter is affected when using any of the following APIs:

- `QWTSETP` - Set Profile
- `qsysgid()` - Set Group ID
- `qsysetid()` - Set Effective Group ID
- `qsysregid()` - Set Real and Effective Group ID

***JOBGRPPRF:** The spooled file is owned by the group profile of the original user profile of the job. If the job has switched to a new user profile, the group profile of the original user profile is still the owner of the spooled file. If no group profile exists, ownership of the spooled file is determined the same way as ***JOB**.

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.

***NONE:** No user-defined options specified.

user-defined-option: Specify a user-defined option to be used by user applications or user-specified programs that process spooled files. All characters are acceptable.

USRDFNDTA

Specifies, for spooled output only, the user-defined data to be used by user applications or user-specified programs that process spooled files.

***NONE:** No user-defined data specified.

user-defined-data: Specify the user-defined data to be used by user applications or user-specified programs that process spooled files. All characters are acceptable.

USRDFNOBJ

Specifies, for spooled output only, the qualified name and type of the user-defined object to be used by user applications or user-specified programs that process spooled files.

***NONE:** No user-defined object specified.

Element 1: Name of User-Defined Object

The name of the user-defined object 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.

object-name: Specify the user-defined object to be used by user applications or user-specified programs that process spooled files.

Element 2: Type of User-Defined Object

object-type: The user object type can be one of the following:

***DTAARA**

Data Area

***DTAQ**

Data Queue

***FILE** File

***PSFCFG**

PSF Configuration Object

***USRIDX**

User Index

***USRQ**

User Queue

***USRSPC**

User Space

IGCDTA

Specifies, for program-described original files, whether the file processes double-byte character set (DBCS) data. For externally described printer files, this parameter specifies DBCS attributes of the file.

***NO**: The file does not process DBCS data.

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

IGCEXNCHR

Specifies whether the system processes double-byte character set (DBCS) extension 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.

***YES**: The system processes DBCS extension characters.

***NO**: The system does not process DBCS extension characters; it prints extension characters as the undefined character.

IGCCHRTT

Specifies, for the 5553 and 5583 Printers only, whether the printer rotates double-byte characters 90 degrees counterclockwise when printing. The system prints rotated double-byte characters so they appear in a vertical reading sequence. Alphanumeric characters are not rotated.

***NO**: The system does not rotate double-byte characters when printing.

***YES**: The system rotates double-byte characters 90 degrees counterclockwise when printing. The printer rotates each character individually.

IGCCPI

Specifies the printer character density of double-byte character set (DBCS) characters, in characters per inch (CPI).

Note:

This parameter does not specify the printer character density of alphanumeric characters. Alphanumeric characters are printed with the value specified on the CPI parameter.

***CPI:** DBCS character density is based on the values specified for the CPI parameter. The system prints one double-byte character for every two alphanumeric characters.

- For CPI(10), DBCS characters print at 5 characters per inch.
- For CPI(12), DBCS characters print at 6 characters per inch.
- For CPI(13.3), DBCS characters print at 6.7 characters per inch (same as IGCCPI(*CONDENSED)).
- For CPI(15), DBCS characters print at 7.5 characters per inch.
- For CPI(18), DBCS characters print at 9 characters per inch.
- For CPI(20), DBCS characters print at 10 characters per inch.

***CONDENSED:** Condensed printing is used in which the system prints 20 DBCS characters every 3 inches. This value is valid only for the 5553 or 5583 Printers.

5: The format of this tape is QIC525, which is used for 1/4 inch cartridge tapes that can hold 525 megabytes of data.

6: DBCS character density is 6 characters per inch. This value is valid for the 5553 and 5583 Printers only.

10: DBCS character density is 10 characters per inch. This value is valid for the 5553 or 5583 Printers only.

IGCSOSI

Specifies, for bracketed DBCS character strings only, how the system prints shift control characters.

***YES:** The system prints shift control characters as blanks.

***NO:** The system does not print shift control characters. These characters do not occupy a position in printed output.

***RIGHT:** The system prints two blanks when printing shift-in characters but does not print shift-out characters.

IGCCDEFNT

Specifies the coded font that the system uses for DBCS printing. For a coded font that references an outline font, a point size may also be specified.

***SYSVAL:** The DBCS-coded font specified in the system value QIGCCDEFNT is used.

The name of the coded font 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.

coded-font-name: Specify the DBCS-coded font name to use.

Element 2: Point Size

***NONE**: The point size is supplied by the system and is determined by the specified font identifier.

point-size: Specify a point size ranging from 0.1 through 999.9.

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 those resources are not allocated within the specified wait time, an error message is sent to the program. More information on this parameter is in Commonly used parameters.

Note:

An immediate allocation of the device by the device resource is required when an acquire operation is performed to the file.

***IMMED**: The program does not wait; when the file is opened, an immediate allocation of the file resources is required.

***CLS**: The job default wait time is used as the wait time for the file resources being allocated.

number-of-seconds: Specify the number of seconds that the program waits for the file resources to be allocated to the printer file when the file is opened, or the wait time for the device allocated when an acquire operation is performed to the file. Valid values range from 1 through 32767 seconds.

SHARE

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

***NO**: The ODP created by the program with this attribute is not shared with other programs in the routing step. Every time a program opens the file with this attribute, a new ODP to the file is created and activated.

***YES**: The ODP created with this attribute is shared with each program in the routing step that also specifies SHARE(*YES) when it opens the file, provided the scope specified on the OPNSCOPE keyword for the subsequent open of the file is compatible with the scope of the original open.

Note:

When SHARE(*YES) is specified and control is passed to a program, a read operation in that program retrieves the next input record. A write operation produces the next output record.

LVLCHK

Specifies whether the record format level identifiers in the program are checked against those in the device file when the file is opened. 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.

***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 that requested the open, and the file is not opened.

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

AUT Specifies the authority given to users who do not have specific authority to the printer file, who are not on an authorization list, and whose user group has no specific authority to the printer file.

***LIBCRTAUT:** The public authority for the printer file is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the printer file). The public authority is determined when the printer file is created. If the CRTAUT value for the library changes after the printer file is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the printer file except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the printer file. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the printer file.

***USE:** The user can perform basic operations on the printer file, such as running a program or reading a file. The user cannot change the printer file. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the printer file.

authorization-list-name: Specify the name of the authorization list used.

REPLACE

Specifies whether an existing file is replaced by the new printer file. More information on this parameter is in Commonly used parameters.

***YES:** The existing printer file is replaced by the one being created.

***NO:** The existing file, if any, is not replaced by the printer file.

TEXT Specifies the text that briefly describes the printer file. More information on this parameter is in Commonly used parameters.

***SRCMBRTXT:** The text is taken from the source file member used to create the printer file. If the source file is a database file, the text is taken from the source member. If the source file is an inline file or a device file, the text is blank.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

Examples for CRTPRTF

Example 1: Creating a Printer File

```
CRTPRTF FILE(DSPHIST) SRCFILE(PRSNNL/JOBHIST)
FILESEP(3)
```

This command creates a printer file named DSPHIST using the DDS source file named JOBHIST that is stored in the PRSNNL library. The defaults for the other parameters are assumed, except for FILESEP.

The printer uses standard forms that are 66 lines long and 132 print positions wide. An SCS data stream is used. It prints 6 lines per inch and overflows to a new page after line 60 is printed. The print image specified in the device description is used. Output is spooled to the output queue specified for the job and cannot be printed until the file is closed. The spooled file is not held or saved after printing. One copy of the output is printed, preceded by three separator pages, each containing the file name, the spooled number, and the job name and number. The print text specified in the current job is used.

Example 2: Creating a Printer File Containing DBCS Data

```
CRTPRTF FILE(IGCLIB/IGCPRT) IGCSTA(*YES)
FORMFEED(*AUTOCUT) IGCCHRRTT(*YES)
```

This command creates a printer file, IGCPRT (stored in library IGCLIB) that contains DBCS data. Cut sheets are automatically fed, and double-byte characters are rotated when printing.

Error messages for CRTPRTF

*ESCAPE Messages

CPF7302

File &1 not created in library &2.



CRTPRDDFN (Create Product Definition) Command Description

Note: To use this command, you must have the 5722-SM1 (System Manager for iSeries) licensed program installed.

CRTPRDDFN Command syntax diagram

Purpose

The Create Product Definition (CRTPRDDFN) command creates a product definition object. This object contains all the common information for the product.

Required Parameters

PRDDFN

Specifies the qualified name of the product definition object being created.

The name of the product definition can be qualified by one of the following library values:

***CURLIB:** The product definition is created in the current library for the job. 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 product definition is created.

product-definition-name: Specify the name of the product definition object.

PRDID

Specifies the 7-character ID of the product for which a product definition is being created. The product identifier must be in the format nlxxxxx, where n is any character 0 through 9, l is any uppercase character A through Z, and x is any character 0 through 9 or A through Z.

***SER:** The serial number of the system, together with the product identifier suffix (PRDIDSFX) parameter, is used as the product ID. This does not guarantee a unique product ID.

product-ID: Specify the 7-character ID of the product for which a product definition is being created.

RLS Specifies the version, release, and modification level of the product being created.

release-level: Specify the release level in the format VxRyMz, where x and y are 0 through 9, and Z is 0 through 9 and A through Z.

RGSID

Specifies the registration ID used to determine which products can share libraries.

Element 1: Registration Type

***PHONE:** The 14-character registration value consists of a country or region code, city code or area code, and telephone number.

***CUSTOMER:** The registration value is a country or region code with an IBM customer number appended to the end.

Element 2: Registration Value

registration-value: Specify the 14-character value to be used as the registration ID.

MSGF Specifies the name of the message file to contain the messages which describe the product and its options. The message ID for the base option is the message ID for the product. The message IDs are listed in the PRDOPT parameter. This message file must be in the base option of the product.

Note:

If the base product has language features, the message file must be an object in the language load's object list rather than the code load. This allows for a message file to be created for each language and for the message files to be installed in the correct libraries.

PRDOPT

Specifies the options allowed for this product.

A product requires the first option defined to be the **base option**. The option for the base option is ***BASE**. Specify additional options by selecting Options 1 through 99. Additional options do not have to be specified in sequential order. Specify up to 100 options (the base option and up to 99 additional options). Product options must be listed in the product definition before they can be packaged using the Package Product Option (PKGPRDOPT) command.

Element 1: Product Option

***BASE:** The base option information is created.

product-option-number: Specify the option number of the product option to which the information applies. Valid values range from 1 through 99.

Element 2: Message ID

message-ID: Specify the message ID of the message that describes the product option.

Element 3: Allow Dynamic Naming

***NODYNNAM:** Libraries and root folders are not dynamically named at installation time. The primary library and primary folder names are used except when a secondary language library name is used.

***ALWDYNNAM:** Libraries and root folders can be dynamically named at installation time.

Element 4: Language Load ID

***NONE:** No language loads are used.

***BASEOPT:** The language IDs used for the base option are used for the language load IDs.

***IBMLNG:** The product option is available in all IBM languages.

load-ID: Specify the languages (29xx) in which the option is available.

Element 5: Code Load ID

***CODEDFT:** The default code load ID, 5001, is used.

code-load-ID: Specify the code load ID for the option. Valid values are from 5001 through 9999.

CPYRGTFST

Specifies the first copyright year for the product. The year must be specified as a four-digit number, such as 1990.

***CURRENT:** The current year is retrieved from the system.

***NONE:** No first copyright year is specified. The value is stored as 4 blanks.

first-copyright-year: Specify the four-digit year of the first copyright.

Optional Parameters

CPYRGTCUR

Specifies the current copyright year for the product.

Note:

If neither CPYRGTCUR(*NONE) nor CPYRGTFST(*NONE) is specified, CPYRGTCUR must be greater than or equal to CPYRGTFST. When both copyright years are specified, the CPYRGTCUR must be greater than or equal to the CPYRGTFST.

***CURRENT:** The current year is retrieved from the system.

***NONE:** No current copyright year is specified.

current-copyright-year: Specify the copyright year as a four-digit number, such as 1991.

ALWMLTRLS

Specifies whether more than one release of the product can exist on the system at the same time.

***NO:** Only one release of the product is allowed on a system at a time.

***YES:** The product can be installed more than once if the release levels are distinct.

RLSDATE

Specifies the release date of the product.

***NONE:** No release date is associated with the product.

release-date: Specify the release date in the format determined by the job description.

PRDIDSFY

Specifies the suffix to be used with the product ID when PRDID(*SER) is specified. Valid characters are uppercase letters A through Z and numbers 0 through 9.

TEXT More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

AUT Specifies the authority given to users who do not have specific authority to the product definition, who are not on an authorization list, and whose user group has no specific authority to the product definition.

***LIBCRTAUT:** The public authority for the product definition is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the product definition). The

public authority is determined when the product definition is created. If the CRTAUT value for the library changes after the product definition is created, the new value does not affect any existing objects.

***USE:** You can perform basic operations on the product load, such as running a program or reading a file. You cannot change the product load. *USE authority provides operational authority and read authority to the object, and *EXCLUDE authority to the library.

***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 also can change ownership of the product definition.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can run, debug and change the program. Change authority provides object operational authority and all data authority.

***EXCLUDE:** The user cannot access the product definition.

Example for CRTPRDDFN

```
CRTPRDDFN PRDDFN(TESTLIB/TEST01) PRDID(9XYZ123)
  RLS(V5R2M0) RGSID(*PHONE 1234567) MSGF(TSTMSGF)
  PRDOPT((*BASE MSG0001 *NODYNNAM 2924 *CODEDFT)
  CPYRGTFST(2001) CPYRGTCUR(2002)
  ALWMLTRLS(*NO) RLSDATE(*NONE)
  TEXT('product TEST01') AUT(*LIBCRTAUT)
```

This command creates product definition TEST01 in library TESTLIB. The product ID is 9XYZ123, the release level of the product is V5R2M0, and the registration telephone number is 1234567. The message file TSTMSGF in library TESTLIB will contain the messages to describe the product. The base option is used with a language load ID 2924. The remaining parameters are included to further define the object.

Error messages for CRTPRDDFN

*ESCAPE Messages

CPF9899

Error occurred during processing of command.



CRTPRDLOD (Create Product Load) Command Description

Note: To use this command, you must have the 5722-SM1 (System Manager for iSeries) licensed program installed.

CRTPRDLOD Command syntax diagram

Purpose

The Create Product Load (CRTPRDLOD) command defines a control object for a product option.

Required Parameters

PRDLOD

Specifies the name of the product load. The product load object is created in the development library (DVLLIB).

Note:

The name of the language load object and the code load object must be different to ensure both can reside in the same library. A language load can be installed into the same library as the code load if the language matches the primary language of the system.

***LNG:** The name of the load object is the same as the previously created language load object for this product, version, release, modification level, and option.

product-load-name: Specify the name of the product load object.

The first language load created for a product option at a given release must be named. Specify PRDLOD(*LNG) for all other language loads created to ensure all language loads for the product option have the same name.

PRDID

Specifies the identifier (ID) for the product for which a product load is being created. This value must be 7 characters in length (see PRDID parameter for CRTPRDDFN).

RLS Specifies the version, release, and modification level of the product.

OPTION

Specifies the product option for which a product load is being created.

***BASE:** The product option is the base option of the product.

product-option-number: Specify the option number for the product load being created. Valid values range from 1 through 99.

LODTYPE

Specifies whether the product load object being created describes a language or a code product load.

***CODE:** The objects associated with this product load are not translated.

***LNG:** The objects associated with this product load are the translatable objects for the option.

LODID

Specifies the load identifier for the product load being created.

***CODEDFT:** The default code load ID, 5001, is used.

product-load-ID: Specify a language load ID (29xx) or a valid code load ID. 5001-9999 are valid code load IDs.

RGSID

Specifies the registration ID of the product developer.

***PRDDFN:** The registration ID in the product definition of the load being created is used.

Element 1: Registration Type

***PHONE:** The value used for the 14-character registration value consists of a country or region code, city code or area code, and telephone number.

***CUSTOMER:** The registration value is a country or region code with an IBM customer number appended to the end.

Element 2: Registration Value

registration-value: Specify the 14-character value to be used as the registration ID.

DVLLIB

Specifies the name of the principal development library. This is the library into which the product load is created.

***PRDDFN:** The name of the library in which the product definition exists is used for the development library name.

***CODE:** The name of the development library for the code load is used.

development-library-name: Specify the principal development library name.

Optional Parameters

PRILIB

Specifies the name of the principal primary library for the load being created. This is the default library that will be used when the product is installed.

***DVLLIB:** The development library name is used as the primary library name.

***CODE:** The name of the development library for the code load is used.

primary-library-name: Specify the principal primary library name.

PREOPRPGM

Specifies the programs needed in the principal library to perform special setup before the product load is saved, restored, or deleted.

***NONE:** No exit program for the principal library is called before the product load is saved, restored, or deleted.

preoperation-exit-program: Specify a maximum of 10 programs to be called. Only the first program in the list is called. All other programs in the list can be called by the first program.

PSTOPRPGM

Specifies the programs needed in the principal library to perform special setup after the product load is saved, restored, or checked.

***NONE:** No exit program for the principal library is called after the product load is saved or restored.

postoperation-exit-program: Specify the program that is called after the product load is saved with the Save Licensed Program (SAVLICPGM) command, restored with the Restore Licensed Program (RSTLICPGM) command, or checked with the Check Product Option (CHKPRDOPT) command.

MINTGTRLS

Specifies the minimum release of the operating system to which the Save Licensed Program (SAVLICPGM) command allows the product to be saved.

The code load must specify the earliest target release for a given option. In addition, the code load for the base option must specify the earliest release for a given product. The minimum target release cannot be earlier than V4R5M0.

***CURRENT:** Uses the version, release, and modification level of the installed operating system. For example, if V5R2M0 is running on the system, then specifying MINTGTRLS(*CURRENT) is the same as specifying MINTGTRLS(V5R2M0).

***PRV:** Uses the previous version, release, and modification level of the installed operating system. The previous release of the operating system uses a modification level 0. For example, if V5R2M0 is running on the system, then *PRV means V5R1M0.

***CODE:** Uses the minimum target release of the code load for this option. This value is valid only for a load type of *LNG. The code load for this option must exist on the system for this value to be used.

***BASECODE:** Uses the minimum target release of the code load for the base option. The code load for the base option must exist on the system for this value to be used.

minimum-target-release: Specify the version, release, and modification level of the minimum release of the operating system for which the load will be saved. The format is VxRyMz. Valid values for x, y, and z are 0 through 9.

LNLIB

Specifies the name of the secondary language library for the language load being described.

The load and language objects are installed into this library if the language identifier for this load does not match the system primary language ID and no override library name is specified on the Restore Licensed Program (RSTLICPGM) command.

ADLLIB

Specifies additional libraries for the product load.

***NONE:** The load has no additional libraries specified.

Element 1: Development Library

development-library-name: Specify the name of the additional development library.

Element 2: Primary Library

***DVLLIB:** The development library name is used.

***CODE:** The primary library in the code load corresponding to the immediately preceding development library is used. This value is not valid when LODTYPE (*CODE) is specified.

primary-library-name: Specify the additional primary library name.

Element 3: Preoperation Exit Program

***NONE:** No exit program is called for this additional library before the product load is saved, restored, or deleted.

preoperation-exit-program: Specify a maximum of 10 programs to be called. Only the first program in the list is called. All other programs in the list can be called by the first program.

Element 4: Postoperation Exit Program

***NONE:** No exit program for this additional library is called after the product load is saved, restored, or checked.

postoperation-exit-program: Specify the program that is called after the product load is saved with the Save Licensed Program (SAVLICPGM) command, restored with the Restore Licensed Program (RSTLICPGM) command, or checked with the Check Product Option (CHKPRDOPT) command.

FLRL Specifies the names of the folders assigned to the product load being described. The documents in the development folders are saved when the product load is saved. When creating a code load, the first folder specified must be a root folder. When creating a language load, the first folder specified must be a subfolder of a root folder.

***NONE:** No folders are specified for this product load.

Element 1: Development Folder

development-folder-path: Specify the folder path of a folder which is part of the product load.

Element 2: Primary Folder

***DVLFLR:** The development folder path is used for the primary folder path.

primary-folder-name: Specify the folder path for the primary folder. This is the default name of the folder path when the product option is installed.

DIRL Specifies the names of the directories assigned to the product load being described. You cannot specify a directory list if any folder names are specified (FLRL parameter).

***NONE:** No directories are specified for this product load.

Element 1: Home Directory Name

directory-name: Specify the name of the home directory. You can specify up to 300 home directories.

Element 2: Product Directory Name

directory-name: Specify the product directory to be associated with the home directory. You can specify up to 300 product directories.

The special system directories name /QSYS.LIB and /QDLS are not supported and must not be specified alone or as a containing directory.

A backslash (\) in the directory name is always converted to a forward slash (/). A trailing slash is always ignored. Imbedded blanks and the following characters are not allowed in a directory name:

- Asterisk (*)
- Tilde (~)
- Question mark (?)
- Apostrophe (')
- Quotes (“

If the leading slash (/) is omitted, one will be assumed, and the inclusion of this leading slash must not cause the directory name to exceed the maximum directory name length of 240 characters. The directory name can indicate a directory that is nested in other directories, for example, /A/B/C. The maximum directory name length includes all slashes and all nested directory names.

***HOME:** Use the home directory name for the product directory.

TEXT Specifies the text that briefly describes the product load. More information on this parameter is in Commonly used parameters.

***BLANK:** Text is not specified.

'description': Specify no more than 50 characters of text, enclosed in apostrophes.

AUT Specifies the authority given to users who do not have specific authority to the product load, who are not on an authorization list, and whose user group has no specific authority to the product load.

***LIBCRTAUT:** The public authority for the product load is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the product load). The public authority is determined when the product load is created. If the CRTAUT value for the library changes after the product load is created, the new value does not affect any existing objects.

***USE:** You can perform basic operations on the product load, such as running a program or reading a file. You cannot change the product load. *USE authority provides operational authority and ready authority to the object, and *EXCLUDE authority to the library.

***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 also can change ownership of the product load.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***EXCLUDE:** The user cannot access the product load.

Error messages for CRTPRDLOD

*ESCAPE Messages

CPF0CB1

Registration identifier not valid.

CPF0C81

Product load &6 in library &5 not created.

CPF0C82

Error occurred while creating product load &6 in library &5.

CPF0C84

Load identifier &4 not valid.

CPF0C9C

Secondary language library name required.

CPF0C9D

Minimum target release not valid.

CPF0C55

Registration ID problem with path.

CPF0C59

Directory in use.

CPF0C5B

Duplicate primary product directory.

CPF0C5C

Specified product directory name not allowed.

CPF0C5D

Product directory not allowed.

CPF0C94

Object name *LNG not valid for code load.

CPF0C95

*CODE not valid for library.

CPF0C96

Secondary language library not valid.



CRTPGM (Create Program) Command Description

CRTPGM Command syntax diagram

Purpose

The Create Program (CRTPGM) command creates a bound program from a set of modules and binding directories.

Restrictions:

1. You must have *READ and *ADD authority for the library where the program is being created.
2. You must have *USE authority to the specified modules, service programs, and binding directories.

Required Parameter

PGM Specifies the qualified name of the program object created.

The name of the program object can be qualified by one of the following library values:

***CURLIB:** The program object is created in the current library for the job. 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 program object is created.

program-name: Specify the name of the created program.

Optional Parameters**MODULE**

Specifies the list of modules that are copied and bound together to create the program object. If duplicate module and library specifications are found, only the first instance of the duplicate module and library is used. Modules in this list are copied into the final program object.

***PGM:** The name specified on the PGM parameter is used as the module object name. The library specified on the PGM parameter is also used.

The name of the module list 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.

***USRLIBL:** Only the libraries in the user portion of the job's library list are searched.

library-name: Specify the name of the library to be searched.

***ALL:** Find all module objects in the specified library or libraries.

generic-module-name:* Specify all module objects starting with the characters preceding the * in the specified library or libraries.

module-name: Specify the name of the module that is copied to create the program object.

ENTMOD

Specifies the module name that contains the program entry procedure specification to be used for this program.

***FIRST:** The first module found, from the list of modules, that has a program entry procedure specification is selected as the program entry procedure.

***ONLY:** Only one module, from the list of modules, can have a specification as the program entry procedure. An error is issued if more than one module is found to have a program entry procedure specification.

***PGM:** The name and library specified on the PROGRAM parameter will be the name and library of the module which has the program entry procedure specification.

The name of the specified module 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.

***USRLIBL:** Only the libraries in the user portion of the job's library list are searched.

library-name: Specify the name of the library to be searched.

module-name: Specify the module containing the program entry procedure specification. If this module is not in the list of modules to be included in this program, it is added to the list of modules. If this module does not have a program entry procedure specification, the program is not created.

BNDSRVPGM

Specifies the list of service program exports to examine at bind time to ensure they satisfy any module import requests. The service program exports are checked only if there are unresolved module import requests not satisfied by the set of module exports. Any service program specified on the BNDSRVPGM parameter that satisfies a module import request will be bound to the program being created. The service program name and the library specified on the BNDSRVPGM parameter are saved to be used at run time.

***NONE:** No service program is specified.

The name of the service 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.

library-name: Specify the name of the library to be searched.

Note: QTEMP is not a valid library name for this parameter.

***ALL:** Find all service program objects in the specified library or libraries.

Note: This value should only be specified in a user-controlled environment when you know exactly what is getting bound to your program. Specifying *LIBL with *ALL may give you unpredictable results at program run time. Specify the generic service program name or specific libraries to better control what gets bound to your program.

service-program-name: Specify the name of the service program to be examined during symbol resolution.

generic-program-name*: Specify all service program objects starting with the characters preceding the * in the specified library or libraries.

BNDDIR

Specifies the list of binding directories that are used in symbol resolution. The exports of the modules and service programs in the binding directory are only checked if there are unresolved module import requests that the exports from the modules and service programs (specified in the MODULE or BNDSRVPGM parameters) could not satisfy.

***NONE**: No binding directory is specified.

The name of the binding directory 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.

***USRLIBL**: Only the libraries in the user portion of the job's library list are searched.

library-name: Specify the name of the library to be searched.

binding-directory-name: Specify the name of the binding directory used in symbol resolution.

ACTGRP

Specifies the activation group this program is associated with when it is called. An activation group provides:

- Run-time data structures to support the running of programs
- Addressing protection
- A logical boundary for message creation
- A logical boundary for application cleanup processing

***NEW**: When this program gets called, a new activation group is created. This called program is then associated with the newly created activation group.

***CALLER**: When this program gets called, the program is activated into the caller's activation group.

activation-group-name: Specify the name of the activation group to be used when this program is called.

OPTION

Specifies options to be used when the program object is created.

Program Creation Options

***GEN**: A program object is generated.

***NOGEN**: A program object is not generated.

Duplicate Procedure Name Options

***NODUPPROC**: During the symbol resolution phase of the binding process, each procedure name that is exported from the modules and service programs must be unique.

***DUPPROC:** During the symbol resolution phase of the binding process, the procedure names that are exported from the modules and service programs do not have to be unique. When multiple duplicate procedures are allowed, the first exported procedure in the list of specified modules and service programs that matches the import request is the procedure that is selected.

Duplicate Variable Name Options

***NODUPVAR:** During the symbol resolution phase of the binding process, each variable name that is exported from the modules and service programs must be unique.

***DUPVAR:** During the symbol resolution phase of the binding process, the variable names that are exported from the modules and service programs do not have to be unique. When multiple duplicate variables are allowed, the first exported variable in the list of specified modules and service programs that matches the import request is the variable that is selected.

Diagnostic Message Options

***WARN:** If duplicate variables or procedures are found, a diagnostic message is issued indicating what duplicates were found.

***NOWARN:** If duplicate variables and procedures are found, diagnostic messages are not issued.

Resolving References Options

***RSLVREF:** All imports must be resolved to exports for the program to be created.

***UNRSLVREF:** All imports do not need to resolve to exports for the program to be created. If the program tries to use one of these unresolved imports at run time, an MCH3203 exception message is issued. If creating a program for a V3R1 or later release and the program uses one of the unresolved references, a MCH4439 run time exception is issued.

DETAIL

Specifies the level of detail to be printed.

***NONE:** A listing is not generated.

***BASIC:** Contains a listing of the options passed to CRTPGM, and processing statistics. This listing also contains the Brief Summary Table.

***EXTENDED:** In addition to the information provided in the *BASIC listing, this listing contains the Extended Summary Table and the Binding Information Listing.

***FULL:** This listing contains the *EXTENDED listing and the Cross-Reference Listing.

Note:

If a printed listing is requested, the printer file *LIBL/QSYSPRT is used to generate the listing.

ALWUPD

Specifies whether to allow an update of the program being created using the Update Program (UPDPGM) command.

***YES:** This program can be updated in the future using the UPDPGM command.

***NO:** The UPDPGM command does not update the program being created.

ALWLIBUPD

Specify whether to allow the bound service program library name to be changed on update, using the UPDPGM command, of the program being created.

***NO:** The UPDPGM command will never be allowed to update the bound service program library names of the program being created, even if ALWUPD is *YES.

***YES:** This program may have the bound service program library names updated at any future time using the UPDPGM command, as long as the ALWUPD is also *YES.

USRPRF

Specifies whether the authority checking done while this program is running includes only the user who is running the program (*USER) or both the user running the program and the program owner (*OWNER). The profiles of the program user or both the program user and the program owner are used to control which objects can be used by the program, including the authority the program has for each object. Only the program owner or a user with QSECOFR authority can change the user profile attribute.

***USER:** The program runs under the user profile of the program's user.

***OWNER:** The user profiles of both the program owner and the program user are used when the program is run.

REPLACE

Specifies whether the existing program is replaced if a program by the same name already exists in the specified library.

***YES:** Replace the existing program by moving it to the QRPLOBJ library.

Note:

Both programs must be owned by the same user for the replace to work.

***NO:** No replacement occurs.

AUT

Specifies the authority given to users who do not have specific authority to the program, who are not on an authorization list, and whose user group has no specific authority to the program.

***LIBCRTAUT:** The public authority for the program is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the program). The public authority is determined when the program is created. If the CRTAUT value for the library changes after the program is created, the new value does not affect any existing objects.

***CHANGE:** The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

***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 also can change ownership of the program.

***USE:** The user can perform basic operations on the program, such as running a program or reading a file. The user cannot change the program. *USE authority provides object operational authority, read authority, and execute authority.

***EXCLUDE:** The user cannot access the program.

authorization-list: The authorization list must exist when the object is created. Users are granted authority to the object as specified by the list.

TEXT

Specifies the text that briefly describes the program object. More information on this parameter is in Commonly used parameters.

***ENTMODTXT:** The text description of the module specified on the ENTMOD parameter is used.

***BLANK:** Text is not specified.


'description': Specify no more than 50 characters of text, enclosed in apostrophes.

TGTRLS

Specifies the release level of the operating system on which you intend to use the object being created.

When specifying the *target-release* value, the format VxRxMx is used to specify the release, where Vx is the version, Rx is the release, and Mx is the modification level. For example, V3R6M0 is version 3, release 6, modification level 0.

Valid values depend on the current version, release, and modification level, and they change with each new release. See the **Valid Values for TGTRLS Parameter** table in the Backup and

Recovery  book for a complete list of valid values.

***CURRENT:** The object is to be used on the release of the operating system currently running on your system. The object can also be used on a system with any subsequent release of the operating system installed.

***PRV:** The object is to be used on the previous release with modification level 0 of the operating system. The object can also be used on a system with any subsequent release of the operating system installed.

target-release: Specify the release in the format VxRxMx. The object can be used on a system with the specified release or with any subsequent release of the operating system installed.

ALWRINZ

Specifies if the static storage of the program is allowed to be reinitialized while it is still active.

***NO:** The static storage of the program can not be reinitialized while it is still active.

***YES:** The static storage of the program is allowed to be reinitialized while the program is still active.


STGMDL

Specifies the storage model attribute of the program.

***SINGLVL:** The program is created with single-level storage model. When a single-level storage model program is activated and run, it is supplied single-level storage for automatic and static storage. A single-level storage program runs only in a single-level storage activation group.

***TERASPACE:** The program is created with teraspace storage model. When a teraspace storage model program is activated and run, it is supplied teraspace storage for automatic and static storage. A teraspace storage program runs only in a teraspace storage activation group.

IPA Specifies whether interprocedural analysis (IPA) is to be used during the program creation. For

more information on IPA, refer to the ILE Concepts  book.

***NO:** Interprocedural analysis will not be performed.

***YES:** Interprocedural analysis will be performed. Note that the resulting program will not be allowed to be updated with the Update Program (UPDPGM) command.

IPACTLFILE

Gives the path name of a file which contains interprocedural analysis (IPA) suboption information. This parameter is allowed only when IPA(*YES) is specified.

***NONE:** No IPA control file information is to be used when IPA(*YES) is specified.

'IPA-control-file': Specifies the path name of the IPA control file to use when IPA(*YES) is specified. If the name is qualified it must be enclosed in apostrophes. An example of a qualified IPA control file name is *'/directory1/directory2/myipactlfname'*

Example for CRTPGM

```
CRTPGM PGM(STAR)
```

This command creates a program object named STAR in the current library or QGPL.

Error messages for CRTPGM

*ESCAPE Messages

CPF223E

Authority check for use adopted authority attribute failed.

CPF3C50

Program &1 not created.

CPF5D12

Error encountered during program or service program preparation.



CRTPTF (Create Program Temporary Fix) Command Description

Note: To use this command, you must have the 5722-SM1 (System Manager for iSeries) licensed program installed.

CRTPTF Command syntax diagram

Purpose

The Create Program Temporary Fix (CRTPTF) command creates a temporary fix for a product that you have developed. The product must be created and installed before using this command.

Required Parameters

PTF Specifies the identifier (ID) of the PTF being created. The PTF ID must be in the valid range for the specified product and release.

LICPGM

Specifies the product ID for which the PTF is being created.

RLS Specifies the version, release, and modification level of the product the PTF is being created for.

Optional Parameters

OPTION

Specifies whether the PTF is for the base product or an option of the base product.

***BASE:** The PTF is for the base product.

product-option-number: Specify the product option number of the PTF being created.

LODID

Specifies the load ID for the PTF being created.

***CODEDFT:** The default code load ID, 5001, is used.

load-ID: Specify a language load ID or a valid code load ID. For a language load, the load ID must be one of the valid IBM national language versions and be specified in the form 29xx. For a code load, the load ID must range from 5001 to 9999.

PTFOBJ

Specifies the objects to be contained in the PTF. The objects must be listed with their associated object type. They must exist in the development library and the primary library specified on the OBJLIB parameter.

***NONE:** No objects are specified for the PTF.

Element 1: PTF Object Name

object-name: Specify the name of the PTF object.

Element 2: PTF Object Type

object-type: Specify the PTF object type.

OBJLIB

Specifies the development library and primary library for this PTF.

Element 1: Development Library

***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.

development-library: Specify the library where the PTF objects are located.

Element 2: Primary Library

***PRINCIPAL**: The PTF objects are associated with the principal library of the specified product option.

primary-library: Specify the product option library with which the PTF objects are associated.

PTFDOC

Specifies the documents to be contained in the PTF.

***NONE**: No documents are specified for the PTF.

Element 1: PTF Document Name

document-name: Specify the name of the document.

Element 2: PTF Folder Name

folder-name: Specify the folder in which the PTF document will be installed. The create PTF function will append "/QP" to the folder name specified and save the document from the resulting subfolder.

DIROBJ

Specifies the product directory that the PTF is for, the development directory where the PTF is found, and the names of the objects in the development directory that are included in the PTF. Up to 30 repetitions are permitted. A product directory, a development directory, and at least one object name must be specified unless DIROBJ(*NONE) is specified.

Possible single value:

***NONE**: The PTF includes no objects that will be stored in directories when the PTF is applied.

Element 1: Product Directory Name

directory-name: Specify the directory defined by the product which is the default directory where the objects are stored when the PTF is applied.

The special system directories named /QSYS.LIB and /QDLS are not supported and must not be specified alone or as a containing directory.

A backslash (\) in the directory name is always converted to a forward slash (/). A trailing slash is always ignored. Imbedded blanks and the following characters are not allowed in a directory name:

- Asterisk (*)
- Tilde (~)
- Question mark (?)
- Apostrophe (')
- Quotation mark (")

If the leading slash (/) is omitted, one will be assumed, and the inclusion of this leading slash must not cause the directory name to exceed the maximum directory name length of 240 characters. The directory name may indicate a directory that is nested in other directories, for example, /A/B/C. The maximum directory name length includes all slashes and all nested directory names.

Element 2: Development Directory Name

***PRDDIR:** The development directory is the same as the product directory previously specified on the parameter.

directory-name: Specify the directory where the objects are currently found, if other than the product directory. This directory name follows the same rules as the product directory name.

Element 3: Object Name

object-name: Specify the list of objects in the development directory that are to be included in this PTF.

Up to 100 object names can be specified for each development directory. If a given product directory requires more than 100 object names, the same product directory and development directory combination can be specified again with a different set of object names.

Object names are limited to a maximum of 255 characters. Imbedded blanks and the following characters are not allowed in an object name:

- Slash (/)
- Backslash (\)
- Asterisk (*)
- Tilde (~)
- Question mark (?)
- Apostrophe (')
- Quotation mark (")

COVER

Specifies the file containing the source text for the PTF cover letter. A member is added to the PTF cover letter file QAPZCOVER in library QGPL. The source text data, the PTF language, the data that takes the place of the data, and the requisite information is copied to the member.

***NONE:** No cover letters are specified for this PTF.

Element 1: Cover Letter File Name

file-name: Specify the name of the file which contains the cover letter text.

The possible library values are:

***LIBL:** The library search list is used to locate the file.

library-name: Specify the name of the library to locate the file.

Element 2: Cover Letter Member

cover-letter-source-member: Specify the name of the file member which contains the cover letter text.

Element 3: Cover Letter Language

NLV: Specify the national language version (NLV) language code for the cover letter source. Each language code can be specified only once.

PREREQ

Specifies a list of PTFs that must be applied before applying the current PTF. If these PTFs are not applied, the current PTF will not function.

***NONE:** No other PTFs are required by this PTF.

PTF-ID: Specify the number of the PTF required by this PTF.

COREQ

Specifies a list of accompanying PTFs that are required to enable the new PTF. The current PTF is not applied unless all accompanying PTFs listed are also applied.

***NONE:** No PTFs are required by this PTF.

PTF-ID: Specify the number of the PTF required by this PTF.

EXITPGM

Specifies the exit programs to be called during the PTF apply or remove operation.

***NONE:** No exit programs are specified for this PTF.

Element 1: Program Name

***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: Exit Program Name

program: Specify the name of an exit program for this PTF.

Element 3: Run Option

***BOTH:** The exit program is called during both apply and remove operations.

***APPLY:** The exit program is called during the apply operation only.

***REMOVE:** The exit program is called during the remove operation only.

***PREAPY:** The exit program is called before apply PTF processing and at the end of apply PTF processing.

***PRERMV:** The exit program is called before and at the end of remove PTF processing.

***PREBTH:** The exit program is called before the PTF is applied or removed and at the end of the apply or remove PTF processing.

Element 4: Type

***PTF:** The exit program object is included with the PTF objects. The exit program only exists until the PTF is permanently applied.

***OBJLST:** The exit program object is not included with the PTF objects. The exit program must exist in the object list for the product, option, release, and load of the PTF or code load for the product's base option.

Element 5: User Data

***NONE:** No user data is passed to the exit program when it is called.

user-data: Specify the user data.

TGTRLS

Specifies the earliest release of the operating system on which you intend to load and apply the PTF.

***CURRENT:** The PTF is to be loaded and applied on the release of the operating system currently running on your system. The PTF also can be loaded and applied on a system with any later release of the operating system installed.

***PRV:** The PTF is to be loaded and applied on the previous release with modification level 0 of the operating system. The PTF also can be loaded and applied on a system with any later release of the operating system installed.

target-level: Specify the release of the operating system on which you intend to load and apply the PTF. The release level is specified in the format VxRyMz, where Vx is the version, Ry is the release, and Mz is the modification level. Valid values depend on the current version, release, and modification level, and they change with each new release.

Press F4 (Prompt) from the target release (TGTRLS) parameter to see a list of valid values for this release.

Examples for CRTPTF

Example 1: Creating a PTF

```
CRTPTF PTF(1X00001) LICPGM(1X12345) RLS(V5R2M0)
      OPTION(*BASE) LODID(*CODEDFT) PTFOBJ((X00PGM01 *PGM))
      OBJLIB(PTFDEVLIB *PRINCIPAL)
```

This command creates PTF 1X00001 for release V1R1M0 of product 1X12345. The PTF is created using program X00PGM01 in library PTFDEVLIB. When applied, this PTF replaces program X00PGM01 in the principal product library of the *BASE option code load. This PTF is created to be loaded and applied on the current release of the operating system or any later release.

Example 2: Creating a PTF with a Document

```
CRTPTF PTF(1X00002) LICPGM(1X12345) RLS(V5R2M0)
      OPTION(*BASE) LODID(*CODEDFT)
      PTFDOC((X00DOC.001 X00FLR.001))
```

This command creates PTF 1X00002 for release V1R1M0 of product 1X12345. The PTF is created using document X00DOC.001 in folder X00FLR.001/QP. Notice that the document is taken from folder X00FLR.001/QP. Create PTF adds "/QP" to the end of the folder specified when searching for the document to be included. When applied, this PTF replaces document X00DOC.001 in folder X00FLR.001 of the *BASE option code load.

Example 3: Creating a PTF with a Cover Letter

```
CRTPTF PTF(1X00003) LICPGM(1X12345) RLS(V5R2M0)
      OPTION(*BASE) LODID(*CODEDFT)
      COVER((PTFDEVLIB/PTFCVRLTRF PTF1X00003 2924))
      EXITPGM((EXTPGMLIB/QPZ1X00003 *BOTH *PTF))
```

This command creates PTF 1X00003 for release V5R2M0 of product 1X12345. The cover letter for the PTF is created using source text from file PTFCVRLTRF in library PTFDEVLIB member PTF1X00003. The cover letter is created for National Language Version (NLV) 2924. The *PTF value specified on the exit program parameter causes program QPZ1X00003 to be saved with the PTF as a temporary object. Temporary objects are deleted when the PTF is permanently applied or removed. Note the temporary object naming convention is used for the exit program. Ensure that any temporary object names used are unique for this product release to avoid over writing other PTFs. The *BOTH value causes this exit program to be called during both apply and remove processing. Temporary objects are identified by QPZ1 at the beginning of the name.

Example 4: Creating a PTF for a Previous Release

```
CRTPTF PTF(1X00004) LICPGM(1X12345) RLS(V4R5M0)
  OPTION(*BASE) LODID(*CODEDFT) PTFOBJ((X00PGM02 *PGM))
  OBJLIB(PTFDEVLIB *PRINCIPAL) TGTRLS(V5R1M0)
```

This command creates PTF 1X00004 for release V4R5M0 of product 1X12345. The PTF is created using program X00PGM02 in library PTFDEVLIB. When applied, this PTF replaces program X00PGM02 in the principal product library of the *BASE option code load. This PTF is created to be loaded and applied on release V5R1M0 of the operating system or any later release.

Error messages for CRTPTF

***ESCAPE Messages**

CPF35CC

Library required for PTF operation already exists.

CPF35DC

Primary library not found.

CPF35D3

Cover letter not copied.

CPF3505

Corequisite PTF &1-&2 &3 contains common objects.

CPF3506

Length of directory name too long.

CPF3507

Corequisite PTF &1-&2 &3 not specified.

CPF3509

Specified corequisite PTF &1-&2 &3 not valid.

CPF351A

Directory object name not valid.

CPF351B

Duplicate directory object specified.

CPF357A

Parameter value not valid.

CPF357B

Product not found.

CPF357D

Document or folder name not correct.

CPF3571

PTF ID &1 not within valid range.

CPF3572

PTF &2-&1 &3 already exists.

CPF3573

Resources required for product &1 are not available.

CPF3574

PTF ID not valid.

CPF358A

Release not valid.

CPF358B

PTF not created.

CPF358C

Create PTF not allowed for product &1.

CPF359C

Requisite type not valid.

CPF3901

PTF &1-&2 &3 not created.



CRTPTFPKG (Create Program Temporary Fix Package) Command Description

Note: To use this command, you must have the 5722-SM1 (System Manager for iSeries) licensed program installed.

CRTPTFPKG Command syntax diagram

Purpose

The Create Program Temporary Fix Package (CRTPTFPKG) command creates an option package for a program temporary fix (PTF).

Required Parameters

OUTFILE

Specifies the physical database file to which the list of PTFs contained in the package is directed. If the output file does not exist, the system creates it.

The name of the 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.

file-name: Specify the name of the file that receives the list of PTFs contained in the package.

OUTMBR

Specifies the name of the database file member to which the list of PTFs contained in the package is directed.

Element 1: Member Name

***FIRST:** The first member in the file receives the list of PTFs contained in the package. If the file does not contain a member, the system creates one.

member-name: Specify the database file member which receives the list. If the member does not exist, it is added.

Element 2: Add or Replace Records

***REPLACE:** The output data replaces any existing records in the specified file member.

***ADD:** The output data is added to the end of any existing records in the specified file member.

Optional Parameters

SELECT

Specifies the database file containing the list from which PTFs are selected.

Note: If a PTF has been superseded, the most current PTF is selected.

***SUPPTD:** The system generates the list of PTFs from which to select. The list contains all PTFs for all the products supported on the system.

Element 1: File Name

The name of the 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.

file-name: Specify the name of the file containing the list from which PTFs are selected.

Element 2: File Member

***FIRST:** The first member in the file contains the list of PTFs from which to select.

member-name: Specify the database file member containing the list of PTFs from which to select.

OMIT Specifies the database file which contains the list of PTFs to omit from the package. The PTFs listed in this file that also exist in the file specified on the SELECT parameter are omitted from the package.

***NONE:** All PTFs listed in the file specified on the SELECT parameter are included in the package.

Element 1: File Name

The name of the 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.

file-name: Specify the name of the file containing the list of PTFs to omit.

Element 2: File Member

***FIRST**: The first member in the file contains the list of PTFs to omit.

member-name: Specify the database file member containing the list of PTFs to omit.

SUPERSEDE

Specifies whether superseding PTFs are packaged in place of superseded PTFs.

***YES**: Any superseding PTFs are packaged in place of the superseded PTFs.

***NO**: Superseding PTFs are not packaged in place of the superseded PTFs.

PREREQ

Specifies whether prerequisite PTFs are included in the package. If prerequisite PTFs are included in the package, then corequisite PTFs also are included.

***ALL**: Include all prerequisite PTFs and corequisite PTFs in the package.

***NONE**: No prerequisite PTFs or corequisite PTFs are included in the package.

***SAMEPRD**: Prerequisites and corequisites that are in the same product as the PTFs are included in the package.

DEV Specifies the name of the device to which the PTF package is saved.

***NONE**: Only the package output file is generated.

device-name: Specify the name of the device to which the package is saved.

VOL Specifies the volume identifier.

***MOUNTED**: The volume currently placed in the device is used.

volume-identifier: Specify the volume identifier (ID).

SEQNBR

Specifies the sequence number of the data file that receives the saved package.

***END**: The system saves the package after the last sequence number on the tape.

sequence-number: Specify the sequence number of the file. Valid values range from 1 through 16777215.

ENDOPT

Specifies the operation that is automatically performed on the tape volume after the operation ends.

Note: This parameter is only valid if a tape or optical device name is specified on the DEV parameter. For optical devices, *UNLOAD is the only special value supported, *REWIND and *LEAVE will be ignored.

***REWIND**: The tape is automatically rewound, but not unloaded, after the operation has ended.

***LEAVE**: The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

***UNLOAD**: The tape is automatically rewound and unloaded after the operation ends. Some optical devices will eject the volume after the operation ends.

COVER

Specifies the language used to select the cover letters for this PTF package.

***NONE**: Cover letters are not saved.

29xx: Specify the national language version (NLV) of cover letters being saved.

Example for CRTPTFPKG

```
CRTPTFPKG OUTFILE(MYOUTF) DEV(TAP01)
```

Before you can use the CRTPTFPKG command, the output file MYOUTF must be created on the service requester by entering the following command:

```
DSPPTF OUTPUT(MYOUTF) OUTFILE(MYOUTF)
```

Example 1: Creating a PTF Package to Tape

This command creates a tape with all PTFs that are currently on the service provider but not on the service requester.

```
CRTPTFPKG OUTFILE(MYOUTF) DEV(TAP01)
```

Example 2: Creating a PTF Package to Optical

This command creates a optical media with all PTFs that are currently on the service provider but not on the service requester.

```
CRTPTFPKG OUTFILE(MYOUTF) DEV(OPT01)
```

Error messages for CRTPTFPKG

***ESCAPE Messages**

SMU1423

No products currently supported.

SMU1424

Program Temporary Fix (PTF) package not created.

SMU1431

No PTFs selected for the package.





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