IBM Sterling Connect:Direct for i5/OS

User's Guide

Version 3.7

Copyright

This edition applies to the 3.7 Version of IBM Sterling Connect:Direct for i5/OS and to all subsequent releases and modifications until otherwise indicated in new editions.

Before using this information and the product it supports, read the information in *Notices* on page 159.

Contents

Chapter 5   Sending a Spool File

Chapter 6   Running a Remote Task

Chapter 7   Submitting a Sterling Connect:Direct Process on a Remote Node

Chapter 8   Submitting a Job on a Remote Node

Chapter 9   Compressing Files

About Sterling Connect:Direct for i5/OS

IBM® Sterling Connect:Direct® for i5/OS® is an enterprise solution for secure, automated file delivery between business applications. Its session management and extended recovery features help assure data delivery in support of 24 hours a day, 7 days a week business operations. It links technologies, moves all types of information, and manages high-performance transfers by providing easy-to-use automation, checkpoint/restart, and error recovery. Sterling Connect:Direct offers choices in communication protocols, hardware platforms, and operating systems. It provides the flexibility to move information from mainframes to midrange systems to desktop and LAN-based workstations.

Interfacing with Sterling Connect:Direct for i5/OS

When you install Sterling Connect:Direct for i5/OS, you create Control Language (CL) commands that enable you to use Sterling Connect:Direct. These CL commands enable you to send or receive data from other nodes running Sterling Connect:Direct. You can also use the CL commands to administer Sterling Connect:Direct. For example, you can use a CL command to display Sterling Connect:Direct message descriptions.

Issuing Sterling Connect:Direct CL Commands

Issue Sterling Connect:Direct CL commands interactively from the command line or use them in a CL program. Results of CL commands that interact with a remote node are recorded in three places:

❖ Sterling Connect:Direct log

❖ User message queue of the local i5/OS node

❖ Statistics facility of the local and remote Sterling Connect:Direct node

Chapter 2, *Using Control Language*, provides information about CL commands, CL programming, and Sterling Connect:Direct CL commands.

Understanding Sterling Connect:Direct for i5/OS Components

The Sterling Connect:Direct for i5/OS has several components that enhance its compatibility with other Sterling Connect:Direct platforms and run under the Sterling Connect:Direct subsystem:

❖ Process Manager (PMGR)

The PMGR initializes and manages the Sterling Connect:Direct environment. PMGR is always active when Sterling Connect:Direct for i5/OS is active.

❖ Queue Manager (QMGR)

The QMGR manages the Sterling Connect:Direct Process queue. The QMGR is always active when Sterling Connect:Direct for i5/OS is active.

❖ Timer (TIMER)

The TIMER component provides timer services to the session manager, the process queue manager, and other Sterling Connect:Direct for i5/OS components. The TIMER runs as a separate i5/OS job, submitted and controlled by the Process Manager component. The TIMER is always present when Sterling Connect:Direct for i5/OS is active.

❖ Statistics Manager (STATMGR)

Sterling Connect:Direct for i5/OS logs statistics information for all Processes. Each component of Sterling Connect:Direct for i5/OS generates statistics data to the STATMGR job. The long-running STATMGR job formats the statistics information and writes it to the statistics file. The Statistics Manager supports CL commands that provide the ability to schedule the creation, archival, and deletion of statistics file members. The STATMGR is always active when Sterling Connect:Direct for i5/OS is active.

❖ Spool Monitor (SPLMON)

The Sterling Connect:Direct SPLMON is a variable component of Sterling Connect:Direct for i5/OS. CDSPLMON uses Spool Monitor entries to associate output queues with destination Sterling Connect:Direct nodes.

❖ TCP Listener (TCPLIST)

The TCPLIST is a long-running job started and controlled by the Process Manager component. CDTCPLIST processes incoming TCP/IP connection requests and requests session managers from the PMGR.

❖ Session Manager (SMGR)

The SMGR component executes the Sterling Connect:Direct Processes. The Process Manager starts all session managers except for SMGRs started by the LU6.2 evoke function. Evoked SMGRs request permission to run from the PMGR and continue processing.

Connecting Sterling Connect:Direct for i5/OS to Sterling Connect:Direct/Plex

Sterling Connect:Direct for i5/OS can be connected to Sterling Connect:Direct/Plex, which is a Sterling Connect:Direct for z/OS system consisting of a Sterling Connect:Direct/Manager and one or more Sterling Connect:Direct/Servers in a TCP/IP environment. Once the connection between Sterling Connect:Direct for i5/OS and Sterling Connect:Direct/Plex has been defined, each system can initiate sessions to the other. All requests to initiate sessions to the Sterling Connect:Direct/Plex system go through the Sterling Connect:Direct/Manager, which controls the traffic and determines which Sterling Connect:Direct/Server can run a particular Process based on the PLEXCLASS of the Sterling Connect:Direct/Server and the Process coming from the Sterling Connect:Direct for i5/OS system. One advantage of routing the Processes through the Sterling Connect:Direct/Plex Manager is that you only have to define a single network map entry for the Sterling Connect:Direct/Plex Manager rather than creating separate node entries for each Sterling Connect:Direct/Plex Server.

The PLEXCLASS parameter represents a type of server in the Sterling Connect:Direct/Plex system. In the example illustrated in the graphic, there is one Sterling Connect:Direct for i5/OS system connected to a Sterling Connect:Direct/Plex system called CD.PROD1. CD.PROD1 consists of a Sterling Connect:Direct/Manager and two Sterling Connect:Direct/Servers. Both Sterling Connect:Direct/Servers support the CLASS1 PLEXCLASS but only Sterling Connect:Direct/Server 1 can process the TAPE PLEXCLASS.

When the Sterling Connect:Direct/Manager receives a Process that requires PLEXCLASS=CLASS1 and determines that both Sterling Connect:Direct/Servers support CLASS1, it routes the Process to the Sterling Connect:Direct/Server with the lowest workload.

For more information on the PLEXCLASS parameter, see the CL command to execute in the *IBM Sterling Connect:Direct for z/OS environment* in the *IBM Sterling Connect:Direct for i5/OS User's Guide*.
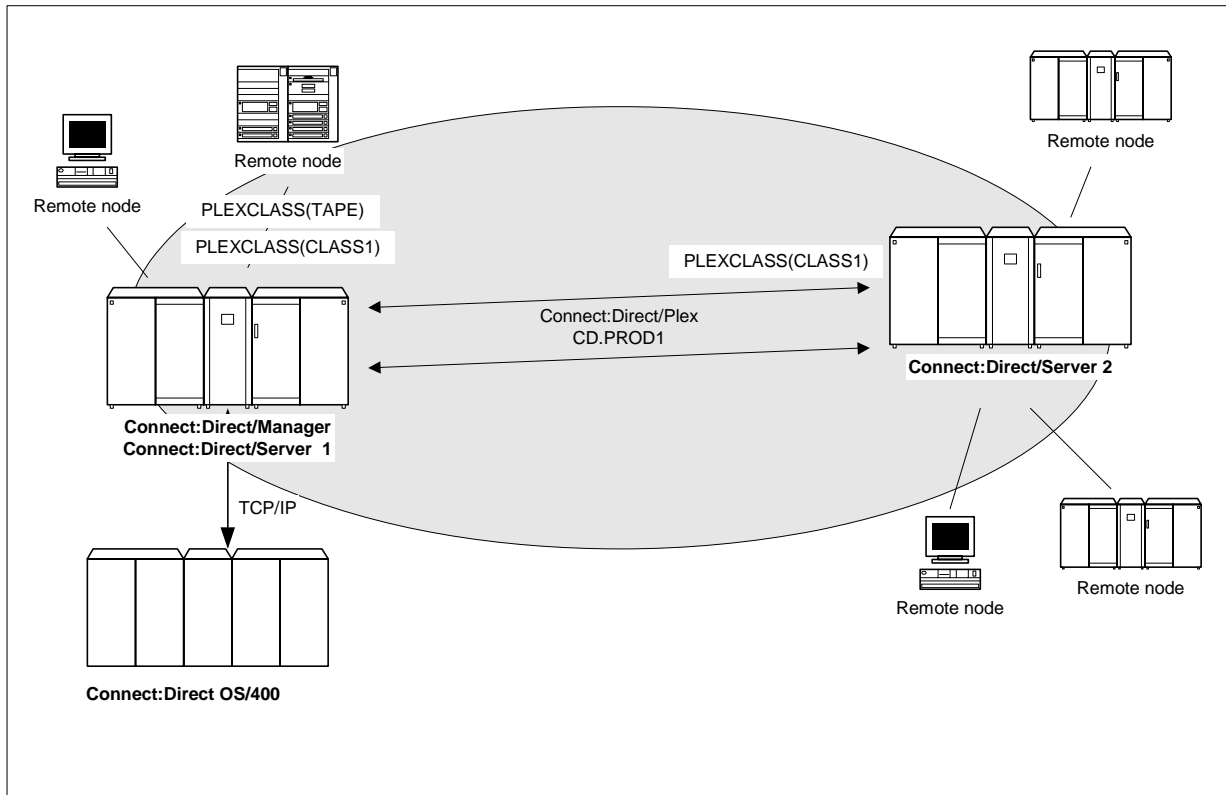
Accessing Sterling Connect:Direct Through the Main Menu

Sterling Connect:Direct for i5/OS includes an i5/OS system-style menu that allows you to execute Sterling Connect:Direct Command Language commands and related i5/OS CL commands from a menu. This menu consists of two screens.

Issuing CL Commands Through the Main Menu

The first screen allows you to issue basic Sterling Connect:Direct commands. The second screen allows you to issue administration Sterling Connect:Direct commands. Each screen contains a full-function i5/OS command line and function key descriptions near the bottom of the screen.

To access the Main Menu:

1.   Type **STRCDMNU** and press **Enter**. The Sterling Connect:Direct for i5/OS copyright screen is displayed.

2. Press **Enter**. The **Sterling Connect:Direct Main Menu** displays the Sterling Connect:Direct for i5/OS functions that you can perform from this screen.

```
 CMDCD                      Connect:Direct (tm)
                                                        System:   FRAN
 Select one of the following:

      1. Send file to remote node                         CDSND
      2. Receive file from remote node                    CDRCV
      3. Send spooled file to remote node                 CDSNDSPL
      4. RUNTASK on remote node                           CDRUNTASK
      5. RUNJOB on remote node                            CDRUNJOB
      6. SUBMIT process on remote node                    CDSUBMIT
      7. Submit local process                             CDSUBPROC
      8. Compress file                                    CDCOMP
      9. Decompress file                                  CDDECOMP
     10. Display C:D Version and PTF level                CDVER

     11. Display Connect:Direct message description       DSPCDMSGD
     12. Work with Connect:Direct processes               WRKCDPROC
     13. Select Connect:Direct statistics                 CDSELSTAT
                                                             More...
 Selection or command

 ===>_____
 _____
 F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
 (C) COPYRIGHT 1991, 2002 Sterling Commerce, Inc.
```

Accessing the Administration Menu

Option 20 on the **Sterling Connect:Direct Main Menu** provides access to the following Administration Menu.

> **Note:** To use the Sterling Connect:Direct administration commands, you must have administrative authority on the system.

```
 CDADMIN                 Connect:Direct Administration
                                                        System:   FRAN
 Select one of the following:

   Connect:Direct Configuration
      1. Work with Connect:Direct parameters             WRKCDPARM
      2. Work with Connect:Direct Netmap                 WRKCDNTMP
      3. Work with Connect:Direct users                  WRKCDUSR
      4. Work with Spool Monitor entries                 WRKSPLMONE
      5. Create Connect:Direct XTRAN table               CRTCDXTTBL
      6. Secure+ Admin Utility                           SPADMIN

   Connect:Direct Administration
     11. Start Connect:Direct subsystem                  STRCD
     12. End Connect:Direct subsystem                    ENDCD
     13. Work with Connect:Direct status                 WRKCDSTS
     14. Work with Connect:Direct processes              WRKCDPROC


                                                             More...
 Selection or command

 ===>_____
 _____
 F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
 (C) COPYRIGHT 1991, 2002 Sterling Commerce, Inc.
```

The **Connect:Direct Administration** menu consists of two screens. Access the second screen by pressing the page down key.

```
   CDADMIN                   Connect:Direct (tm) Administration
                                                        System:   FRAN
   Select one of the following:

     Connect:Direct Statistics.
        21. Select Connect:Direct statistics                  CDSELSTAT
        22. Archive Connect:Direct stat member                CDARCSTATM
        23. Create Connect:Direct stat member                 CDCRTSTATM
        24. Delete Connect:Direct stat member                 CDDLTSTATM
        25. Restore Connect:Direct stat member                CDRSTSTATM
        26. Display Connect:Direct stat information            CDDSPSTATI

     Communications
        31. Vary communications device                        VRYCFG
        32. Configure TCP/IP                                  CFGTCP
        33. Start TCP/IP                                      STRTCP
        34. Work with TCP/IP status                           WRKTCPSTS


                                                                 Bottom
    Selection or command

   ===>_____
   _____
    F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
```

Using Control Language

Sterling Connect:Direct for i5/OS uses Sterling Connect:Direct CL commands to perform Sterling Connect:Direct functions.

Sterling Connect:Direct CL commands have the following general i5/OS CL command format:

❖ Each command can have required and optional parameters and subparameters that provide additional information needed to run the command.

❖ Subparameters are always positional.

❖ Each parameter provides a specific type of information or instruction.

❖ Each command is followed by one or more keywords and parameter pairs in the following format:

```
COMMAND keyword(parameter) keyword(parameter) ...
```

The following example shows a sample Sterling Connect:Direct CL command:

```
CDRCV  SNODE(DALLAS.OS390) SNODENVIRN(OS390)
        FDSN(DALLAS.ACCT.DATA)
        TDSN('ACCOUNT/DATA')
        TOSYSOPTS('TYPE(FILE)')
```

Reviewing Sterling Connect:Direct CL Command Functions

The following table lists the Sterling Connect:Direct for i5/OS command names and their functions.

Command	Function
†CDARCSTATM	Compress and delete a statistics file member other than the active one.
CDCOMP	Compress a file on the i5/OS node before sending it to a remote node.
†CDCRTSTATM	Create a new statistics file member and log statistics to that new member.
CDDECOMP	Decompress files received from another node and archived on the i5/OS node as compressed files.
CDDEVACTG	Turns VARY on and off on devices used by Sterling Connect:Direct.
CDDLTARCST	Deletes members from the archive statistics database file.
†CDDLTSTATM	Delete a specified statistics file member other than the active one.

†	Administrative commands
‡	Sterling Connect:Direct Secure Plus for i5/OS commands

Command	Function
CDDSPSTATI	Display information about where statistics are being logged.
CDRCV	Receive data from a remote node.
CDRSTSTATM	Decompress selected statistics file members to a user-designated file.
CDSELSTAT	Select statistics records and retrieve information about the active statistics file.
CDRUNJOB	Submit a job in batch mode on a remote node.
CDRUNTASK	Execute a Sterling Connect:Direct Run Task function on a remote node.
CDSND	Send data to a remote node.
CDSNDSPL	Send a spooled file to a remote node.
CDSUBMIT	Submit a Process to a remote node to initiate Sterling Connect:Direct work on the remote node.
CDSUBPROC	Submit Sterling Connect:Direct Processes to the process queue for asynchronous execution.
†CDVER	Display the installed Sterling Connect:Direct version and Sterling Connect:Direct PTF level.
†CNVNTMPF	Convert Sterling Connect:Direct network map file.
†CNVUSRF	Convert Sterling Connect:Direct user file.
†CRTCDOBJ	Create Sterling Connect:Direct objects.
†CRTCDXTTBL	Create and update the translation table.
DSPCDMSGD	Display the text for the specified message ID.
†ENDCD	End a Sterling Connect:Direct for i5/OS node and components.
HLDCDPROC	Identifies Processes to place in the Hold queue.
RLSCDPROC	Releases identified Processes from the Hold queue.
STRCDTCPL	Starts the Sterling Connect:Direct TCP listener.
UNINSTALLM	Uninstalls the latest Sterling Connect:Direct maintenance installation.
UPDATECD	Installs Sterling Connect:Direct maintenance.
†WRKCDPARM	View and change Sterling Connect:Direct initialization parameter values.
†‡SPADMIN	IBM Sterling Connect:Direct Secure Plus Administrative utility to provide security enhancements.
†STRCD	Start Sterling Connect:Direct for i5/OS.
STRCDMNU	Start Connect:Direct Menu.
†WRKCDNTMP	Select remote node records and display attributes. This screen provides the options of copy or change to attributes of the remote node records.
WRKCDPROC	Monitor and control active and queued Processes.
†WRKCDSTS	View and control Sterling Connect:Direct job status.
†WRKCDUSR	Browse existing user records and invoke other user maintenance commands.
†WRKSPLMONE	View, change, or delete destination configuration file entries of the Spool Support for Sterling Connect:Direct for i5/OS.

†   Administrative commands
‡   Sterling Connect:Direct Secure Plus for i5/OS commands

Entering CL Commands

You can type CL commands on an i5/OS node using any of the following methods:

Embedding CL Commands

You can embed CL commands in an application (user-written CL program), which allows you to combine functions supplied by Sterling Connect:Direct for i5/OS with i5/OS CL commands within a user-written application.

Entering CL Commands in Free Format

You can type CL commands in a free format, which allows you to type a command and its parameters as a string of characters on a command line. This method is useful when typing familiar commands.

Command Prompting

Command prompting guides you through typing commands and parameters.

Note: Sterling Connect:Direct for i5/OS commands are case sensitive if the information sent to the remote node is enclosed in single quotation marks.

Monitoring CL Program Messages

After issuing Sterling Connect:Direct for i5/OS commands such as, CDSND, CDRCV, CDRUNTASK, and CDRUNJOB, use the MONMSG command to monitor the following categories of error messages using a CL program:

Message Category	Message ID	Severity	Other
Warning	CDE0107	10	*ESCAPE
Unrecoverable error	CDE0108	30	*ESCAPE
Unexpected error	CDE0000 (for example, CDE0301)		

Note: You cannot use MONMSG to monitor CDS0108 (Process execution ended) because it is not sent as an error message; it is an informational message.

To capture the Sterling Connect:Direct error message after the MONMSG code, add the following after the MONMSG command:

```
RCVMSG MSGTYPE(*LAST) WAIT(1) RMV(*NO) MSGID(&MSGID)MSGDATA(&MSGDTA) SNDMSG
MSG(&MSGID || '' || &MSGDATA) TOUSR(*SYSOPR)
```

&MSGID is the CDE* error message. The first 8 characters of the &MSGDATA are the application error message that you can look up interactively with the following command:

```
DSPCDMSGD <msgid>
```

Note: The &MSGID and &MSGDATA variables must be defined in the CL program. Specify the &MSGID character length as 7 characters and &MSGDATA as 8 characters to capture the error message.

Using CL Programming and Sterling Connect:Direct CL Commands

An i5/OS CL program includes Sterling Connect:Direct CL commands as source statements. You can synchronize the processing of Sterling Connect:Direct operations by including Sterling Connect:Direct CL commands in a CL program.

Note: If you are using the Source Edit Utility (SEU) to edit a CL program, the prompt facility can help you type all CL commands, including Sterling Connect:Direct CL commands.

Sample CL Program

The following figure shows a sample CL program with multiple CL commands:

```
              PGM         PARM(&LIBNAME &FILENAME &MBRNAME)

              DCL         VAR(&LIBNAME) TYPE(*CHAR) LEN(10)
              DCL         VAR(&FILENAME) TYPE(*CHAR) LEN(10)
              DCL         VAR(&MBRNAME) TYPE(*CHAR) LEN(10)
              DCL         VAR(&FDSN) TYPE(*CHAR) LEN(32)

  /*   BUILD THE FDSN VARIABLE                                             */
              CHGVAR      VAR(&FDSN) VALUE(&LIBNAME *TCAT '/' *CAT +
                            &FILENAME *TCAT '(' *CAT &MBRNAME *TCAT +
                            ')')

  /*   SEND THE FILE MEMBER  */
              CDSND       SNODE('CDSERVER.V4100') +
                            SNODENVIRN(WINDOWS) FDSN(&FDSN) +
                            TDSN('Send_Test.TXT') +
                            FMSYSOPTS('TYPE(MBR)') +
                            TOSYSOPTS('DATATYPE(TEXT)')
              MONMSG      MSGID(CDE0000) EXEC(GOTO CMDLBL(ERROR))

              GOTO END

  ERROR:      SNDMSG      MSG('The process erred') TOUSR(*SYSOPR)


  END:        ENDPGM
```

Command Prompting for the Sterling Connect:Direct CL Commands

Sterling Connect:Direct CL commands follow the format of the native i5/OS CL commands, which provide an extensive help facility describing their purpose, parameters, values, and any dependencies.

In addition, you can use the prompt/help feature to select and type commands and appropriate parameters. Prompt/help is offered at the command level and at the parameter level. Both levels allow you to use **F4** for prompting and **F1** for help. You can access screen level help by moving the cursor off an entry or field and pressing **F1**.

Accessing Command Level Help

Complete the following steps to access the Help text:

1. For help with commands, type the command on the command line and press **F1**. Help text displays and describes the function of the command with a description of each parameter and possible values.

2. After viewing help information, press **F3** to exit the help function or **F12** to cancel and return to the command line.

Prompting for a Command

Complete the following steps to prompt for a command:

1. Type the command on the command line and press **F4** to display an entry screen for the command. This screen lists valid parameters and provides a brief description of each parameter.

2. Press **F11** to display the keyword names.

3. Complete the command by filling in the parameter values on the screen.

4. After typing in all applicable parameters, press **Enter** to execute the command.

Accessing Parameter Level Help

Complete the following steps to access help with parameters:

1. Place the cursor by the parameter for which you want further description.

2. Press **F1** to display a description of the parameter and valid values.

3. After viewing help information, press **F3** to exit the help function or **F12** to cancel and return to the command line.

Using Parameter Level Prompt

Complete the following steps to prompt for a parameter:

1. Place the cursor by the parameter for which you want to prompt.

2. Press **F4** for valid values for the parameter. At this screen, type in the appropriate value for the parameter.

3. Press **Enter** to set the parameter and return to the original screen. You can also press **F3** or **F12** to exit the help function.

If a parameter is required to run the command successfully, the field is highlighted. Prompt does not provide the default value. A greater than (>) symbol indicates that the parameter field contains a user-supplied value.

Sending a File

Sending a file on Sterling Connect:Direct for i5/OS requires the Sterling Connect:Direct Send (CDSND) command. Understanding the Sterling Connect:Direct for i5/OS file systems, the CDSND command parameters, block mode transfer, and the CDSND screens enables you to use this command more effectively.

Using the File Systems

Sterling Connect:Direct for i5/OS supports two types of file systems to perform file transfers: native file and integrated file. The native file system and the integrated file system can both be used to send files to and receive files from any supported file system.

Native File System

The native file system used in previous releases of Sterling Connect:Direct for i5/OS remains functional. This file system accepts the file name in the following formats:

library-name/file-name
   specifies the library and file name to be copied.

library-name/file-name(member-name)
   specifies the library, file, and member name of the member to be copied. You cannot use the EXCLUDE and SELECT parameters if you specify a member name.

   Note: *LIBL, *CURLIB and QTEMP are not valid library names for a Sterling Connect:Direct Process.

Integrated File System

As part of i5/OS, the integrated file system provides an integrated structure over data stored in the iSeries system. This file system supports stream input/output and storage management like personal computers and UNIX operating systems.

Integrated File System Types

The Sterling Connect:Direct for i5/OS integrated file system provides application and data compatibility with other platforms. The integrated file system consists of five file system types:

❖   /QLANSrv is a LAN server file system
❖   /QDLS is a document library file system

❖   /QSYS.LIB is the iSeries DB2 file system

❖   /QOpenSys is a UNIX-style file system

❖   All others are part of the root file system

Specifying a Path Name

The integrated file system recognizes the objects by the path specification. You must specify the fully qualified path name to transfer a file. Sterling Connect:Direct for i5/OS identifies a path that starts with a slash (/) or a backslash (\) as a request for the integrated file system.

The integrated file system does not support file field description. You cannot specify the SNDFFD(*YES) under this file system. Similarly, you cannot specify SELECT or EXCLUDE with the integrated file system.

To use this system, specify the fully qualified path name in one of the following formats:

/QSYS.LIB/library-name.LIB/file-name.FILE/member-name.MBR
specifies the library, file name, and member name to be copied using the integrated file system.

/directory/file-name|/QLANSrv/file-name|/QDLS/folder-name| /QOpenSys/file-name
specifies the directory, folder, and file names to be copied using the integrated file system.

Directories like /QOpenSys and /root are case-sensitive. The /QSYS.LIB notation is case-sensitive only if you enclose the name in single quotation marks.

Controlling the Character Set

You can control the coded character set ID used by the integrated file system. To specify a coded character set ID other than the job-coded or the system-coded character set, set the SYSOPTS parameter called CCSID to the character set you want to use, for example, CCSID(819).

If this parameter is not set, the system default for CCSID is used.

Using the CDSND Command

Use the CDSND command to send a file to a remote node. This command sends files to any file systems supported by the i5/OS V3R1M0 or later. You can also specify a user-exit command (either **EXITCMD** or **FAILCMD**) to be executed after the completion of a copy process in either FROMSYSOP or TOSYSOP. Using EXITCMD, you can specify a command to be executed only if the copy process is successful. You can also specify a command to be executed only if the copy process is not successful by using the FAILCMD command. The EXITCMD and FAILCMD commands must be executed on an i5/OS using Sterling Connect:Direct version 3.3.00 and above. The FAILCMD and EXITCMD are executable iSeries commands as well as Sterling Connect:Direct as long as the size of the command does not exceed 127 bytes.

CDSND Command Example

The command shown in the following figure is an example of the CDSND command.

```
CDSND    PNAME(CDSEND) SNODE(DALLAS.OS3901)
         SNODENVIRN(OS390)
         FDSN('DALLIB/ACCTDATA')
         TDSN(DALLAS.ACCTDATA)
         FMSYSOPTS('TYPE(FILE)')
```

CDSND Command Format

The following table shows the parameters for the CDSND command. Required parameters are in bold.

Command	Parameters
CDSND	**SNODE(remote-node-name)**
	SNODENVIRN(remote-environment-name)
	FDSN('from data-set-name')
	TDSN('to data-set-name')
	FMSYSOPTS(' PRECMPR(*YES|*NO) EXITCMD(valid i5/OS command) FAILCMD(valid i5/OS command) SNDFFD(*YES|*NO) TEXTFILE(*YES|*NO) **TYPE**(FILE|MBR|OBJ) XTRAN(table-name)[XTRANLSO(so-code)|XTRANPAD(pc)| XTRANLSI(si-code)|XTRANLDATA(MIXED|DBCS) CODEPAGE(nnnnn,nnnnn)] CCSID(nnnnn) EORCHAR(xxxx) ALWNULL(Y) ')
	TOSYSOPTS(' DECMPR(*YES|*NO) EXITCMD(valid i5/OS command) FAILCMD(valid i5/OS command) TYPE(FILE|MBR|OBJ|SPLF) CODEPAGE(nnnnn,nnnnn) CCSID(nnnnn) EORCHAR(xxxx) ')
	BLKSIZE(n|*CALC)
	CKPTINV(n)
	CLASS(n)
	COMPRESS(*NO|*YES|*EXT|X\xx\\|C\cc\)
	CRC(*INITPARMS|*NETMAP|*OFF|*ON)
	ECTUNING(ecclevel,ecwinsize,ecmlevel)
	EXCLUDE(generic|member-name|(start-range|stop-range)|'list')
	FDISP(current, normal end, abnormal end)
	NOTIFY(userid)
	PLEXCLASS(user-defined class)
	PNAME(process-name)
	PNODEID(id, pswd, newpswd)
	REPLACE(*YES|*NO)

†   Sterling Connect:Direct Secure Plus parameter.

Command	Parameters
	RMTWORK(<u>*NO</u>|*YES)
	SACCT(accounting-data)
	†SECOPTIONS(* *)
	SELECT(member,new-name,R|NR,'list')
	SNODEID(id, pswd, newpswd)
	TBUFND(n)
	TDBPARMS(dbid, dbsubid)
	TDCB(modeldcb, blksize, den, dsorg, keylen, limct, lrecl, optcd, recfm, rkp, trtch)
	TDISP(current, normal end, abnormal end)
	TIOEXIT(program-name)
	TIOPARM(parameter-names)
	TLABEL(seqno,labeltype,pswdread,inout,retpd|expdt)
	TLINK(vmuserid,pwd,accmode,cuu)
	TMSVGP(data-definition name)
	TPROTCT(*YES|<u>*NO</u>)
	TRACEOPT Trace Instructions: (L,S,F,C,X,K,D,H,V,W,P|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|<u>*CURRENT</u> Command Trace Options: L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| <u>*NONE</u>)
	TSPACE(avgblk, type, primary, secondary, pdsblk, rlse, contig, round)
	TSQL('sql-statement'|'DSN=data-set-name')
	TTYPE(entry-name)
	TUNIT(file-address)
	TVOL(private, volcount, ser)
	TVOLREF(data-set-volume)
	TVSAMCAT(dsn,vmid,pwd,accmode,cuu)

†   Sterling Connect:Direct Secure Plus parameter.

Note: The CLASS parameter is not used for Sterling Connect:Direct for i5/OS.

Required Parameters

Unless otherwise noted, these required parameters apply to all remote node environments.

SNODE(remote-node-name)
specifies a 1–16 character alphanumeric name for the receiving node (remote node). The node name must be defined in the network map.

Note: The name parameter is case sensitive.

SNODENVIRN(remote-environment-name)
   specifies the 1–10 character alphanumeric name for the receiving node environment: OS400, OS390, MVS, MSP, OPENVMS, TANDEM, UNIX, VM, VOS, VSE, Microsoft Windows, or Microsoft Windows_NT.

FDSN('from data-set-name')
   specifies the file to be sent to the remote node. The file name can be up to 256 characters long. File names are verified based on the i5/OS standard file name conventions.The entire data set name must be in single quotes. If you are using the Sterling Connect:Direct for i5/OS **F4** prompting feature, the system supplies the single quotes if you do not type them with the data set name on the command line. The length of the input field displayed is 132 characters, by default. To increase the length of the field to 256 characters, type an ampersand(&) followed by a blank in the first two positions of the field.

Note:	The values of *LIBL, *CURLIB, and QTEMP cannot be used when sending to or from an iSeries system using Sterling Connect:Direct for i5/OS. A specific library name must be used for copying from or to a data set on the iSeries.

   Sterling Connect:Direct for i5/OS supports two file systems: native file system and integrated file system. Refer to the *Using the File Systems* on page 19 for detailed information about the file systems.

TDSN('to data-set-name')
   specifies the receiving file name on the remote node. The file name can be up to 256 characters long. The length of the input field displayed is 132 characters, by default. To increase the length of the field to 256 characters, type an ampersand(&) followed by a blank in the first two positions of the field.

Note:	Do not use member names longer than eight characters when sending to z/OS, VSE or MSP nodes. The results are unpredictable.
	For TDSN, the values of *LIBL,*CURLIB, QTEMP cannot be used when sending to or from an iSeries system using Sterling Connect:Direct for i5/OS. A specific library name must be used for copying from or to a data set on the iSeries.

   TDSN specifies the destination file name. File names are verified based on the i5/OS standard file name conventions. The entire DSN must be in single quotes. When you are using the Sterling Connect:Direct for i5/OS **F4** prompting feature, the system supplies the single quotes if you do not type them with the file name on the command line.

   Sterling Connect:Direct for i5/OS supports both the native file system and the integrated file system. Refer to *Native File System* on page 19.

Note:	If the TDSN requires a password, specify the password in the TDSN after the data set name. A slash (/) must follow the data set name and precede the password. This password is used at data set allocation. If it is not correct, the system issues a Write to Operator Request (WTOR) which requests the password when Sterling Connect:Direct opens the data set.

   The following table summarizes the data set name requirements for Sterling Connect:Direct platforms.

SNODENVIRN	TDSN	Format	Special Considerations
OS/400	Native File System 'library-name/file-name' 'library-name/file-name (member-name)'		Enclose in single quotation marks.

SNODENVIRN	TDSN	Format	Special Considerations
	Integrated File System '/QSYS.LIB/library-name.LIB /file-name.FILE /member-name.MBR' or '/directory/file-name| /QLANSrv/file-name| /QDLS/folder-name| /QOpenSys/file-name'		You cannot specify the *SNDFFD, *SELECT, and *EXCLUDE parameters with the integrated file system.
	Spool File Support spooled-file-name		Do not use member names longer than eight characters when sending to z/OS, VSE, and MSP. The results are unpredictable.
OS/390, VSE, MSP, MVS	Standard z/OS DSN naming conventions.		Single quotes allow special characters. Do not use member names longer than eight characters. The results are unpredictable.
VM	Fully qualified file-name		
Tandem	\system.$volume.subvolume.filename		
Microsoft Windows	drive:\directory\subdirectory\filename or \\servername\sharepointname\subdirectory\filename		
UNIX	/directory/subdirectory/filename		
OpenVMS	node::device:[directory]filename.type;version		When you are copying a file, the file specification must be enclosed in single quotation marks if it uses spaces or other special characters not recognized by the other node.
Stratus VOS	Fully qualified path and file name		Enclose the file name in double quotation marks when you use a reserved word (statement name or keyword) for the file name.

FMSYSOPTS('
PRECMPR(*YES | *NO) EXITCMD(valid i5/OS command) FAILCMD(valid i5/OS command)
SNDFFD(*YES | *NO) TEXTFILE(*YES | *NO) TYPE(FILE | MBR | OBJ)
XTRAN(table-name) CODEPAGE(nnnnn,nnnnn)[XTRANLSO(so-code) | XTRANLSI(si-code |
XTRANLDATA(MIXED | DBCS)|XTRANPAD(pc)] CCSID(nnnnn) EORCHAR(xxxx)
ALWNULL(Y)') specifies sending system operations. If you omit this parameter, Sterling
Connect:Direct for i5/OS assumes 'TYPE(FILE)'. The maximum number of characters for
FMSYSOPTS is 2K.

Note: All FMSYSOPTS keyword values must be enclosed in parentheses. The entire
FMSYSOPTS string must be enclosed in single quotes, for example,
FMSYSOPTS('TYPE(FILE) SNDFFD(*YES)').

PRECMPR(*YES|*NO) specifies that the file being sent has previously been compressed using the
CDCOMP command. This option PRECMPR(*YES) cannot be specified if a secured copy function is
being performed using Sterling Connect:Direct Secure Plus. To send a file that has been compressed,
you must specify the PRECMPR(*YES) parameter with the CDSND command. For information
about how to compress files, refer to Chapter 9, *Compressing Files*.

Note: Ensure that the output file contains no members before you execute CDCOMP.

EXITCMD(valid i5/OS command) specifies a command to execute only if the copy process is successful.

FAILCMD(valid i5/OS command) specifies a command to be executed only if the copy process is not successful.

SNDFFD(*YES|*NO) specifies whether the sending node transfers file field descriptions.

Use the following formula to determine whether a file is sent with the file field descriptions. If the bytes required value is greater than 12K, you cannot transfer the file field descriptions.

```
12 x number of keys) + (45 x number of fields) +SYSOPTS=bytes required
```

Note: You cannot use this parameter with the integrated file system.

TEXTFILE(*YES|*NO) specifies the file being sent is a text file. This keyword is for the i5/OS only.

TYPE(FILE|MBR|OBJ) specifies the type of data to be sent. You *must* define the type of data to be copied as one of the following:

> **FILE** specifies that the file being copied is a physical database file.

> **MBR** specifies that the object being copied is a member of a physical database file.

> **OBJ** specifies that the data to be copied is in save file format.

XTRAN(table-name) specifies the translation table to use. The named table object must exist in a library that is in the library list of the session manager job. If the library name is not in the list, the CDSND command fails.

If the XTRAN keyword is present, then the following related optional keywords can also be used:

> **XTRANLSO (so-code)** specifies extended translation local shift-out code. This keyword specifies the hexadecimal code to use for the local (i5/OS side) shift-out (SO) character and overrides the default value of 0E. You can specify any two valid hexadecimal digits.

> **XTRANLSI (si-code)** specifies extended translation local shift-in code. This keyword specifies the hexadecimal code to use for the local (i5/OS side) shift-in (SI) character and overrides the default value of 0F. You can specify any two valid hexadecimal digits.

> **XTRANLDATA (MIXED|DBCS)** specifies extended translation local data format. This keyword specifies the format of the data on the local (i5/OS side) of the COPY.

> **MIXED** indicates that the data can contain both double-byte character set (DBCS) and single-byte character set (SBCS) characters and that SO/SI characters are used. MIXED is the default.

> **XTRANPAD(pc)** specifies that padding characters are in use. When DBCS data is translated from EBCDIC to ASCII, PAD specifies that the SHIFT-OUT and SHIFT-IN characters are replaced by a pad character to allow the displacement of fields within a record to remain unchanged during translation.

> When DBCS data is translated from ASCII to EBCDIC, PAD specifies that the input ASCII DBCS file is in a padded format. The character immediately preceding a DBCS character or string is overlaid by the SHIFT-OUT character. The character immediately following a DBCS character or string is overlaid with the SHIFT-IN character. This allows the displacement of fields within a record to remain unchanged during translation.

> > **pc** is the pad character to be used during EBCDIC to ASCII translation. **pc** is ignored for ASCII to EBCDIC translations.

> > If XTRANPAD is not used, the SI/SO characters are stripped from the file when transferring from EBCDIC to ASCII, and added to the records when sending from ASCII to EBCIDC.

DBCS indicates that the data is pure DBCS characters and that no SO/SI characters are used.

The following rules apply to the use of the XTRAN keyword:

❖ You must specify the XTRAN keyword to use extended translation; all other keywords are optional.

❖ The default for local shift-out is the IBM standard x0E.

❖ The default for local shift-in is the IBM standard x0F.

❖ The default local data format is MIXED with SO/SI in use. XTRAN is *not* allowed with PRECMPR(*YES) or DECMPR(*NO)

❖ If you send a file to an ASCII platform using extended translation, you *must* specify in the TOSYSOPTS that the data type is binary. Refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html for platform-specific SYSOPTS parameters.

CODEPAGE(nnnnn,nnnnn) converts data from one code page to another. The supported conversions are identified on the IBM Web site in the V5R1 Information Center, DB2 Universal Database for iSeries SQL Reference, Appendix E. CODEPAGE() on Sterling Connect:Direct for i5/OS relates to CODEPAGE() developed for the z/OS system, UNIX, and Microsoft Windows.

nnnnn identifies the IBM CCSID codepage number to convert from and the IBM CCSID code page number to convert to. If the FROM code page or TO code page is locale, the code page for the locale where Sterling Connect:Direct is executing is used. For example, if fmsysopts(codepage(locale,1208)), then the FROM code page is the code page for the locale and the TO code page is UTF-8.

ALWNULL(Y) specifies if NULLS characters will be processed when sending DB2 files.

CCSID(nnnnn) specifies the coded character set ID to use when creating IFS files. If no character set ID is specified, the system default is used**.**

EORCHAR(xxxx) specifies the two-to four-digit hexadecimal symbol to identify the character to use in text files as the end-of-record character, for example, EORCHAR(0A).

TOSYSOPTS('DECMPR(*YES|*NO) TYPE(FILE|MBR|OBJ|SPLF) EXITCMD(valid i5/OS Command) FAILCMD(valid i5/OS Command) CCSID(nnnnn) EORCHAR(xxxx) ')
specifies system operation parameters a the receiving node. The maximum number of characters permitted for TOSYSOPTS is 256. The format of CODEPAGE is based on the remote operating system default values for CDSND.

For additional information about valid platform-specific SYSOPTS parameters, see the appropriate COPY statement section of the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html.

EXITCMD(valid i5/OSi5/OS command) specifies a command to be executed only if the copy process is successful.

FAILCMD(valid i5/OS command) specifies a command to be executed only if the copy process is not successful.

DECMPR(*YES|*NO) specifies whether the receiving Sterling Connect:Direct node is to decompress the received file. This parameter is valid only when the receiving system is a Sterling Connect:Direct for i5/OS node. The EXITCMD and FAILCMD are valid here if the receiving node is i5/OS 3.3.00 or higher. This option DECMPR(*NO) cannot be specified if a secured copy function is being performed using Sterling Connect:Direct Secure Plus.

Note: Ensure that the destination file contains no members before you send a file with DECMPR(*NO) specified.

---

*NO instructs the receiving system to place the received data in a database file without decompressing it.

CCSID(nnnnn) specifies the coded character set ID to use when creating IFS files. If no character set ID is specified, the system default is used.

EORCHAR(xxxx) specifies the two-to four-digit hexadecimal symbol to identify the character to use in text files as the end-of-record character, for example, EORCHAR(0A).

CODEPAGE(nnnnn,nnnnn) converts data from one code page to another. The supported conversions are identified on the IBM Web site in the V5R1 Information Center, DB2 Universal Database for iSeries SQL Reference, Appendix E. CODEPAGE() on Sterling Connect:Direct for i5/OS relates to CODEPAGE() developed for the z/OS system, UNIX, and Microsoft Windows.

> **nnnnn** identifies the IBM CCSID code page number to convert from and the IBM CCSID code page number to convert to. If the FROM code page or TO code page is locale, the code page for the locale where Sterling Connect:Direct is executing is used. For example, if tosysopt(codepage(1208,locale)), then the FROM codepage is UTF-8 code page and the TO code page is the local code page.

TYPE(FILE|MBR|OBJ|SPLF) specifies the type of data to be sent. Define the type of data to be sent as one of the following:

> **FILE** specifies that the file being copied is a physical database file.

> **MBR** specifies that the object being copied is a member of a physical database file.

> **OBJ** specifies that the data to be copied is in save file format.

> **SPLF** specifies that the data to be copied is an i5/OS spooled output file.

For each type of file, you can specify certain additional TOSYSOPTS parameters.

If the receiving node is a Sterling Connect:Direct for i5/OS node, the following TOSYSOPTS parameters are valid for **TYPE(FILE)** and **TYPE(MBR)** files:

> **RCDLEN(record-length)** specifies the data length for each record in the file.

> **FILETYPE(*SRC|*DATA)** specifies the type of file to be created.

> **TEXT('text description')** specifies a text description to be associated with this member (and file, if created). This description cannot exceed 50 characters and must be enclosed in single quotes.

> **EXPDATE(expiration-date)** specifies the date after which the new or replaced member cannot be used. If EXPDATE is not specified, then the file does not have an expiration date.

> **MAXMBRS(number|*NOMAX)** specifies the maximum number of members a physical file can contain.

> **SIZE(#-of-recs|incr-value #-of-incrs|*NOMAX)** used when a new file is created for the file received.

> **AUT(*CHANGE|*ALL|*USE|*EXCLUDE)** specifies the authority to be given to a user who does not have specific authority to the file or member, is not on the authorization list, and whose user group does not have specific authority to the file or member.

> **IGCDTA(*YES|*NO)** specifies that DBCS support is installed on the destination i5/OS node and the file being sent contains DBCS data.The following TOSYSOPTS parameters are valid for **TYPE(OBJ)** files:

> **MAXRCDS(number|*NOMAX)** specifies the maximum number of records the save file (which was created to hold the data received) can reach.

> **ASP(auxiliary-storage-pool)** specifies the auxiliary storage pool from which the system allocates storage for the save file.

> **TEXT('text description')** specifies a text description to be associated with this object. This description cannot exceed 50 characters and must be enclosed in single quotes.

> **AUT(*EXCLUDE|*CHANGE|*ALL|*USE)** specifies the authority to give to a user who does not have specific authority to the object, is not on the authorization list, and whose user group does not have specific authority to the object.

The following TOSYSOPTS parameters are valid for **TYPE(SPLF)** files:

DEV(*JOB|*SYSVAL|device-name) specifies the name of the printer device description.

DEVTYPE(*IPDS|*SCS)|*USERASCII specifies the type of data stream created for a printer file from the data received.

PAGESIZE(page-length page-width) specifies the length and width of the page used by the printer. This parameter overrides the FORMTYPE parameter.

LPI(3|4|6|7.5|8|9) specifies the line space setting (lines per inch) on the printer.

CPI(5|10|12|13.3|15|16.7|18|20) specifies the printer character density, in characters per inch, for the printer.

OVRFLW(overflow-line-number) specifies the line number on the page where overflow to a new page begins. The value specified must not exceed the form length specified for PAGESIZE.

FOLD(*NO|*YES) specifies whether entire records are printed when the record length exceeds the form width.

RPLUNPRT(*YES 'replacement-character'|*NO) specifies whether unprintable characters are replaced with printable characters when printed. It also specifies the replacement character.

ALIGN(*NO|*YES) specifies whether the page must be aligned in the printer before printing is started.

CTLCHAR(*NONE|*FCFC) specifies whether the data contains printer control characters.

CHLVAL(*NORMAL| (channel#1 line#1) ... (channel#12 line#12)) specifies the list of channel numbers with their assigned line numbers. Note that CTLCHAR(*FCFC) must be specified as a SYSOPTS parameter for this to be a valid parameter.

FORMFEED(*DEVD|*CONT|*CUT|*AUTOCUT) specifies the form feed attachments used by the printer (4214, 5219, and 5553 printers only).

PRTQLTY(*STD|*DRAFT|*DEVD|*NLQ) specifies the quality of print produced.

DRAWER(1|2|3|*E1) specifies the source drawer to be used when automatic cut-sheet feed mode is used. FORMFEED(*AUTOCUT) must be specified as a SYSOPTS parameter for this to be a valid parameter.

FONT(*CPI|*DEVD|font-identifier) specifies the font identifier to be used for the spooled output file.

CHRID(*DEVD|*SYSVAL| graphic-character-set code-page) specifies the character identifier to be used for the spooled output file. This parameter allows you to print data with different character identifier coding.

PAGRTT(*DEVD|*COR|0|90|180|270) specifies the degree of rotation (clockwise from the edge of the paper first loaded into the printer) of text on each page printed. **0|90|180|270** indicates the specific angle of rotation.

PRTTXT('print-text') specifies a line of text to be printed at the bottom of each page printed. Up to 30 characters enclosed in single quotes is specified.

JUSTIFY(0|50|100) controls the print positions of the characters on the page (in the spooled file) so the right margin is regular.

DUPLEX(*NO|*YES|*TUMBLE) specifies whether the spooled output file is printed on one or both sides of the paper.

SPOOL(*YES|*NO) specifies whether the data is sent to a spooled file prior to printing.

OUTQ(*JOB|*DEV|library-name/output-queue- name) specifies the output queue for the spooled output file created. This parameter is valid only when SPOOL(*YES).

FORMTYPE(form-type) specifies the type of form to use in the printer when the spooled file is printed. A form-type identifier is user-defined and is no longer than 10 characters. The PAGESIZE parameter overrides this parameter.

COPIES(number-of-copies) specifies the number of copies to be printed. Valid values range from 1–255. This parameter is valid only when SPOOL(*YES).

MAXRCDS(maximum-records) specifies the maximum number of records that is placed in the spooled file. Valid values range from 1–500000. This parameter is valid only when SPOOL(*YES).

FILESEP(number-of-file-separators) specifies the number of blank separator pages to be placed between each copy of the file printed.

HOLD(*YES|*NO) specifies whether the file is to be held on the output queue until released by the user. This parameter is valid only if SPOOL(*YES).

SAVE(*YES|*NO) specifies whether the spooled output file is to be saved on the output queue once printed. This parameter is valid only if SPOOL(*YES).

OUTPTY(*JOB|output-priority) specifies the scheduling priority of the file on the output queue. This parameter is valid only if SPOOL(*YES).

USRDTA(user-data) allows up to 10 characters of data to identify the spooled output file. This parameter is valid only if SPOOL(*YES).

Refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html for general information on SMS support and TOSYSOPTS parameters for other platforms.

Optional Parameters

The following parameters, listed alphabetically, are optional. Unless noted, the parameters apply to all remote node environments.

BLKSIZE(n|*CALC)

specifies the blocksize value for the source file. This value must be a multiple of the file record size.

n specifies the block size of the file. This value must be a multiple of the record size. The valid range is 1–32720

*CALC indicates that the blocksize is calculated.

CKPTINV(n)

Number of bytes, from 1K to 2 gigabytes, to send or receive before taking a checkpoint. The format is *nnnnnnn*, *nnnnnn*K, or *nnnnnn*M, where **K** specifies thousands of bytes and **M** specifies millions of bytes. A value of **0** specifies no checkpoint restart Sterling Connect:Direct for i5/OS uses the value you specify, rounded up to the nearest record boundary, to determine when to take a checkpoint. If you specify a value between 1 and 1023, the value becomes 1024 or 1K.

A checkpoint interval specified here overrides the system-wide default value in the initialization parameters file.

Checkpointing cannot occur in the following cases, even if you specify a checkpoint interval:

❖ The file being sent is compressed during the send operation by the local node using the extended compression feature, and decompression is deferred on the receiving node. That is, the TOSYSOPTS parameter has DECMPR(*NO).

❖ A precompressed file is sent and decompressed by the receiving node during the send operation. That is, the FMSYSOPTS has PRECMPR(*YES) and TOSYSOPTS has DECMPR(*YES).

❖ A file is sent to a single z/OS partitioned data set member.

If you request checkpointing when you are transferring multiple members of a file, checkpoints are taken only at member boundaries regardless of the interval specified in the initialization parameters or in the CDSND or CDRCV command.

CLASS(n)

determines the node-to-node session on which an operation can execute. The CLASS is a number in the range of 1–255. If you do not specify the CLASS parameter, it defaults to the number of maximum sessions defined in the mode description for the communications environment.

> **Note:** The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

COMPRESS (*NO|*YES|*EXT|X\xx\|C\cc\)

specifies that the data is to be compressed, which reduces the amount of data transmitted as the file is copied from one node to another. The file is automatically decompressed at the destination.

> **Note:** Compression is CPU-intensive, and its effectiveness depends on the data and line speed. Only use it if it benefits the installation.

You should specify the primary compression character for text data or single-character repetitive data. Extended compression generally offers improved compression for all types of data.

*NO specifies no compression.

*YES enables compression. If *YES is specified, the default primary compression character is PRIMEchar=X\40\ (hex 40=" ").

If you specify *YES, Sterling Connect:Direct compresses the data transmitted based on the following rules:

❖ Repetitive occurrences (ranging from 2–63) of the primary compression character are compressed to one byte.

❖ Repetitive occurrences (ranging from 3–63) of any other character are compressed to two bytes.

*EXT specifies that extended compression is used to search for repetitive strings of characters in data and compress them to codes that are transmitted and converted back to the original string during decompression. Use this parameter when the line transmission speeds are limited, the CPU is available, and the data is repetitive.

X\xx enables compression, where *xx* is the hexadecimal representation of the value to be used for the primary compression character.

C\cc enables compression, where *cc* is the character representation of the value to be used for the primary compression character.

CRC(*INITPARMS|*NETMAP|*OFF|*ON)

Determines whether node and Process statement overrides for Cyclic Redundancy Check (CRC) are allowed. If this value is set to *OFF, setting overrides for CRC checking will be ignored. The default value is *INITPARMS.

*INITPARMS specifies that the CRC setting is determined by the value for the initialization parameter TCP.CRC.

*NETMAP specifies that the CRC setting is determined by the value for the NETMAP parameter, Cyclic Redundancy Check. The value for the initialization parameter TCP.CRC must be set to *ON and the value for the initialization parameter TCP.CRC.OVERRIDE must be set to *YES.

*OFF specifies that CRC is disabled.

*ON specifies that CRC is enabled.

ECTUNING(ecclevel,ecwinsize,ecmlevel)

ECCLEVEL specifies the extended compression level, which affects how much CPU the extended compression routines use. Higher compression levels use more CPU but achieve greater compression. The valid values for this subparameter are 1–9, inclusive. The default value is *INITPARMS.

ECWINSIZE specifies the extended compression window size, which is specifically for the history buffer that is filled from the user's input buffer (both compressing and decompressing). The window specifies the amount of storage designated to maintain data previously read.

This data can be scanned for string matches. The extended compression window size affects how much virtual memory the extended compression routines use. Higher window size values use more memory but achieve greater compression. The valid values for this subparameter are 8–15, inclusive. The default value is *INITPARMS.

ECMLEVEL specifies the extended compression memory level parameter, which determines how much memory should be allocated for other internal data structures like the hash table and the previous table (pointers to previous strings starting with the same 3 characters). The extended memory level affects how much memory the extended compression routines use. Higher memory levels use more virtual memory but achieve greater compression. The valid values for this subparameter are 1–9. inclusive. The default value is *INITPARMS.

EXCLUDE (generic|member-name|(start-range/stop-range)|'list')
specifies criteria that identifies the file members that are not to be copied. EXCLUDE allows you to make exceptions to members specified generically or by range in the SELECT option.

generic specifies a generic member name. For example, if you specify CD*, all member names beginning with CD are excluded.

member-name specifies an individual member name.

start-range/stop-range specifies first and last names in an alphanumeric range of members. Although member names in a range are treated as generics, they cannot be used with an asterisk (*). A slash (/) separates the first (start-range) and last (stop-range) member names. The two members specified, as well as all members in the range, are excluded.

'list' specifies any combination of the subparameters.FDISP(current, normal end, abnormal end) specifies the status of the sending file and what is to be done with the file after notification of successful or unsuccessful transmission.

current specifies the status of the file. Valid values for this subparameter are:

> **<u>SHR</u>** specifies that the member is read simultaneously by another operation. The default is SHR.

> **OLD** specifies that the operation is to be given exclusive control of the file.

normal end specifies the disposition of the file following a normal operation termination, resulting in a zero completion code. Valid dispositions are:

> **<u>KEEP</u>** specifies that the system is to keep the member after the operation ends.

> **DELETE** specifies that the system is to delete the member after the operation ends.

abnormal end specifies the disposition of the file after an abnormal operation termination, resulting in a nonzero completion code. Valid source file dispositions are:

> **<u>KEEP</u>** specifies that the system is to keep the member after the operation terminates abnormally.

> **DELETE** specifies the system is to delete the member after the operation terminates abnormally.

Note: Currently, normal end disposition and abnormal end disposition are not applicable for Sterling Connect:Direct for i5/OS.

NOTIFY(userid)
specifies the user ID on the sending node to receive status messages that are directed to the user's message queue.

PLEXCLASS(user-defined class)

specifies a user-defined class containing up to eight characters associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment. This represents a type of server on which you want to run a task, for example TAPE.

Note:	This parameter is for use only in Sterling Connect:Direct for i5/OS environments.

PNAME(process-name)

identifies the Process in any messages or statistics. The name is from 1 to 12 characters long. The first character must be alphabetic. The default name is CDSND.

Note:	Only Sterling Connect:Direct for i5/OS and Sterling Connect:Direct for UNIX support Process names with more than 8 characters.

PNODEID(id, pswd, newpswd)

specifies security user IDs and passwords at the local i5/OS node. Use this parameter only to validate security with a different ID than the one you used to sign on to the system.

id specifies the security ID passed to the security system on the sending node (1–10 alphanumeric characters).

pswd specifies the current security password for the specified ID. The security system on the sending node can use this parameter to validate the current security password (1–10 alphanumeric characters). This is optional unless the user has security set to require a password.

newpswd specifies the new security password. The security system can use this parameter to change the current security password to the new security password (1–10 alphanumeric characters).

Note:	Although you can specify a value for newpswd, Sterling Connect:Direct for i5/OS does not support this parameter.

REPLACE (*YES|*NO)

specifies that the sending file replaces members of the same name at the receiving file or PDS.

RMTWORK(*NO|*YES)

specifies whether a remote process can run on the session after Sterling Connect:Direct for i5/OS has completed its Process on the session.

*NO terminates the session after Sterling Connect:Direct for i5/OS executes the command function.

*YES allows a remote process to run on the session after Sterling Connect:Direct for i5/OS completes its Process.

SACCT(accounting-data)

specifies the accounting data for the receiving node. The maximum length of the accounting data is 256 characters. If special characters are part of the accounting data, the string must be enclosed in single quotation marks.

SECOPTIONS(* *)

Encryption and Digital Signature values.

Encryption specifies if data encryption is to be performed and what algorithm to use.

Digital Signature specifies if a digital signature is created while a file is being transmitted.

> **Note:** The SECOPTIONS parameter is valid only if the Sterling Connect:Direct Secure Plus is installed. For information about these parameters, refer to the *IBM Sterling Connect:Direct Secure Plus Implementation Guide*.

SELECT(member, new-name, <u>R</u>/NR, 'list')
specifies selection criteria by which file members are to be copied. Use this parameter when you specify TYPE(FILE) in the FMSYSOPTS parameter.

> **Note:** *FIRST is not a valid subparameter.

The SELECT parameter consists of three positional subparameters separated by commas.

member specifies the member(s) to be copied. You can also specify a list of individual member names or generic member names separated by spaces. However, you cannot use the new-name and replace-member (R) subparameters when specifying a list. Member selections are:

* represents a global generic and indicates that all members of the file are to be included.

generic specifies a generic member name. For example, if you specify CD*, all member names beginning with CD are selected for copying.

member-name specifies an individual member name.

start-range/stop-range specifies first and last names in an alphanumeric range of members. Although member names in a range are treated as generics, you cannot use them with an asterisk (*). A slash (/) separates the first (start-range) and last (stop-range) member names. The two members specified, as well as all members in the range, are copied.

new-name specifies a new name for a member. The new-name subparameter cannot be used if you use a generic or range to select the members to be copied or if you specify a list of member names.

<u>R</u>/NR specifies whether a copied member replaces an existing member of the same name in the receiving file. When used with a generic or a range, this subparameter applies to all members selected.

> **Note:** When using a generic and specifying **NR** or **R**, the second positional subparameter (new-name) must be null, for example, **generic*,,NR**.

<u>R</u> specifies that a member replaces an existing member of the same name in the receiving file. When used with the new-name subparameter, **R** applies to the specified new-name and not the original member name.

NR specifies that a member does not replace an existing member of the same name in the receiving file. NR overrides the REPLACE parameter.

'list' specifies any combination of the subparameters.

SNODEID (id, pswd, newpswd)
specifies security user IDs and passwords at the remote node. If nothing is specified for this parameter, the user profile of the user who submits the command is sent to the remote node with a blank password.

id specifies the security ID passed to the security system on the receiving node (1–64 alphanumeric characters).

pswd specifies the current security password. The security system on the SNODE can use this parameter to validate the current security password (1–64 alphanumeric characters). This is optional unless you have security set to require a password.

newpswd specifies the new security password and is used by the security system to change the current security password to the new security password (1–64 alphanumeric characters).

Note: newpswd is not supported if the remote node is an i5/OS node.
Parameter values are case sensitive.

TBUFND(n)
specifies the number of I/O buffers VSAM uses for transmitting data between virtual and auxiliary storage. Valid values range from 1–510. The default is **2**. Increasing this number generally improves the I/O performance on the file but requires more memory.

TDBPARMS (dbid, dbsubid)
indicates that the Sterling Connect:Direct SQL SERVER is to process the I/O request against the database identified by the subparameters of this keyword and defined by the SQL= parameter. The DBPARMS parameter is used with the optional Sterling Connect:Direct for SQL feature. This parameter is valid for z/OS nodes only. Only DB2 is supported.

To determine the values to code to access a given DB2 table or set of DB2 tables, consult your database administrator.

   dbid specifies the DB2 database ID of one to four bytes.

   dbsubid specifies the DB2 database sub-ID of one to four bytes.

TDCB (modeldcb, blksize, den, dsorg, keylen, linct, lrecl, optcd, recfm, rkp, trtch)
overrides attributes of the source file. For existing source and destination files, DCB attributes are determined from the operating system unless specified. For a new destination file, use the DCB attributes of the source file to allocate the destination file unless you provide DCB information in the operation.

modeldcb specifies a model data set control block (DSCB).

blksize specifies the length in bytes of the block. The minimum length is 18 bytes, and the maximum length is 32,760 bytes.

den specifies the magnetic tape mode setting. The following table shows the values for the DEN parameter for 7- and 9-track tapes. When coded together, the DEN and TRTCH values are used to select a tape device for allocation by the remote node.

DEN	7-Track Tape	9-Track Tape
1	556 bpi	--
2	800 bpi	800 bpi
3	--	1600 bpi
4	--	6250 bpi

dsorg specifies the file organization. Valid file organizations are BDAM, ISAM, PO, PS, and VSAM.

keylen specifies the length of the keys used in a file. Maximum length is 255 bytes.

limct specifies the blocks or tracks searched to find a free block or available space.

lrecl specifies the record length in bytes.

optcd specifies optional processing associated with this file. This specification only applies to this file and is not automatically applied to the other files involved in the RECEIVE operation. Valid options are:

W performs write validity checks on direct access storage devices.

Q performs ASCII-to-EBCDIC conversion for input files and EBCDIC-to-ASCII conversion for output files. **Q** is the default and only used for AL-labeled tape files.

Z performs reduced error recovery for tape files.

recfm specifies the format of the records in the file. You can specify any valid record format, such as:

F specifies fixed format.

FA specifies fixed format with ASA printer control.

FB specifies fixed block format.

FBA specifies fixed block format with ANSI carriage control.

FM specifies fixed format with machine code control character.

U specifies undefined format.

V specifies variable format.

VB specifies variable block format.

VBA specifies variable block format with ASA printer control.

VBM specifies variable block format with machine code control character.

VS specifies variable spanned format.

VBS specifies variable block spanned format.

For FDR volumes, you must specify RECFM=U.

rkp specifies the position of the first byte of the record key within each logical record. The beginning byte of a record is addressed as **0**.

trtch specifies the magnetic tape mode setting. When coded together, the TRTCH and DEN values select a tape device for allocation by Sterling Connect:Direct for z/OS. Valid options are:

C specifies data conversion, odd parity, and no translation.

E specifies no data conversion, even parity, and no translation.

T specifies no data conversion, odd parity, and BCD or EBCDIC translation.

ET specifies no data conversion, even parity, and BCD or EBCDIC translation.

COMP is a feature for 3480X tape drives only. It enables Improved Data Recording Capability (IDRC), which compresses the data. This subparameter overrides the system-wide IDRC setting for no compression. If you are specifying COMP, you must also include a UNIT= parameter that specifies either 3480X or a systems programmer-defined name equivalent to a 3480X tape drive.

NOCOMP overrides the system-wide IDRC setting for compression. It applies to 3480X tape drives only.

TDISP (current, normal end, abnormal end)
specifies the status of the file on the receiving node.

current specifies the status of the file before the operation executes. Valid choices for this subparameter are:

NEW indicates that the current Sterling Connect:Direct operation creates the destination file or member.

OLD indicates that the destination member already exists. The operation has exclusive control of the member. If the destination member does not exist, the operation fails.

MOD indicates that the operation modifies the member by adding data to the end of the member or, if none exists, allocates a new member. The file is also created if it does not exist.

RPL indicates that the destination file or member is replaced. The file is created if it does not exist.

SHR indicates that another operation can read the file simultaneously. The file is created if it does not exist on i5/OS.

Note: Normal end disposition and abnormal end disposition are not applicable when sending to Sterling Connect:Direct for i5/OS.

For information on subparameters for other Sterling Connect:Direct platforms, refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html.

TIOEXIT(program-name)
specifies the name of the user-written program to be given control for I/O-related requests for the associated data.

TIOPARM(parameter-names)
specifies a parameter or list of parameters to be passed to the specified exit. The TIOPARM syntax is dependent on the parameter list required by the program specified in TIOEXIT.

TLABEL(seqno, labeltype, pswdread, inout, retpd, expdt)
specifies label information for the tape.

seqno specifies the relative file position on the tape.

labeltype is designated as:

SL specifies IBM standard label.

AL specifies American National Standard label.

BLP specifies bypass label processing.

LTM specifies bypass leading tape marks.

NL specifies no label.

pswdread specifies that a password must be supplied by the operator or user before the file is accessed.

inout specifies that a BSAM data set opened for INOUT or a BDAM data set opened for UPDAT is to be read only.

retpd specifies the retention period for the data set in days, where *nnnn* is one to four digits.

expdt specifies the expiration date for the data set, where *yyddd* or *yyyyddd* is a valid Julian date.

TLINK(vmuserid pwd accmode cuu)
specifies the disk where the CMS file is located. This parameter allows the user to access the CMS file. This parameter is for a VM remote node.

vmuserid specifies the owner ID for the CMS minidisk where the file is located. The valid length ranges from 1–8 characters.

pwd specifies the appropriate password for the CMS minidisk where the file is located. The maximum length is 256 characters. The default password is ALL.

accmode specifies the link access mode.

When used with the FROM parameter, the access modes are **W** (primary read/write access), **M** (primary multiple access), **R** (primary read only), **RR** (primary and remote read only access), **WR** (primary read/write access; alternate read only access), **MR** (primary multiple access; alternate read only access), and **MW** (primary multiple access; alternate read/write only access).

When used with the TO parameter, the access modes are **W**, **M**, and MW.

cuu specifies the virtual address of the disk where the CMS file is located. Any three-digit number is valid.

TMSVGP(data-definition-name)
specifies the receiving file mass storage volume group that resides on a mass storage system (MSS) device. This must be a valid DD (data definition) name.

TPROTCT(*YES|*NO)
specifies whether an IBM RACF profile is created for a new file on a remote VM system.

TRACEOPT
Trace Instructions
(L, S, F, C, X, K, D, H, V, W, P,|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT

specifies the trace bits that define functions to be traced by Sterling Connect:Direct for i5/OS. The following are valid options:

- ❖ **L** enables the main line logic trace for all components.
- ❖ **S** enables the Process step logic trace.
- ❖ **F** enables the file handler trace.
- ❖ **C** enables the communications logic trace.
- ❖ **X** enables the XDR trace.
- ❖ **K** enables the KQV logic trace.
- ❖ **D** enables the all-purpose data dump.
- ❖ **H** enables the FMH dump.
- ❖ **V** enables the XDR dump.
- ❖ **W** enables the communications dump.
- ❖ **P** enables the CIPC dump.
- ❖ ***NONE** turns off all traces.
- ❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, W and P)
- ❖ ***EXT** enables all product traces plus two system traces (TRCICF and TRCJOB).
- ❖ ***COMMON** enables the communications traces. (L, S, F, C, and H)
- ❖ ***INITPARMS** indicates the traces specified in the initialization parameters.
- ❖ ***CURRENT** selects the trace bits that the session manager is currently using.

Command Trace Options
L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| *NONE)

specifies the trace bits that define functions to be traced for this command but not for the Process it runs. The following are valid options:

- ❖ **L** enables the main line logic trace for all components.
- ❖ **S** enables the Process step logic trace.
- ❖ **F** enables the file handler trace.
- ❖ **C** enables the common logic trace.
- ❖ **X** enables the XDR trace.

- ❖ **K** enables the KQV logic trace.

- ❖ **D** enables the all-purpose data dump.

- ❖ **H** enables the FMH dump.

- ❖ **V** enables the XDR dump.

- ❖ **P** enables the CIPC dump.

- ❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, and P)

- ❖ ***EXT** enables all product traces plus two other traces. (TRCICF and TRCJOB)

- ❖ ***COMMON** enables the most commonly used traces. (L, S, F, C, and H)

- ❖ ***NONE** turns off all traces.

TSPACE(avgblk, type, primary, secondary, pdsblk, rlse, contig, round)
specifies the amount of storage to be allocated for new files on the destination node.

If you specify SPACE, the DISP of the destination file must be NEW. If you do not specify SPACE and the DISP is NEW, space allocation defaults to the value obtained from the source file (unless a TTYPE has been specified). The default allocation is in blocks and, if supplied with the ROUND option, provides device-independent space allocation.

This parameter is required for all new non-VSAM files unless you have specified a type key that includes a SPACE parameter.

avgblk defines the average blocksize.

type defines the space allocation. Valid options are:

CYL specifies that space is to be allocated by cylinder.

TRK specifies that space is to be allocated by track.

blk specifies that space is to be allocated by the average block length of the data and is the default. The system computes the number of tracks to be allocated. If the subparameter ROUND is also specified, the system allocates the space in cylinders. ROUND is preferred because allocation is performed on cylinders in a device-independent manner. If no space information is coded, allocation is in blocks, due to device dependencies.

primary specifies the primary allocation of storage in number of units.

secondary specifies the secondary allocation of storage in number of units.

pdsblk specifies the number of PDS directory blocks to be created in the file.

rlse specifies that the unused storage allocated to the output file be released. Valid values are *YES and *NO.

contig specifies that the storage for the local allocation must be contiguous. Valid values are *YES and *NO.

round specifies that the storage allocated by average block length is rounded to an integral number of cylinders. Valid values are *YES and *NO.

TSQL ('sql-statement'|'DSN=data-set-name')
defines the SQL statement to be processed against the database identified by the DBPARMS parameter or the DSN containing the SQL statements. The SQL parameter is used with the optional Sterling Connect:Direct for z/OS SQL feature. This parameter is valid for Sterling Connect:Direct for z/OS nodes only.

'sql-statement' defines the actual SQL statement to be processed.

'DSN=data-set-name' specifies the data set containing the SQL statement(s) to be processed.

TTYPE(entry-name)
specifies the entry name of the type defaults file on the remote node that contains the default file attributes used to allocate the destination file.

TUNIT(file-address)
specifies the unit address, device type, or user-assigned group name where the file resides or will reside. For SAM-to-SAM copies where the destination file is new and the UNIT parameter is not coded, the device type from the source file is used. For VSE nodes, you must specify either this parameter or TVOL.

Specify a unit-count to allow additional units to be allocated if required, or specify **P** to allocate the same number of units as volumes and then parallel mount the volumes.

TVOL(private, volcount, ser)
specifies the volume serial number or numbers containing the file and optional processing associated with the file. If TVOL is not specified, the file must be cataloged. For VSE nodes, you must specify either this parameter or TUNIT.

private specifies allocation of an output file only if the volume is specifically requested and is used for direct access storage devices only. Valid values are *YES and *NO.

volcount specifies the maximum number of volumes required by an output file.

ser identifies by serial number the volumes on which the output file resides or will reside.

TVOLREF(data-set-volume)
allows you to place a data set on the same volume as the referenced data set. It must be cataloged on the system where it is referenced.

TVSAMCAT = (dsn, vmid, pwd, accmode, cuu)
specifies the catalog for the VSAM file to be copied. This parameter is required only if using a catalog other than the master catalog. This parameter is for a VSE or VM remote node.

dsn specifies the filename of the VSAM catalog containing the file to be copied. The maximum length is 44 characters.

vmid specifies the owner ID for the VSAM minidisk where the file is located. The maximum length is eight characters.

pwd specifies the appropriate password for the VSAM minidisk where the file is located. The maximum length is eight characters.

accmode specifies the link access mode. Valid access modes are NULL, **W** (primary read/write access), **M** (primary multiple access), and MW (primary multiple access; alternate read/write only access).

cuu specifies the virtual address of the disk where the VSAM file is located. Any three-digit number is valid.

Using Block Mode Transfer

Sterling Connect:Direct for i5/OS supports block mode transfer for send operations. In this mode, Sterling Connect:Direct uses the file block as the data unit. Using the block mode transfer improves performance because the sending and receiving nodes handle fewer data units. This type of transfer reduces instruction path length and decreases execution time. Larger units move between Sterling Connect:Direct and the file access routines, requiring fewer calls to the access routines and further improving performance.

Sterling Connect:Direct for i5/OS simulates block reads and writes. Using logical blocks instead of physical blocks, it allows you to modify the blocksize to match the other node in some cases.

Sterling Connect:Direct for i5/OS supports block mode transfer when the following conditions exist:

❖ Remote node supports block mode

❖ Source and destination files have like characteristics

❖ Files are supported file types

Sterling Connect:Direct for i5/OS supports block mode transfers for the following i5/OS file types:

❖ DB2 for i5/OS files (without staged compression)

❖ Spool files

❖ Save files

❖ Stream files (using the integrated file system)

Simulating Blocksizes

The simulated blocksize determines whether a block mode transfer occurs. If the block mode transfer does occur, the simulated blocksize is used for the transfer. The following rules determine what simulated blocksize Sterling Connect:Direct for i5/OS uses.

As the receiving node, Sterling Connect:Direct for i5/OS determines the simulated blocksize by these conditions in order of precedence:

❖ Destination file blocksize specified on the request

❖ Source file blocksize sent by the sending node in the COPY control block

If neither condition exists, Sterling Connect:Direct uses the record mode.

As the sending node, Sterling Connect:Direct for i5/OS determines the simulated blocksize by these conditions in order of precedence:

❖ Source file blocksize specified on the request

❖ Destination file blocksize specified on the request

❖ Calculated value*

*Largest multiple of record size less than some arbitrary value, such as 4096.

Block Mode Transfer Examples

The following block mode transfer examples include both sending and receiving examples.

CDRCV Example—Not Specifying Source File Blocksize

In the first example, the request does not specify the source file blocksize. In this scenario, the following occurs:

❖ The Sterling Connect:Direct for i5/OS node sets the source file simulated blocksize to 3200 by using the destination file value.

❖ The receiving Sterling Connect:Direct for i5/OS sets the destination file simulated blocksize to the value specified on the request.

❖   Because the blocksizes match, the block mode copy occurs.

```
C:D  i5:    receiving
request:    source blksize=not specified;  dest blksize = 3200
srce file:  lrecl=80, (on another C:D  i5 3.3 node)
dest file:   NEW
```

CDRCV Example—Specifying Source File Blocksize

In the second example, the following occurs:

❖   Sterling Connect:Direct for i5/OS calculates the simulated blocksize at 3200 because the destination file is new and the source file specifies a blocksize.

❖   The receiving node uses the existing destination file blocksize of 3200.

❖   A block mode transfer occurs because the blocksizes match.

```
C:D  i5:  receiving
request:  source blksize=not specified;dest blksize = not specified;
srce file: lrecl=80, blksize=3200 (on z/OS node)
dest file: NEW
```

CDSND Examples—Simulating Blocksize

In the third example, the following events occur:

❖   Sterling Connect:Direct for i5/OS sets the simulated blocksize at 6400 from the request.

❖   The receiving node creates the destination file using source file attributes of blksize=6400.

❖   Because the file attributes match, the block mode transfer occurs.

```
C:D  i5:    sending
request:    source blksize=6400;  dest blksize = not specified;
srce file:  lrecl=80
dest file:   NEW (on z/OS)
```

CDSND Examples—Setting Actual Blocksize

In the fourth example, the following events occur:

❖   The remote node sets the destination file blocksize to 3200, the actual blocksize of the destination file.

❖   Sterling Connect:Direct for i5/OS calculates the simulated blocksize at 3200.

❖   The blocksizes are identical, so block mode transfer occurs.

```
C:D  i5:  sending
request:  source blksize=not specified; dest blksize = not specified;
srce file: lrecl=80
dest file: existing: lrecl=80, blksize=3200 (on z/OS)
```

CDSND and CDRCV Example

In the fifth example, Sterling Connect:Direct for i5/OS calculates the simulated blocksize at 32720 because the copy is between two Sterling Connect:Direct for i5/OS nodes.

```
C:D  i5  sending and receiving
request:  source blksize=not specified; dest blksize=not specified
srce file: lrecl=32720
dest file: new
```

Using the CDSND Screens

Use the **Connect:Direct Send File (CDSND)** screens to send a file to a remote node.

Sending a File to a Remote Node

Complete the following steps to send a file to a remote node.

1. Access the CDSND screens by typing **CDSND** at the command line and pressing **F4** or by choosing the send file option from the Sterling Connect:Direct menu.

2. Type in the remote node name at the screen prompt and press **Enter**. The command retrieves the remote node environment and displays fields for required parameters.

3. Type values for required and optional parameters as appropriate and press **Enter**.

Following is a sample of the first screen in the **Connect:Direct Send File (CDSND)** screen flow. The sample shows the keyword display option.

Connect:Direct Send File Screen 1

```
                    Connect:Direct Send File (CDSND)

 Type choices, press Enter.

 Receiving Node Name  . . . . . . >  DALLAS_____
 Receiving Node Environment . . .   OS400_____    AS400, MSP, MVS, OS400...
 Sending File Name  . . . . . . .   _____
 _____
 Receiving File Name  . . . . . .   _____
 _____

 Sending System Operations  . . .   'TYPE(FILE)'_____
 _____
 _____
 _____
 _____
 _____
 _____

 _____...

                                                                 Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

The content of this screen and the following screens depends on the receiving node environment.

Connect:Direct Send File Screen 2

```
                        Connect:Direct Send File (CDSND)

 Type choices, press Enter.

 Receiving System Operations  . . 'TYPE(FILE)'_____
_____
_____
_____
_____
_____
_____
_____  ...
 Trace Options:
   Trace Instructions . . . . . .   *CURRENT_____
   Command trace options  . . . .   *NONE_____
 Process Name . . . . . . . . . .   CDSND___         Name
 Sending Node User Info.:
   User Id  . . . . . . . . . . .   *CURRENT         Character value, *CURRENT
   Password . . . . . . . . . . .                    Character value
   New Password . . . . . . . . .                    Character value
 User to Notify . . . . . . . . .   *CURRENT         Name, *CURRENT, *NONE
                                                                         More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Connect:Direct Send File Screen 3

```
                        Connect:Direct Send File (CDSND)

 Type choices, press Enter.

 Receiving Node User Info.:
   User Id  . . . . . . . . . . ._____
_____
   Password . . . . . . . . . . .

   New Password . . . . . . . . .

 Class  . . . . . . . . . . . . .   *MODED          1-255, *MODED
 Checkpoint Interval  . . . . . .   *INITPARMS       0-9999999, *INITPARMS
 Allow remote process . . . . . .   *NO             Character value, *YES, *NO
 Sending File Disposition:
   Current Disposition  . . . . .   SHR             SHR, OLD
   Normal End Disposition . . . .   _____            KEEP, DELETE
   Abnormal End Disposition . . .   _____            KEEP, DELETE
                                                                         More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Connect:Direct Send File Screen 4

```
                       Connect:Direct Send File (CDSND)

 Type choices, press Enter.

 File Members Selection List  . . _____
 _____
 _____
 _____
 File Members Exclusion List  . ._____
 _____
 _____
 _____
 Sending block size . . . . . . .   *CALC          Character value, *CALC
 Same Member Replaced . . . . . .   *YES            *YES, *NO
 CRC  . . . . . . . . . . . . . .   *INITPARMS      *INITPARMS, *NETMAP, *ON, *OFF
 Secure+ Options:
   Encryption . . . . . . . . . .   *               */Y/N/Algorithm
   Digital Signature  . . . . . .   *               *, N, Y
 Compress Data  . . . . . . . . .   *NO             Character value, *NO, *YES...

                                                                   More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Connect:Direct Send File Screen 5

```
                       Connect:Direct Send File (CDSND)

 Type choices, press Enter.

 Extended compression tuning:
   Extended compression level . .   *INITPARMS    1-9, *INITPARMS
   Extended compression window  .   *INITPARMS    8-15, *INITPARMS
   Extended compression memory  .   *INITPARMS    1-9, *INITPARMS
 Receiving File Type Parameter  .                 Character value
 Receiving File Disposition:
   Current Disposition  . . . . .   NEW           NEW, OLD, MOD, RPL, SHR
   Normal End Disposition . . . .   CATLG         CATLG, KEEP
   Abnormal End Disposition . . .                 KEEP, CATLG, DELETE
 Receiving Unit:
   Address/Type/Group/Unit-ID . .   _____      Character value
   Receiving Unit Count/P . . . .   ___           Character value, P



                                                                   More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Receiving a File

Receiving a file on Sterling Connect:Direct for i5/OS requires the Sterling Connect:Direct Receive (CDRCV) command. Understanding the Sterling Connect:Direct for i5/OS file systems, the CDRCV command parameters, and the **CDRCV** screens enables you to use this command more effectively. This chapter provides the following information to help you use this command:

❖   Using the file systems

❖   Using the CDRCV command

❖   Using block mode transfer

❖   Using **CDRCV** screens

Additional information about the use of command parameters for receiving remote files is available on the IBM Sterling Connect:Direct Processes Web site at
http://www.sterlingcommerce.com/documentation/processes/processhome.html.

Using the File Systems

Sterling Connect:Direct for i5/OS supports two types of file systems for the file transfers: native file and integrated file. The native file system and the integrated file system can both be used to send files to and receive files from any supported file systems.

Native File System

The native file system used in previous releases of Sterling Connect:Direct for i5/OS remains functional. This file system accepts the file name in the following formats:

library-name/file-name
    specifies the library and file name to be copied.

library-name/file-name(member-name)
    specifies the library, file, and member name of the member to be copied. You cannot use the EXCLUDE and SELECT parameters if you specify a member name.

Integrated File System

As part of the i5/OS, the integrated file system provides an integrated structure over all data stored in the iSeries. This file system supports stream input/output and storage management like personal computers and UNIX operating systems.

The Sterling Connect:Direct for i5/OS integrated file system provides application and data compatibility with other platforms. The integrated file system consists of five file system types:

❖   /QLANSrv is a LAN server file system

❖   /QDLS is a document library file system

❖   /QSYS.LIB is the iSeries DB2 file system

❖   /QOpenSys is a UNIX-style file system

❖   All others are part of the root file system

Specifying a Path Name

The integrated file system recognizes the objects by the path specification. You must specify the fully qualified path name to transfer a file. Sterling Connect:Direct for i5/OS identifies a path that starts with a slash (/) or a backslash (\) as a request for the integrated file system.

The integrated file system does not support file field description. You cannot specify the SNDFFD(*YES) under this file system. Similarly, you cannot specify SELECT or EXCLUDE with the integrated file system.

To use this system, you must specify the fully qualified path name in one of the following formats:

/QSYS.LIB/library-name.LIB/file-name.FILE/member-name.MBR
specifies the library, file name, and member name to be copied using the integrated file system.

/directory/file-name|/QLANSrv/file-name|/QDLS/folder-name| /QOpenSys/file-name
specifies the directory, folder, and file names to be copied using the integrated file system.

Directories like /QOpenSys and /root are case-sensitive. The /QSYS.LIB notation is case-sensitive only if you enclose the name in single quotation marks.

Using the CDRCV Command

Use the CDRCV command to receive a file from a remote node. This command receives files from any file systems supported by the i5/OS V3R1M0 or later. You can also specify a user-exit command (either **EXITCMD** or **FAILCMD**) to be executed after the completion of a copy process in either FROMSYSOPTS or TOSYSOPTS. Using EXITCMD, you can specify a command to be executed only if the copy process is successful. You can also specify a command to be executed only if the copy process is not successful by using the FAILCMD command. The EXITCMD and FAILCMD commands must be executed on an i5/OS using Sterling Connect:Direct release 3.3.00 and above. The EXITCMD and FAILCMD are executable iSeries commands as well as Sterling Connect:Direct as long as the size of the command does not exceed 127 bytes.

CDRCV Command Example

The command shown in the following figure is an example of the CDRCV command.

```
CDRCV       PNAME(CDRCVD) SNODE(DALLAS.OS3901)
            SNODENVIRN(OS390)
            FDSN(DALLAS.REPORT)
            TDSN('DALLIB/REPORT')
            TOSYSOPTS('TYPE(FILE)')
```

CDRCV Command Format

Following are the parameters for the CDRCV command. Required parameters are in bold.

Command	Parameter
CDRCV	**SNODE(remote-node-name)**
	SNODENVIRN(remote-environment-name)
	FDSN(from remote-data-set-name)
	TDSN(to data-set-name)
	FMSYSOPTS(' PRECMPR(*YES|*NO) CODEPAGE(nnnnn,nnnnn) EXITCMD(valid i5/OS command) FAILCMD(valid i5/OS command) SNDFFD(*YES|*NO) TEXTFILE(*YES|*NO) TYPE(FILE|MBR|OBJ) CCSID(nnnnn) EORCHAR(xxxx) ALWNULL(Y) ') **Note:** FMSYSOPTS is required if sending node is i5/OS)
	TOSYSOPTS(' DECMPR(*YES|*NO) CODEPAGE(nnnnn,nnnnn) EXITCMD(valid i5/OS command) FAILCMD(valid i5/OS command) **TYPE**(FILE|MBR|OBJ|SPLF) XTRAN(table-name)[XTRANLSO(so-code)| XTRANLSI(si-code)|XTRANLDATA(MIXED|DBCS)] CCSID(nnnnn) EORCHAR(xxxx) ')
	CKPTINV(n)
	CLASS(n)
	COMPRESS(*NO|*YES|*EXT|X\xx\\|C\cc\)
	CRC(*INITPARMS|*NETMAP|*OFF|*ON)
	ECTUNING (ecclevel, ecwinsize, ecmlevel)
	EXCLUDE(generic, member-name, (start-range/stop-range), 'list')
	FALIAS(*YES|*NO)
	FBUFND(n)
	FDBPARMS(dbid, dbsubid)
	FDCB(modeldcb, blksize, den, dsorg, keylen, linct, lrecl, optcd, recfm, rkp, trtch)
	FDISP(current, normal end, abnormal end)
	FIOEXIT(program-name)
	FIOPARM(parameter-name)

Command	Parameter
	FLABEL(seqno,labeltype,pswdread,inout,retpd|expdt)
	FLINK(vmuserid,pwd,accmode,ccuu)
	FMSVGP(data-set-name)
	FPDSDIR(*YES|*NO)
	FSQL(sql-statement|DSN=data-set-name)
	FTYPE(entry-name)
	FUNIT(unit-name)
	FVOL(private, volcount, ser)
	FVOLREF(data-set-name)
	FVSAMCAT(dsn,vmid,pwd,accmode,cuu)
	NOTIFY(userid)
	PLEXCLASS(user-defined class)
	PNAME(process-name)
	PNODEID(id, pswd, newpswd)
	REPLACE(*YES|*NO)
	RMTWORK(*YES|*NO)
	SACCT(snode-accounting-data)
	SECOPTIONS(* *)
	SELECT(member, new-name, R/NR, 'list')
	SNODEID(id, pswd, newpswd)
	TDISP(current)
	TRACEOPT Trace Instructions: (L,S,F,C,X,K,D,H,V,W,P|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT Command Trace Options: L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| *NONE)

Note: The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

Required Parameters

Unless otherwise noted, these required parameters apply to all remote node environments.

SNODE(remote-node-name)
　　specifies a 1–16 character alphanumeric name for the remote node. The node name must be defined in the network map.

SNODENVIRN(remote-environment-name)
　　specifies the remote node environment.

FDSN('from remote-data-set-name')

> specifies the source file name. File names are verified based on the i5/OS standard file name conventions. The length of the input field displayed is 132 characters, by default. If you want to increase the length of the field to 256 characters, type an ampersand(&) followed by a blank in the first two positions of the field.
>
> Sterling Connect:Direct for i5/OS provides two systems for handling the files: Native File System and Integrated File System. The following table summarizes the data set name requirements for Sterling Connect:Direct platforms.

SNODENVIRN	FDSN Format	Special Considerations
OS/400	Native File System 'library-name/file-name' 'library-name/file-name (member-name)'	Enclose in single quotation marks.
	Integrated File System '/QSYS.LIB/library-name.LIB /file-name.FILE /member-name.MBR' or '/directory/file-name| /QLANSrv/file-name| /QDLS/folder-name| /QOpenSys/file-name'	You cannot specify the *SNDFFD, *SELECT, and *EXCLUDE parameters with the integrated file system.
	Spool File Support spooled-file-name	Do not use member names longer than eight characters when sending to z/OS, VSE, and MSP. The results are unpredictable.
OS/390, VSE, MSP	Standard z/OS DSN naming conventions.	Single quotes allow special characters. Do not use member names longer than eight characters. The results are unpredictable.
VM	Fully qualified file-name	
Tandem	\system.$volume.subvolume.filename	
Microsoft Windows	drive:\directory\subdirectory\filename or \\servername\sharepointname\subdirectory\filename	
UNIX	/directory/subdirectory/filename	
OpenVMS	node::device:[directory]filename.type;version	When you are copying a file , the file specification must be enclosed in single quotation marks if it uses spaces or other special characters not recognized by the other node.
Stratus VOS	Fully qualified path and file name	Enclose the file name in double quotation marks when you use a reserved word (statement name or keyword) for the file name.

Note: The values of *LIBL, *CURLIB, and QTEMP cannot be used when sending to or from an iSeries system using Sterling Connect:Direct for i5/OS. A specific library name must be used for copying from or to a data set on the iSeries.

TDSN('to data-set-name')

specifies the local file name. File names are verified based on the i5/OS standard file name conventions.

The length of the input field displayed is 132 characters, by default. If you want to increase the length of the field to 256 characters, type an ampersand(&) followed by a blank in the first two positions of the field.

Sterling Connect:Direct for i5/OS supports two file systems: native and integrated. The file system description begins on page 4-45. The DSN format summaries for i5/OS are presented with the FDSN parameter description on page 4-49.

> **Note:** The values of *LIBL, *CURLIB, and QTEMP cannot be used when sending to or from an iSeries system using Sterling Connect:Direct for i5/OS. A specific library name must be used for copying from or to a data set on the iSeries.

FMSYSOPTS('

PRECMPR(*YES|*NO)
EXITCMD(valid i5/OS command)
FAILCMD(valid i5/OS command)
SNDFFD(*YES|*NO)
TEXTFILE(*YES|*NO)
TYPE(FILE|MBR|OBJ)
CODEPAGE(nnnnn,nnnnn)
CCSID(nnnnn)
EORCHAR(xxxx)
ALWNULL(Y)
')

specifies remote system operations. All parameters shown are valid only if the sending node is i5/OS. The maximum number of characters for SYSOPTS is 2K. This parameter is required when the remote file is on another Sterling Connect:Direct for i5/OS node.

For additional information about valid platform-specific SYSOPTS parameters, see the appropriate COPY statement section of the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html.

PRECMPR(*YES|*NO) specifies that the source file was previously compressed using the CDCOMP command. To receive a file that has been compressed, you must specify the PRECMPR(*YES) parameter with the CDRCV command. For information on how to compress files, refer to Chapter 9, *Compressing Files*. This is for i5/OS only.

EXITCMD(valid i5/OS command) specifies a command to be executed only if the copy process is successful.

FAILCMD(valid i5/OS command) specifies a command to be executed only if the copy process is not successful.

SNDFFD(*YES|*NO) specifies whether the receiving node transfers file field descriptions. This is for i5/OS only.

Use the following formula to determine whether a file can be sent with the file field descriptions. If the bytes required value is greater than 12K, you cannot transfer the file field descriptions.

```
(12 x number of keys)+(45 x number of fields)+SYSOPTS=bytes required
```

> **Note:** You cannot use this parameter with the integrated file system.

TEXTFILE(*YES|*NO) specifies that the file being sent is a text file.

TYPE(FILE|MBR|OBJ|SPLF) specifies the type of data to be copied. You *must* define the type of data structure to be copied as one of the following:

> **FILE** specifies that the file being copied is a physical database file.

> **MBR** specifies that the member being copied is a member of a physical database file.

> **OBJ** specifies that the data to be copied is in save file format.

> **SPLF** specifies that the data to be copied is in i5/OS spooled output format.

CODEPAGE(nnnnn,nnnnn) converts data from one code page to another. The supported conversions are identified on the IBM Web site in the V5R1 Information Center, DB2 Universal Database for iSeries SQL Reference, Appendix E. CODEPAGE() on Sterling Connect:Direct for i5/OS relates to CODEPAGE() developed for the z/OS system, UNIX, and Microsoft Windows.

> **nnnnn** identifies the IBM CCSID code page number to convert from and the IBM CCSID code page number to convert to. If the FROM code page or TO code page is locale, the code page for the locale where Sterling Connect:Direct is executing is used. For example, if fmsysopts(codepage(locale,1208)), then the FROM code page is the code page for the locale and the TO code page is UTF-8.

CCSID(nnnnn) specifies the coded character set ID to use when creating IFS files. If no character set ID is specified, the system default is used.

EORCHAR(xxxx) specifies the two-to four-digit hexadecimal symbol to identify the character to use in text files as the end-of-record character, for example, EORCHAR(0A).

ALWNULL(Y) specifies if NULLS characters will be processed when sending DB2 files.

TOSYSOPTS('
DECMPR(*YES|*NO)
EXITCMD(valid i5/OS command)
FAILCMD(valid i5/OS command)
TYPE(FILE|MBR|OBJ|SPLF)
XTRAN(table-name) [XTRANLSO(so-code)|
XTRANLSI(si-code)|XTRANLDATA(MIXED|DBCS)]
CCSID(nnnnn)
EORCHAR(xxxx)
')
specifies system operation parameters at the local node (i5/OS). The maximum number of characters permitted for TOSYSOPTS is 2K.

DECMPR(*YES|*NO) specifies whether the local Sterling Connect:Direct is to decompress the received file. DECMPR(*NO) instructs the local system to place the received data in a database file without decompressing it.

Note: Ensure that the destination file contains no members before you receive a file with DECMPR(*NO) specified.

EXITCMD(valid i5/OS command) specifies a command to be executed only if the copy process is successful.

FAILCMD(valid i5/OS command) specifies a command to be executed only if the copy process is not successful.

TYPE(FILE|MBR|OBJ|SPLF) specifies the type of data structure to be created. You *must* define the data structure to be created as one of the following:

FILE specifies that the file being created is a physical database file.

MBR specifies that the member being created is a member of a physical database file.

OBJ specifies that the file being created is in save file format.

SPLF specifies that the data is copied to an i5/OS spooled output file.

The default is TYPE(FILE).

For each type, you can specify certain additional TOSYSOPTS parameters.

The following subparameters are valid for **TYPE(FILE)** and **TYPE(MBR)** files:

RCDLEN(record-length) specifies the data length for each record in the file.

FILETYPE(*SRC|*DATA) specifies the type of file to be created. Use this parameter whenever a file is created.

TEXT('text description') specifies a text description to be associated with this member (and file, if created). This description cannot exceed 50 characters and must be enclosed in single quotes.

EXPDATE(expiration-date) specifies the date after which the new or replaced member cannot be used. If EXPDATE is not specified, then the file does not have an expiration date.

MAXMBRS(number|*NOMAX) specifies the maximum number of members a physical file can contain.

SIZE(#-of-recs|incr-value #-of-incrs|*NOMAX) is used when a new file is created for the file received.

AUT(*CHANGE|*ALL|*USE|*EXCLUDE) specifies the authority to be given to a user who does not have specific authority to the file or member, is not on the authorization list, and whose user group does not have specific authority to the file or member.

The following parameters are valid for **TYPE(OBJ)** files:

MAXRCDS(number-of-records|*NOMAX) specifies the maximum number of records the save file (which was created to hold the data received) can reach.

ASP(auxiliary-storage-pool) specifies the auxiliary storage pool from which the system allocates storage for the save file. Valid values range from 1–16. The default is **1**.

TEXT('text description') specifies a text description to be associated with this object. This description cannot exceed 50 characters and must be enclosed in single quotes.

AUT(*EXCLUDE|*CHANGE|*ALL|*USE) specifies the authority to be given to a user who does not have specific authority to the object, is not on the authorization list, and whose user group does not have specific authority to the object.

CODEPAGE(nnnnn,nnnnn) converts data from one code page to another. The supported conversions are identified on the IBM Web site in the V5R1 Information Center, DB2 Universal Database for iSeries SQL Reference, Appendix E. CODEPAGE() on Sterling Connect:Direct for i5/OS relates to CODEPAGE() developed for the z/OS system, UNIX, and Microsoft Windows.

nnnnn identifies the IBM CCSID codepage number to convert from and the IBM CCSID code page number to convert to. If the FROM code page or TO code page is locale, the code page for the locale where Sterling Connect:Direct is executing is used. For example, if tosysopt(codepage(1208,locale)), then the FROM code page is UTF-8 code page and the TO code page is the local code page.

The following TOSYSOPTS parameters are valid for **TYPE(SPLF)** files:

DEV(*JOB|*SYSVAL|device-name) specifies the name of the printer device description.

DEVTYPE(*IPDS|*SCS|*USERASCII) specifies the type of data stream created for a printer file from the data received.

PAGESIZE(page-length page-width) specifies the length and width of the page used by the printer. This parameter overrides the FORMTYPE parameter.

LPI(3|4|6|7.5|8|9) specifies the line space setting (lines per inch) on the printer.

CPI(5|10|12|13.3|15|16.7|18|20) specifies the printer character density, in characters per inch, for the printer.

OVRFLW(overflow-line-number) specifies the line number on the page at which overflow to a new page begins. The value specified must not exceed the forms length specified for PAGESIZE.

FOLD(*NO|*YES) specifies whether entire records are printed when the record length exceeds the form width.

RPLUNPRT(*YES 'replacement-character'|*NO) specifies whether unprintable characters are replaced with printable characters when printed. It also specifies the replacement character.

ALIGN(*NO|*YES) specifies whether the page must be aligned in the printer before printing is started.

CTLCHAR(*NONE|*FCFC) specifies whether the data contains printer control characters.

CHLVAL(*NORMAL| (channel#1 line#1).. . (channel#12 line#12)) specifies the list of channel numbers with their assigned line numbers.

FORMFEED(*DEVD|*CONT|*CUT|*AUTOCUT) specifies the form feed attachments that the printer uses (4214, 5219, and 5553 printers only).

PRTQLTY(*STD|*DRAFT|*DEVD|*NLQ) specifies the quality of print produced.

DRAWER(1|2|3|*E1) specifies the source drawer to be used when automatic cut-sheet feed mode is used.

FONT(*CPI|*DEVD|font-identifier) specifies the font identifier to be used for the spooled output file.

CHRID(*DEVD|*SYSVAL| graphic-character-set code-page) specifies the character identifier to use for the spooled output file. *DEVD indicates that the CHRID value the device is designed to handle is used.

PAGRTT(*DEVD|*COR|0|90|180|270) specifies the degree of rotation (clockwise from the edge of the paper first loaded into the printer) of text on each page printed.

PRTTXT('print-text') specifies a line of text to be printed at the bottom of each page printed. Up to 30 characters enclosed in single quotes can be specified.

JUSTIFY(0|50|100) controls the print positions of the characters on the page (in the spooled file) so the right margin is regular.

DUPLEX(*NO|*YES|*TUMBLE) specifies whether the spooled output file is printed on one or both sides of the paper.

SPOOL(*YES|*NO) specifies whether the data is sent to a spooled file before printing.

OUTQ(*JOB|*DEV|library-name/output-queue- name) specifies the output queue for the spooled output file created.

FORMTYPE(form-type) specifies the type of form to use in the printer when the spooled file is printed. The PAGESIZE parameter overrides this parameter.

COPIES(number-of-copies) specifies the number of copies to be printed. Valid values range from 1–255.

MAXRCDS(maximum-records) specifies the maximum number of records that can be placed in the spooled file. Valid values range from 1–500000.

FILESEP(number-of-file-separators) specifies the number of blank separator pages to be placed between each copy of the file printed.

HOLD(*YES|*NO) specifies whether the file is to be held on the output queue until released by the user.

SAVE(*YES|*NO) specifies whether the spooled output file is to be saved on the output queue once printed.

OUTPTY(*JOB|output-priority) specifies the scheduling priority of the file on the output queue.

USRDTA(user-data) allows up to 10 characters of data to identify the spooled output file.

XTRAN(table-name) specifies the translation table to use. The named table object must exist in a library that is in the library list of the session manager job. If the library name is not in the list, the CDRCV command fails.

If the XTRAN keyword is present, then the following related optional keywords can also be used:

XTRANLSO (so-code) specifies extended translate local shift-out code. This keyword specifies the hexadecimal code to use for the local (i5/OS side) shift-out character and overrides the default value of 0E. You can specify any two valid hexadecimal digits.

XTRANLSI (si-code) specifies extended translate local shift-in code. This keyword specifies the hexadecimal code to use for the local (i5/OS side) shift-in character and overrides the default value of 0F. You can specify any two valid hexadecimal digits.

XTRANLDATA (MIXED|DBCS) specifies extended translate local data format. This keyword specifies the format of the data on the local (i5/OS side) of the COPY.

MIXED indicates that the data can contain both DBCS and SBCS characters and that SO/SI characters are used.

DBCS indicates that the data is pure DBCS characters and that no SO/SI characters are used.

XTRANPAD(pc) specifies that padding characters are in use. When DBCS data is translated from EBCDIC to ASCII, PAD specifies that the SHIFT-OUT and SHIFT-IN characters are replaced by a pad character to allow the displacement of fields within a record to remain unchanged during translation.

When DBCS data is translated from ASCII to EBCDIC, PAD specifies that the input ASCII DBCS file is in a padded format. The character immediately preceding a DBCS character or string is overlaid by the SHIFT-OUT character. The character immediately following a DBCS character or string is overlaid with the SHIFT-IN character. This allows the displacement of fields within a record to remain unchanged during translation.

> **pc** is the pad character to be used during EBCDIC to ASCII translation. **pc** is ignored for ASCII to EBCDIC translations. If XTRANPAD is not used, the SI/SO characters are stripped from the file when transferring from EBCDIC to ASCII, and added to the records when sending from ASCII to EBCIDC.

The following rules apply to the use of the XTRAN keyword:

❖ You must specify the XTRAN keyword to use extended translation. All other keywords are optional.

❖ The default for local shift-out is the IBM standard x0E.

❖ The default for local shift-in is the IBM standard x0F.

❖ The default local data format is MIXED with SO/SI in use. XTRAN is *not* allowed with PRECMPR(*YES) or DECMPR(*NO)

❖ If you receive a file from an ASCII platform using extended translation, you *must* specify in the FMSYSOPTS that the data type is binary. Refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html for platform-specific SYSOPTS parameters.

❖ If you receive DBCS data from an ASCII platform using the XTRAN keyword, ensure that the record length of the file on the i5/OS side of the transfer is large enough to contain the translated record.

The record length of the file on the i5/OS side of the transfer is generally larger than the ASCII equivalent. For additional information, refer to the *Maintaining Extended Translation* chapter of the *IBM Sterling Connect:Direct for i5/OS Installation and Administration Guide*

CCSID(nnnnn) specifies the coded character set ID to use when creating IFS files. If no character set ID is specified, the system default is used.

EORCHAR(xxxx) specifies the two-to four-digit hexadecimal symbol to identify the character to use in text files as the end-of-record character, for example, EORCHAR(0A).

Optional Parameters

The following parameters, listed alphabetically, are optional. Unless otherwise noted, the parameters apply to all remote node environments.

CKPTINV(n)

Number of bytes, from 1K to 2 gigabytes, to send or receive before taking a checkpoint. The format is *nnnnnnn*, *nnnnnn*K, or *nnnnnn*M, where **K** specifies thousands of bytes and **M** specifies millions of bytes. A value of **0** specifies no checkpoint restart Sterling Connect:Direct for i5/OS uses the value you specify, rounded up to the nearest record boundary, to determine when to take a checkpoint. If you specify a value between 1 and 1023, the value becomes 1024 or 1K.

Checkpointing does not occur in the following cases, even if you specify a checkpoint interval:

❖ The file being received is compressed by the remote node during the receive operation by the local node using the extended compression feature but is not being decompressed on the local node. That is, the TOSYSOPTS has DECMPR(*NO).

❖ The file being received was precompressed on the remote node and is being decompressed on the local node during the receive operation. That is, the FMSYSOPTS has PRECMPR(*YES) and TOSYSOPTS has DECMPR(*YES).

❖ A single z/OS partitioned data set member is being received.

A checkpoint interval specified here overrides the system-wide default value.

If you request checkpointing when you are transferring multiple members of a file, checkpoints are taken only at member boundaries regardless of the interval specified in the initialization parameters or in the CDSND or CDRCV command.

CLASS(n)

determines the node-to-node session on which a Sterling Connect:Direct operation can execute. The CLASS can be a number from 1–255. If you do not specify the CLASS parameter, it defaults to the number of maximum sessions defined in the mode description for the communications environment.

Note: The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

COMPRESS(*NO | *YES| *EXT | X\xx\ | C\cc\ )

specifies that the data is to be compressed, which reduces the amount of data transmitted as the file is copied from one node to another. The file is automatically decompressed at its destination unless DECOMP(*NO) is specified in TOSYSOPTS.

> **Note:** Compression is CPU-intensive. Its effectiveness is dependent on the data and line speed and should be used only if it benefits the installation.

You should specify the primary compression character for text data or single-character repetitive data. Extended compression generally offers improved compression for all types of data.

*NO specifies no compression.

*YES enables compression. If *YES is specified, the default primary compression character is PRIMEchar=X\40\ (hex 40=" ").

If you specify *YES, Sterling Connect:Direct reduces the amount of data transmitted based on the following rules:

❖   Repetitive occurrences (2–63) of the primary compression character are compressed to one byte.

❖   Repetitive occurrences (3–63) of any other character are compressed to two bytes.

X\xx enables compression, where *xx* is the hexadecimal representation of the value to be used for the primary compression character.

C\cc enables compression, where *cc* is the character representation of the value to be used for the primary compression character.

*EXT specifies that extended compression is used to search for repetitive strings of characters in data and compress them to codes that are transmitted and converted back to the original string during decompression. Specify this parameter when line transmission speeds are limited, the CPU is available, and data is repetitive.

CRC(*INITPARMS|*NETMAP|*OFF|*ON)

Determines whether node and Process statement overrides for Cyclic Redundancy Check (CRC) are allowed. If this value is set to *OFF, setting overrides for CRC checking will be ignored. The default value is *INITPARMS.

 *INITPARMS specifies that the CRC setting is determined by the value for the initialization parameter TCP.CRC.

*NETMAP specifies that the CRC setting is determined by the value for the NETMAP parameter, Cyclic Redundancy Check. The value for the initialization parameter TCP.CRC must be set to *ON and the value for the initialization parameter TCP.CRC.OVERRIDE must be set to *YES.

*OFF specifies that CRC is disabled.

*ON specifies that CRC is enabled.

ECTUNING (ecclevel,ecwinsize,ecmlevel)

ECCLEVEL specifies the extended compression level, which affects how much CPU the extended compression routines use. Higher compression levels use more CPU but achieve greater compression. The valid values for this subparameter are 1–9, inclusive. The default value is *INITPARMS.

ECWINSIZE specifies the extended compression window size, which is specifically for the history buffer that is filled from the user's input buffer (both compressing and decompressing). The window specifies the amount of storage designated to maintain data previously read.

This data can be scanned for string matches. The extended compression window size affects how much virtual memory the extended compression routines use. Higher window size values use more memory but achieve greater compression. The valid values for this subparameter are 8–15, inclusive. The default value is *INITPARMS.

ECMLEVEL specifies the extended compression memory level parameter, which determines how much memory should be allocated for other internal data structures like the hash table and the previous table (pointers to previous strings starting with the same 3 characters). The extended memory level affects how much memory the extended compression routines use. Higher memory levels use more virtual memory but achieve greater compression. The valid values for this subparameter are 1–9. inclusive. The default value is *INITPARMS.

EXCLUDE(generic, member-name, (start-range/stop-range), 'list')
specifies criteria that identifies the file members that are not to be copied. EXCLUDE allows you to make exceptions to members specified generically or by range in the SELECT option. Refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html for the syntax and override priority for the SELECT and EXCLUDE parameters appropriate to the remote node.

generic specifies a generic member name. For example, if you specify CD*, all member names beginning with CD are excluded.

member-name specifies an individual member name.

start-range/stop-range specifies first and last names in an alphanumeric range of members. Although member names in a range are treated as generics, they cannot be used with an asterisk (*). A slash (/) separates the first (start-range) and last (stop-range) member names. The two members specified, as well as all members in the range, are excluded.

'list' specifies any combination of the subparameters.

FALIAS(*YES|*NO)
specifies whether aliases are copied when their associated member names are copied.

FBUFND(n)
specifies the number of I/O buffers VSAM uses for transmitting data between virtual and auxiliary storage. (A buffer is the size of a control interval in the data component.) Valid values range from 1–510. The default is **2**. Increasing this number generally improves the I/O performance on the file but requires more memory. This parameter is valid only when the source side is an z/OS node.

FDBPARMS(dbid, dbsubid)
indicates that the Sterling Connect:Direct for z/OS SQL SERVER is to process the I/O request against the database identified by the subparameters of this keyword and defined by the SQL= parameter. The DBPARMS parameter is used with the optional Sterling Connect:Direct for SQL feature. This parameter is valid only when the source side is a z/OS node. Only DB2 is supported.

To determine the values to code to access a given DB2 table or set of DB2 tables, consult your database administrator.

dbid specifies the 1–4 byte DB2 database ID.

dbsubid specifies the 1–4 byte DB2 database sub-ID.

FDCB(modeldcb, blksize, den, dsorg, keylen, linct, lrecl, optcd, recfm, rkp, trtch)
overrides attributes of the source file. DCB attributes are determined from the operating system unless specified.

modeldcb specifies a model data set control block (DSCB).

blksize specifies the length in bytes of the block. The minimum length is 18 bytes, and the maximum length is 32,760 bytes.

den specifies the magnetic tape mode setting. The following table shows the values for the DEN parameter for 7- and 9-track tapes. When coded together, the DEN and TRTCH values are used to select a tape device for allocation by Sterling Connect:Direct for z/OS.

DEN	7-Track Tape	9-Track Tape
1	556 bpi	--
2	800 bpi	800 bpi
3	--	1600 bpi
4	--	6250 bpi

dsorg specifies the file organization. Supported file organizations are BDAM, ISAM, PO, PS, and VSAM.

keylen specifies the length of the keys used in a file. Maximum length in bytes is 255.

linct specifies the blocks or tracks searched to find a free block or available space.

lrecl specifies the record length in bytes.

optcd specifies optional processing associated with this file. This specification only applies to this file and is not automatically applied to the other files involved in the RECEIVE operation.

Valid options are:

>   **W** performs write validity checks on direct access storage devices.

>   **Q** performs ASCII-to-EBCDIC conversion for input files and EBCDIC-to-ASCII conversion for output files. **Q** is the default and only used for AL-labeled tape files.

>   **Z** performs reduced error recovery for tape files.

recfm specifies the format of the records in the file. You can specify any valid record format, such as:

>   **F** specifies fixed format.

>   **FA** specifies fixed format with ASA printer control.

>   **FB** specifies fixed block format.

>   **FBA** specifies fixed block format with ANSI carriage control.

>   **FM** specifies fixed format with machine code control character.

>   **U** specifies undefined format.

>   **V** specifies variable format.

>   **VB** specifies variable block format.

>   **VBA** specifies variable block format with ASA printer control.

>   **VBM** specifies variable format with block machine code control character.

>   **VS** specifies variable spanned format.

>   **VBS** specifies variable block spanned format.

>   For FDR volumes, you must specify RECFM=U.

rkp specifies the position of the first byte of the record key within each logical record. The beginning byte of a record is addressed as **0**.

trtch specifies the magnetic tape mode setting. When coded together, Sterling Connect:Direct for z/OS uses the TRTCH and DEN values to select a tape device for allocation. Valid options are:

> **C** specifies data conversion, odd parity, and no translation.
>
> **E** specifies no data conversion, even parity, and no translation.
>
> **T** specifies no data conversion, odd parity, and BCD or EBCDIC translation.
>
> **ET** specifies no data conversion, even parity, and BCD or EBCDIC translation.
>
> **COMP** is a feature for 3480X tape drives only. It enables Improved Data Recording Capability (IDRC), which compresses the data. This subparameter overrides the system-wide IDRC setting for no compression. If you are specifying COMP, you must also include a UNIT= parameter that specifies either 3480X or a systems programmer-defined name equivalent to a 3480X tape drive.
>
> **NOCOMP** overrides the system-wide IDRC setting for compression. NOCOMP applies to 3480X tape drives only.

FDISP(current, normal end, abnormal end)
specifies the status of the remote file and what is to be done with the file after notification of successful transmission.

> **current** specifies the status of the file. Valid values are:
>
> > **<u>SHR</u>** specifies that the file can be read simultaneously by another operation. SHR is the default.
> >
> > **OLD** specifies that the operation is to be given exclusive control of the file.
>
> **normal end** specifies the disposition of the file following normal operation termination. Valid dispositions are as follows:
>
> > **KEEP** specifies that the system is to keep the file after the operation completes.
> >
> > **DELETE** specifies that the system is to delete the file after the operation completes.
>
> **abnormal end** specifies the disposition of the file after abnormal operation termination. Valid source file dispositions are:
>
> > **KEEP** specifies that the system is to keep the file after the operation terminates abnormally.
> >
> > **DELETE** specifies the system is to delete the file if the operation terminates abnormally.

For subparameters for other Sterling Connect:Direct platforms, refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html.

Note: Currently, normal end disposition and abnormal end disposition are not applicable for Sterling Connect:Direct for i5/OS.

FIOEXIT(program-name)
specifies the name of the user-written program to be given control for I/O-related requests for the associated data.

FIOPARM(parameter-name)
specifies a parameter, or list of parameters, to be passed to the specified exit. This parameter is valid only when the source side is a z/OS node. The FIOPARM syntax depends on the parameter list that the program specified in FIOEXIT requires.

FLABEL(seqno, labeltype, pswdread, inout, retpd|expdt)
specifies label information for the tape.

> **seqno** specifies the relative file position on the tape.

labeltype is designated as:

> **SL** specifies IBM standard labels.
>
> **AL** specifies American National Standard labels.
>
> **BLP** specifies bypass label processing.
>
> **LTM** specifies bypass leading tape marks.
>
> **NL** specifies no labels.

pswdread specifies that a password must be supplied by the operator or user before the file can be accessed.

inout specifies that a BSAM data set opened for INOUT or a BDAM data set opened for UPDAT is to be read only.

retpd specifies the retention period for the data set in days, where *nnnn* is 1–4 digits.

expdt specifies the expiration date for the data set, where *yyddd* or *yyyyddd* is a valid Julian date.

FLINK(vmuserid,pwd,accmode,ccuu)
specifies the disk where the CMS file is located. This parameter allows the user to access the CMS file. This parameter is valid for VM nodes only.

vmuserid specifies the owner ID for the CMS minidisk where the file is located. The valid length ranges from 1–8 characters.

pwd specifies the appropriate password for the CMS minidisk where the file is located. The maximum length is 256 characters. The default password is ALL.

accmode specifies the link access mode.

When used with the FROM parameter, the access modes are **W** (primary read/write access), **M** (primary multiple access), **R** (primary read only), RR (primary and secondary read only access), WR (primary read/write access; alternate read only access), MR (primary multiple access; alternate read only access), and MW (primary multiple access; alternate read/write only access).

When used with the TO parameter, the access modes are **W**, **M**, and MW.

ccuu specifies the virtual address of the disk where the CMS file is located. A three-digit number is valid.

FMSVGP(data-set-name)
specifies the remote file mass storage volume group that resides on a mass storage system (MSS) device. This group must be a valid DD (data definition) name. This parameter is valid when the source side is a z/OS node only.

FPDSDIR(*YES|*NO)
specifies whether the user-related information in the directory is sent.

FSQL(sql-statement|DSN=data-set-name)
defines the SQL statement to be processed against the database identified by the DBPARMS parameter or the DSN containing the SQL statements. The SQL parameter is used with the optional Sterling Connect:Direct for z/OS SQL feature. This parameter is valid only when the source side is an Sterling Connect:Direct for z/OS node.

sql-statement defines the actual SQL statement to be processed.

data-set-name specifies the data set containing the SQL statements to be processed.

FTYPE(entry-name)
specifies the entry name of the type defaults file on the remote node that contains the default file attributes. Specify this typekey only when the user requests defaults.

FUNIT(name)

specifies the unit address, device type, or user-assigned group name where the file resides or will reside. For SAM-to-SAM copies where the destination file is new and the UNIT parameter is not coded, the device type from the source file is used. For VSE nodes, you must specify either this parameter or FVOL.

Specify a unit-count to allow additional units to be allocated if required, or specify **P** to allocate the same number of units as volumes and then parallel mount the volumes. This parameter is valid only when the source side is a z/OS node.

FVOL(private, volcount, ser)

specifies the volume serial numbers containing the file and optional processing associated with the file. If VOL is not specified, the file must be cataloged. For VSE nodes, you must specify either this parameter or FUNIT.

private specifies allocation of an output file only if the volume is specifically requested and is used for direct access storage devices only. Valid values are *YES and *NO.

volcount specifies the maximum number of volumes required by an output file.

ser identifies by serial number the volumes on which the output file resides or will reside.

FVOLREF(data-set-name)

allows you to retrieve the specified data set from the same volume as the referenced data set. You must catalog it on the system where it is referenced. This parameter is valid only when the source side is a z/OS node.

FVSAMCAT(dsn,vmid,pwd,accmode,cuu)

specifies the catalog for the VSAM file to be copied. This parameter is required only if using a catalog other than the master catalog.

dsn specifies the filename of the VSAM catalog containing the file to be copied. The maximum length is 44 characters.

vmid specifies the owner ID for the VSAM minidisk where the file is located. The maximum length is eight characters.

pwd specifies the appropriate password for the VSAM minidisk where the file is located. The maximum length is eight characters.

accmode specifies the link access mode. Valid access modes are NULL, **W** (primary read/write access), **M** (primary multiple access), and MW (primary multiple access; alternate read/write only access).

cuu specifies the virtual address of the disk where the VSAM file is located. Any three-digit number is valid.

NOTIFY(userid)

specifies the user ID on the local node to receive status messages that are directed to the user's message queue.

PLEXCLASS(user-defined class)

specifies a user-defined class containing up to eight characters associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment. This represents a type of server on which you want to run a task, for example TAPE.

> **Note:** This parameter is for use only in Sterling Connect:Direct for z/OS environments.

PNAME(process-name)
identifies the Process in any messages or statistics. The name can be from 1 to 12 characters long. The first character must be alphabetic. The default name is CDRCV.

Note: Only Sterling Connect:Direct for i5/OS and Sterling Connect:Direct for UNIX support Process names with more than 8 characters.

PNODEID(id, pswd, newpswd)
specifies security user IDs and passwords at the local i5/OS node. Use this parameter only to validate security with a different ID than the one you used to sign on to the system.

id specifies the security ID passed to the security system at the remote node (1–10 alphanumeric characters).

pswd specifies the current security password for the specified ID. The security system can use this parameter at the remote node to validate the current security password (1–10 alphanumeric characters). This is optional unless the user has security set to require a password.

newpswd specifies the new security password. Sterling Connect:Direct for i5/OS does not support this parameter.

REPLACE(*YES|*NO)
specifies that the remote file or PDS replaces members of the same name at the local file.

RMTWORK(*YES|*NO)
specifies whether a remote Process can run on the session after Sterling Connect:Direct for i5/OS has completed its Process on the session.

*YES allows a remote Process to run on the session after Sterling Connect:Direct for i5/OS completes its Process.

*NO terminates the session after Sterling Connect:Direct for i5/OS executes the command function.

SACCT(snode-accounting-data)
specifies the accounting data for the remote node. The maximum length of the accounting data is 256 characters. If special characters are part of the accounting data, you must enclose the string in single quotation marks.

SECOPTIONS(* *)
specifies Encryption and Digital Signature values.

Encryption specifies if data encryption is to be performed and what algorithm to use.

Digital Signature specifies if a digital signature is created while a file is being transmitted.

Note: The SECOPTIONS parameter is valid only if the Sterling Connect:Direct Secure Plus is installed. For information about these parameters, refer to the *IBM Sterling Connect:Direct Secure Plus for i5/OS Implementation Guide*.

SELECT(member, new-name, R/NR,'list')
specifies selection criteria by which file members are to be copied. Refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html for the syntax and override priority for the SELECT and EXCLUDE parameters appropriate to the remote node.

Use this parameter when you specify TYPE(FILE) in the TOSYSOPTS parameter.

The SELECT parameter consists of three positional subparameters separated by commas.

member specifies the members to be copied. Member selections are:

* represents a global generic. A global generic indicates that all members of the file are to be included.

generic specifies a generic member name. For example, if you specify CD*, all member names beginning with CD are selected for copying.

member-name specifies an individual member name.

start-range/stop-range specifies first and last names in an alphanumeric range of members. Although member names in a range are treated as generics, they cannot be used with an asterisk (*). A slash (/) separates the first (start-range) and last (stop-range) member names. The two members specified, as well as all members in the range, are copied.

new-name specifies a new name for a member. You cannot use the new-name subparameter if a generic or range is used to select the members to be copied, or if you specify a list of member names.

R/NR specifies whether a copied member replaces an existing member of the same name in the local file. When used with a generic or a range, this subparameter applies to all members selected.

Note: When using a generic and specifying NR or R, the second positional subparameter (new-name) must be null, for example, member-name,,NR.

R specifies that a member replaces an existing member of the same name in the local file. When used with the new-name subparameter, **R** applies to the specified new-name and not the original member name.

NR specifies that a member does not replace an existing member of the same name in the local file. NR overrides the REPLACE parameter.

'list' specifies any combination of the subparameters. You can specify a list of individual member names or generic member names separated by spaces. However, you cannot use the new-name and replace-member subparameters when specifying a list.

Note: Member names longer than eight characters are truncated to eight characters when the remote node is not an i5/OS node.

SNODEID(id, pswd, newpswd)
specifies security user IDs and passwords at the remote node. If nothing is specified for this parameter, the user profile of the user who submits the command is sent to the remote node with a blank password.

id specifies the security ID passed to the security system on the remote node (1–64 alphanumeric characters).

pswd specifies the current security password. The security system can use this parameter on the SNODE to validate the current security password (1–64 alphanumeric characters). This is optional unless the user has set security to require a password.

newpswd specifies the new security password. Sterling Connect:Direct for i5/OS does not currently support this parameter if the remote node is an i5/OS node.

Note: Parameter values are case sensitive.

TDISP(current)
specifies the status of the file on the local i5/OS node.

current specifies the status of the file before the operation executes. Valid values for this subparameter are:

<u>NEW</u> specifies that the operation creates the destination file or member. If you are creating a member, the file can already exist but the member must not already exist. If you are creating a file (SAVF), the file must not already exist.

OLD specifies that the destination file or member already exists. The operation has exclusive control of the member. If the file or member does not exist, the receive operation fails.

MOD specifies that the operation modifies the file or member by adding data to the end of the member or, if none exists, allocates a new member. The file is also created if it does not exist.

RPL indicates that the destination file or member is replaced. The file is created if it does not exist.

SHR indicates that another operation can read the file simultaneously. The file or member is created if it does not exist on i5/OS.

Note: Currently, normal end disposition and abnormal end disposition are not applicable when sending to Sterling Connect:Direct for i5/OS.

TRACEOPT

Trace Instructions
(L, S, F, C, X, K, D, H, V, W, P,|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|<u>*CURRENT</u>

specifies the trace bits that define functions to be traced by Sterling Connect:Direct for i5/OS. The following are valid options:

❖ **L** enables the main line logic trace for all components.

❖ **S** enables the Process step logic trace.

❖ **F** enables the file handler trace.

❖ **C** enables the communications logic trace.

❖ **X** enables the XDR trace.

❖ **K** enables the KQV logic trace.

❖ **D** enables the all-purpose data dump.

❖ **H** enables the FMH dump.

❖ **V** enables the XDR dump.

❖ **W** enables the communications dump.

❖ **P** enables the CIPC dump.

❖ ***NONE** turns off all traces.

❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, W and P)

❖ ***EXT** enables all product traces plus two system traces (TRCICF and TRCJOB).

❖ ***COMMON** enables the communications traces. (L, S, F, C, and H)

❖ ***INITPARMS** indicates the traces specified in the initialization parameters.

❖ **<u>*CURRENT</u>** selects the trace bits that the session manager is currently using.

Command Trace Options
 L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| <u>*NONE)</u>

specifies the trace bits that define functions to be traced for this command but not for the Process it runs. The following are valid options:

❖ **L** enables the main line logic trace for all components.

❖ **S** enables the Process step logic trace.

❖   **F** enables the file handler trace.

❖   **C** enables the common logic trace.

❖   **X** enables the XDR trace.

❖   **K** enables the KQV logic trace.

❖   **D** enables the all-purpose data dump.

❖   **H** enables the FMH dump.

❖   **V** enables the XDR dump.

❖   **P** enables the CIPC dump.

❖   ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, and P)

❖   ***EXT** enables all product traces plus two other traces. (TRCICF and TRCJOB)

❖   ***COMMON** enables the most commonly used traces. (L, S, F, C, and H)

❖   <u>***NONE**</u> turns off all traces.

Using Block Mode Transfer

Sterling Connect:Direct for i5/OS supports block mode transfer of COPY operations. In this mode, Sterling Connect:Direct uses the file block as the data unit. Using the block mode transfer improves performance because the remote and local nodes handle fewer data units. This type of transfer reduces instruction path length and decreases execution time. Larger units move between Sterling Connect:Direct and the file access routines, requiring fewer calls to the access routines and further improving performance.

Sterling Connect:Direct for i5/OS simulates block reads and writes. Using logical blocks instead of physical blocks, Sterling Connect:Direct for i5/OS allows you to modify the blocksize to match the other node in some cases.

Sterling Connect:Direct for i5/OS supports block mode transfer when the following conditions exist:

❖ Remote node supports block mode

❖ Source and destination files have like characteristics

❖ Files are supported file types

Sterling Connect:Direct for i5/OS supports block mode transfers for the following i5/OS file types:

❖ DB2 for i5/OS files (without staged compression)

❖ Spool files

❖ Save files

❖ Stream files (using the integrated file system)

Simulating Blocksizes

The simulated blocksize determines whether a block mode transfer occurs. If the block mode transfer does occur, the simulated blocksize is used for the transfer. The following rules determine what simulated blocksize Sterling Connect:Direct for i5/OS uses.

As the local node, Sterling Connect:Direct for i5/OS determines the simulated blocksize by these conditions in order of precedence:

❖ Destination file blocksize specified on the request

❖ Source file blocksize sent by the remote node in the COPY control block

If neither condition exists, Sterling Connect:Direct uses the record mode.

As the remote node, Sterling Connect:Direct for i5/OS determines the simulated blocksize by these conditions in order of precedence:

❖ Source file blocksize specified on the request

❖ Destination file blocksize specified on the request

❖ Calculated value*

*Largest multiple of record size less than some arbitrary value, such as 4096.

Block Mode Transfer Examples

The following block mode transfer examples include both sending and receiving examples.

CDRCV Examples-Not Specifying Source File Blocksize

In the first example, the request does not specify the source file blocksize. In this scenario, the following occurs:

❖ The Sterling Connect:Direct for i5/OS node sets the source file simulated blocksize to 3200 by using the destination file value.

❖ The receiving Sterling Connect:Direct for i5/OS sets the destination file simulated blocksize to the value specified on the request.

❖ Because the blocksizes match, the block mode copy occurs.

```
C:D  i5:  receiving
request:  source blksize=not specified;  dest blksize = 3200
srce file: lrecl=80, (on another C:D  i5 3.3 node)
dest file: NEW
```

CDRCV Example-Specifying Source File Blocksize

In the second example, the following occurs:

❖ Sterling Connect:Direct for i5/OS calculates the simulated blocksize at 3200 because the destination file is new and the source file specifies a blocksize.

❖ The receiving node uses the existing destination file blocksize of 3200.

❖ A block mode transfer occurs because the blocksizes match.

```
C:D  i5:  receiving
request:  source blksize=not specified;dest blksize = not specified;
srce file: lrecl=80, blksize=3200 (on z/OS node)
dest file: NEW
```

CDSND Examples-Simulating Blocksize

In the third example, the following events occur:

❖ Sterling Connect:Direct for i5/OS sets the simulated blocksize at 6400 from the request.

❖ The receiving node creates the destination file using source file attributes of blksize=6400.

❖ Because the file attributes match, the block mode transfer occurs.

```
C:D  i5:  sending
request:  source blksize=6400;  dest blksize = not specified;
srce file: lrecl=80
dest file: NEW (on z/OS)
```

CDSND Examples-Setting Actual Blocksize

In the fourth example, the following events occur:

❖ the remote node sets the destination file blocksize to 3200, the actual blocksize of the destination file.

❖ Sterling Connect:Direct for i5/OS calculates the simulated blocksize at 3200.

❖ The blocksizes are identical, so block mode transfer occurs.

```
C:D  i5:  sending
request:  source blksize=not specified; dest blksize = not specified;
srce file: lrecl=80
dest file: existing: lrecl=80, blksize=3200 (on z/OS)
```

CDSND and CDRCV Example

In the fifth example, Sterling Connect:Direct for i5/OS calculates the simulated blocksize at 32720 since the copy is between two Sterling Connect:Direct for i5/OS nodes.

```
C:D  i5  sending and receiving
request:  source blksize=not specified; dest blksize=not specified
srce file: lrecl=32720
dest file: new
```

Using the CDRCV Screens

Use the **Sterling Connect:Direct Receive File (CDRCV)** screens to initiate a Sterling Connect:Direct session and receive a file from a remote node. CDRCV uses certain special function keys as follows:

❖ **F24** more keys gives you access to additional function keys used in CDRCV.

❖ **F5** refresh which clears any field entries you have made.

❖ **F9** which gives you access to all parameters.

❖ **F11** which displays key words.

❖ **F14** which displays command strings.

❖ **F15** which displays any error messages pending.

❖ **F16** which marks the command complete.

Receiving a File From a Remote Node

Complete the following steps to receive a file from a remote node.

1. Access the **CDRCV** screens by typing **CDRCV** at the command line and pressing **F4** or by choosing the receive file option from the Sterling Connect:Direct main menu.

2. Type in the remote node name at the screen prompt and press **Enter**. The command retrieves the remote node environment and display fields for required parameters.

3. Type values for required and optional parameters as appropriate and press **Enter**.

The following are samples of the screens in the **Sterling Connect:Direct Receive File (CDRCV)** screen flow. The sample shows the keyword display option.

Connect:Direct Receive File (CDRCV) Screen 1

```
                   Connect:Direct Receive File (CDRCV)

 Type choices, press Enter.

 Sending Node Name  . . . . . . ._____
 Sending Node Environment . . . ._____    OS/400, AS400, MSP, MVS...
 Sending File Name  . . . . . . ._____
_____
 Receiving File Name  . . . . . ._____
_____
 Receiving System Operations  . .'TYPE(FILE)'_____
 _____
 _____
 _____
 _____
 _____
 _____  ...



                                                                   More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

The content of this screen and the screens that follow depend on the remote node environment.

Connect:Direct Receive File (CDRCV) Screen 2

```
                      Connect:Direct Receive File (CDRCV)

 Type choices, press Enter.

 Sending System Operations  . . . .
 .'TYPE(FILE)'_____
 _____
 _____
 _____
 _____
 _____
 _____
 _____  ...
 Trace Options:
   Trace Instructions . . . . . .     *CURRENT_____
   Command trace options  . . . .     *NONE_____
 Process Name . . . . . . . . . .     CDRCV_____      Name
 Receiving Node User Info.:
   User Id  . . . . . . . . . . .     *CURRENT_____   Character value, *CURRENT
   Password . . . . . . . . . . .                     Character value
   New Password . . . . . . . . .                     Character value
 User to Notify . . . . . . . . .     *CURRENT_____   Name, *CURRENT, *NONE
                                                                      More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Connect:Direct Receive File (CDRCV) Screen 3

```
                      Connect:Direct Receive File (CDRCV)

 Type choices, press Enter.

 Sending Node User Info.:
   User Id  . . . . . . . . . . ._____
 _____
   Password . . . . . . . . . . .

   New Password . . . . . . . . .

 Class  . . . . . . . . . . . . .     *MODED_____     1-255, *MODED
 Sending Accounting Data  . . . .     _____
 _____
 _____
 _____
 Checkpoint Interval  . . . . . .     *INITPARMS__    0-9999999, *INITPARMS
 Allow remote process . . . . . .     *NO____         Character value, *YES, *NO


                                                                      More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Connect:Direct Receive File (CDRCV) Screen 4

```
                      Connect:Direct Receive File (CDRCV)

  Type choices, press Enter.

  File Members Selection List  . ._____
  _____
  _____
  _____
  File Members Exclusion List  . ._____
  _____
  _____
  _____
  Same Member Replaced . . . . . .   *YES          *YES, *NO
  CRC      . . . . . . . . . . .   *INITPARMS    *INITPARMS, *NETMAP, *ON, *OFF
  Secure+ Options:
    Encryption . . . . . . . . . .   *_____     */Y/N/Algorithm
    Digital Signature  . . . . . .   *_____      *, N, Y
  Compress Data  . . . . . . . . .   *NO           Character value, *NO, *YES...


                                                                        More...
  F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
  F24=More keys
```

Connect:Direct Receive File (CDRCV) Screen 5

```
                      Connect:Direct Receive File (CDRCV)

  Type choices, press Enter.

  Extended compression tuning:
    Extended compression level . .   *INITPARMS    1-9, *INITPARMS
    Extended compression window  .   *INITPARMS    8-15, *INITPARMS
    Extended compression memory  .   *INITPARMS    1-9, *INITPARMS
  Sending File Type Parameter  . .                 Character value
  Receiving File Disposition:
    Current Disposition  . . . . .   NEW           NEW, OLD, MOD, RPL, SHR
    Normal End Disposition . . . .   CATLG         CATLG, KEEP
    Abnormal End Disposition . . .   _____         KEEP, CATLG, DELETE




                                                                        More...
  F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
  F24=More keys
```

Connect:Direct Receive File (CDRCV) Screen 6

```
                    Connect:Direct Receive File (CDRCV)

  Type choices, press Enter.

  Sending DCB Info.:
    Model File Name  . . . . . . .  _____
  _____
     Block Size in bytes  . . . . .  _____        Character value
     Tape Mode Density Setting  . .  __            1, 2, 3, 4
     Organization of File . . . . .  _             BDAM, ISAM, PO, PS, VSAM...
     Key Length of file . . . . . .  000           Character value
     Searching Free Block/Space . .  00000         Character value
     Record Length in bytes . . . .  00000         Character value
     Process Option . . . . . . . .  _             W, Q, Z
     Record Format  . . . . . . . .  _____         F, FA, FB, FBA, FM, U, V...
     Position of 1st Byte of Key  .  _             Character value
     Tape Mode Setting  . . . . . .  _____         C, E, T, ET, COMP, NOCOMP


                                                               Bottom
  F3=Exit    F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
  F24=More keys
```

Sending a Spool File

This chapter describes the Sterling Connect:Direct Send Spool (CDSNDSPL) command and its function. It shows sample **CDSNDSPL** screens and describes the required and optional parameters for the CDSNDSPL command.

Using the CDSNDSPL Command

Use the CDSNDSPL command to send a spool file on the local i5/OS node to a remote node. You can also send spool files to a remote printer through the Sterling Connect:Direct for i5/OS Spool Monitor. You can specify a user-exit command (either **EXITCMD** or **FAILCMD**) to be executed after the completion of a copy process in either FROMSYSOPTS or TOSYSOPTS. Using EXITCMD, you can specify a command to be executed only if the copy process is successful. You can also specify a command to be executed only if the copy process is not successful by using the FAILCMD command. The EXITCMD and FAILCMD are executable i5/OS commands as well as Sterling Connect:Direct as long as the size of the command does not exceed 127 bytes. Refer to *Maintaining Spool Support* in the *IBM Sterling Connect:Direct for i5/OS Installation and Administration Guide*.

CDSNDSPL Command Example

The command that follows is an example of using the CDSNDSPL command.

```
CDSNDSPL SNODE(CD2200) SNODENVIRN(AS400) SPLF(CDLOG) JOB(CDSMGR        CDADMIN
nnnnnn) SPLFNUM(1) TDSN('qa/splfout(splfout)')           TOSYSOPTS('TYPE(mbr)')
TDISP(RPL)
```

CDSNDSPL Command Format

The following parameters are for the CDSNDSPL command. Required parameters are shown in bold.

Command	Parameters
CDSNDSPL	**SNODE(remote-node-name)**
	SNODENVIRN(remote-environment-name)
	SPLF(name)

†   Sterling Connect:Direct Secure Plus for i5/OS parameter.

Command	Parameters
	JOB(*|job-name user-name job-number)
	SPLFNUM(n|*ONLY|*LAST)
	TDSN(spooled-file-name|data-set-name)
	TOSYSOPTS(' DECMPR(*YES|<u>*NO</u>) EXITCMD(valid i5/OS command) FAILCMD(valid i5/OS command) TYPE(<u>FILE</u>|MBR|OBJ|SPLF) CODEPAGE(nnnnn,nnnnn) XTRAN(table-name)[XTRANLSO(so-code)|XTRANLSI(si-code)|XTRANLDATA(<u>MIXED</u>|DBCS)XT RANPAD(pc)] CCSID(nnnnn) EORCHAR(xxxx) ') **Note:** TOSYSOPTS is required if remote node is on i5/OS
	BLKSIZE(n|<u>*CALC</u>)
	CHLVAL(*NORMAL|(channel#1 line#1)...(channel#12 line#12))
	CKPTINV(n)
	CLASS(n)
	COMPRESS(*YES|*NO|X\xx|C\cc|EXT)
	CRC(*<u>INITPARMS</u>|*NETMAP|*OFF|*ON)
	CTLCHAR(*NONE|<u>*FCFC</u>|*PRTCTL)
	ECTUNING(ecclevel,ccminsize,ecmlevel)
	FDSNLEN(*SPLF)
	NOTIFY(userid)
	PLEXCLASS(user-defined class)
	PNAME(name)
	PNODEID(id, pswd, newpswd)
	PRTY(n)
	RMTWORK(*YES|<u>*NO</u>)
	SACCT(snode-accounting-data)
	†SECOPTIONS(* *)
	SNODEID(id, pswd, newpswd)
	TBUFND(n)
	TDBPARMS(dbid,dbsubid)
	TDCB(modeldcb, blksize, den, dsorg, keylen, limct, lrecl, optcd, recfm, rkp, trtch)
	TDISP(current |normal end |abnormal end)
	TIOEXIT(program-name)

†   Sterling Connect:Direct Secure Plus for i5/OS parameter.

Command	Parameters
	TIOPARM(parameter-name)
	TLABEL(seqno,labeltype,pswdread,inout,retpd,expdt)
	TLINK(vmid,pwd,accmode,cuu)
	TMSVGP(data-definition-name) (For z/OS nodes only)
	TPROTCT(*YES|*NO)
	TRACEOPT Trace Instructions: (L,S,F,C,X,K,D,H,V,W,P|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT Command Trace Options: L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| *NONE)
	TSPACE(avgblk,type,primary,secondary,pdsblk,rise, contig,round) (For z/OS nodes only)
	TSQL(sql-statement|DSN=data-set-name) (For z/OS nodes only)
	TTYPE(name)
	TUNIT(unit-name)
	TVOL(*YES|*NO)
	TVOLREF(data-set-name) (For z/OS nodes only)
	TVSAMCAT(dsn|vmid|pwd|accmode|cuu)

†　　Sterling Connect:Direct Secure Plus for i5/OS parameter.

Note: The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

Required Parameters

Unless otherwise noted, these required parameters apply to all remote node environments.

SNODE(remote-node-name)
   specifies a 1–16 character alphanumeric name for the remote node.

   Note: This value is case sensitive.

SNODENVIRN(remote-environment-name)
   specifies the remote node environment.

SPLF(name)
   specifies the name of the spooled output file to be copied.

JOB(*|job-name user-name job-number)
   specifies the name of the job that created the spooled output file. Valid values are:

   * specifies that the job issuing the command is the job that created the spooled output file.

   job-name specifies the name of the job that created the spooled-output file.

   user-name specifies the user name that identifies the user profile for the job.

   job-number specifies the system-assigned job number.

SPLFNUM(n|*ONLY|*LAST)
    specifies the spooled output file number from the job whose data records are to be sent. Valid values
    are:

    1–9999 indicates to copy the specified spooled output file number.

    *ONLY indicates that only one of the job's spooled output files has the specified file name.

    *LAST indicates to copy the highest-numbered spooled output file with the specified job name.

TDSN(spooled-file-name|data-set-name)
    specifies the remote file name.The length of the input field displayed is 132 characters, by default. To
    increase the length of the field to 256 characters, type an ampersand(&) followed by a blank in the
    first two positions of the field.

> **Note:** Do not use member names longer than eight characters when sending to z/OS nodes. The
> results are unpredictable.

    If the remote node is a Sterling Connect:Direct for i5/OS node, TDSN specifies the destination file
    name. File names are verified based on the i5/OS standard file name conventions. If you are using
    Sterling Connect:Direct for i5/OS with the **F4** prompt feature, the system supplies the single quotes if
    you fail to type them with the file name on the command line.

    spooled-file-name specifies the name to be used for the spooled file when placed in the Sterling
    Connect:Direct out queue on the remote system. Use this parameter when you specify
    ('TYPE(SPLF)') in the TOSYSOPTS.

    data-set-name specifies the remote file name to be copied. The source file member name is used for
    the destination database file member name when you use TOSYSOPTS('TYPE(FILE)'), unless you
    specify otherwise with the SELECT parameter. The file name is used for the member name when you
    use TOSYSOPTS('TYPE(MBR)').

> **Note:** For TDSN, the values of *LIBL, *CURLIB, and QTEMP cannot be used when sending to an
> i5/OS system. A specific library name must be used for copying to a data set on the i5/OS.

    For additional information about valid platform-specific parameters, refer to the IBM Sterling
    Connect:Direct Processes Web site at
    http://www.sterlingcommerce.com/documentation/processes/processhome.html.

    The following table summarizes the data set name requirements for Sterling Connect:Direct
    platforms.

SNODENVIRN	TDSN Format	Special Considerations
OS/400	Native File System 'library-name/file-name' 'library-name/file-name (member-name)'	Enclose in single quotation marks.
	Integrated File System '/QSYS.LIB/library-name.LIB /file-name.FILE /member-name.MBR' or '/directory/file-name| /QLANSrv/file-name| /QDLS/folder-name| /QOpenSys/file-name'	You cannot specify the *SNDFFD, *SELECT, and *EXCLUDE parameters with the integrated file system.

SNODENVIRN	TDSN Format	Special Considerations
	Spool File Support spooled-file-name	Do not use member names longer than eight characters when sending to z/OS, VSE, and MSP. Results are unpredictable.
OS/390, VSE, MSP	Standard z/OS DSN naming conventions.	Single quotes allow special characters. Do not use member names longer than eight characters. The results are unpredictable.
VM	Fully qualified file-name	
Tandem	\system.$volume.subvolume.filename	
Microsoft Windows	drive:\directory\subdirectory\filename or \\servername\sharepointname\subdirectory\filename	
UNIX	/directory/subdirectory/filename	
OpenVMS	node::device:[directory]filename.type;version	When you are copying a file, the file specification must be enclosed in single quotation marks if it uses spaces or other special characters not recognized by the other node.
Stratus VOS	Fully qualified path and file name	Enclose the file name in double quotation marks when you use a reserved word (statement name or keyword) for the file name.

TOSYSOPTS('
  DECMPR(*YES|*NO)
  EXITCMD(valid i5/OS command)
  FAILCMD(valid i5/OS command)
  TYPE(FILE|MBR|SPLF)
  XTRAN(table-name) [XTRANLSO(so-code)|
  XTRANLSI(si-code)|XTRANLDATA(MIXED|DBCS)]
  CCSID(nnnnn)
  EORCHAR(xxxx)
  ')

specifies system operation parameters at the remote node. The maximum number of characters permitted for TOSYSOPTS is 2K. This parameter is only required when the remote file is on another Sterling Connect:Direct for i5/OS node.

For additional information about valid SYSOPTS parameters, see the appropriate COPY statement chapter of the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html.

EXITCMD specifies a command to be executed only if the copy process is successful.

FAILCMD specifies a command to be executed only if the copy process is not successful.

DECMPR(*YES|*NO) states whether the remote Sterling Connect:Direct should decompress the received file. DECMPR(*NO) instructs the remote system to place the received data in a database file

without decompressing it. The option DECMPR(*NO) cannot be specified if you are using Sterling Connect:Direct Secure Plus to perform a secured copy function.

Note: Ensure that the destination file contains no members before you send a file with
DECMPR(*NO) specified.

TYPE(FILE|MBR|SPLF) specifies the type of data to be sent. You *must* define the type of data to be copied as one of the following:

FILE specifies that the file being copied is a physical database file.

MBR specifies that the object being copied is a member of a physical database file.

SPLF specifies that the data is to be copied to an i5/OS spooled output file.

For each TYPE, you can specify certain parameters as follows.

The following parameters are valid for **TYPE(FILE)** and **TYPE(MBR)** files:

RCDLEN(record-length) specifies the data length for each record in the file.

FILETYPE(*SRC|*DATA) establishes the type of file to be created. Use this parameter whenever a file is created.

TEXT('text description') sets a text description to be associated with this member (and file, if created). This description cannot exceed 50 characters and must be enclosed in single quotes.

EXPDATE(expiration-date) specifies the date after which the new or replaced member is no longer valid. If EXPDATE is not specified, then the file does not have an expiration date.

MAXMBRS(number|*NOMAX) specifies the maximum number of members a physical file can contain.

SIZE(#-of-recs, incr-value #-of-incrs|*NOMAX) is used when a new file is created for the file received.

AUT(*CHANGE|*ALL|*USE|*EXCLUDE) specifies the authority to give to a user who does not have specific authority to the file or member, is not on the authorization list, and whose user group does not have specific authority to the file or member.

The following parameters are valid for **TYPE(SPLF)** files:

DEV(*JOB|*SYSVAL|device-name) specifies the name of the printer device description.

DEVTYPE(*IPDS|*SCS|*USERASCII) sets the type of data stream created for a printer file from the data received.

PAGESIZE(page-length page-width) specifies the length and width of the page used by the printer. (This parameter overrides the FORMTYPE parameter.)

LPI(3|4|6|7.5|8|9) sets the line space setting (lines per inch) on the printer.

CPI(5|10|12|13.3|15|16.7|18|20) specifies the printer character density, in characters per inch, for the printer.

OVRFLW(overflow-line-number) specifies the line number on the page at which overflow to a new page begins.

FOLD(*NO|*YES) specifies whether entire records are printed when the record length exceeds the form width.

RPLUNPRT(*YES 'replacement-character'|*NO) specifies whether unprintable characters are replaced with printable characters when printed. Also specifies the replacement character.

ALIGN(*NO|*YES) specifies whether the page must be aligned in the printer before printing is started.

CTLCHAR(*NONE|*FCFC) specifies whether the data contains printer control characters.

CHLVAL(*NORMAL| (channel#1 line#1) ... (channel#12 line#12)) specifies the list of channel numbers with their assigned line numbers. Note that CTLCHAR(*FCFC) must be specified as a SYSOPTS parameter for this to be a valid parameter.

FORMFEED(*DEVD|*CONT|*CUT|*AUTOCUT) specifies the form feed attachments used by the printer (4214, 5219, and 5553 printers only).

PRTQLTY(*STD|*DRAFT|*DEVD|*NLQ) specifies the quality of print produced.

DRAWER(1|2|3|*E1) specifies the source drawer to be used when you use automatic cut-sheet feed mode.

FONT(*CPI|*DEVD|font-identifier) specifies the font identifier to be used for the spooled output file.

CHRID(*DEVD|*SYSVAL| graphic-character-set code-page) specifies the character identifier to use for the spooled output file.

PAGRTT(*DEVD|*COR|0|90|180|270) specifies the degree of rotation (clockwise from the edge of the paper first loaded into the printer) of text on each page printed.

PRTTXT('print-text') specifies a line of text to be printed at the bottom of each page printed. Up to 30 characters enclosed in single quotes is specified.

JUSTIFY(0|50|100) controls the print positions of the characters on the page (in the spooled file) so the right margin is regular.

DUPLEX(*NO|*YES|*TUMBLE) specifies whether the spooled output file is printed on one or both sides of the paper.

SPOOL(*YES|*NO) specifies whether the data is sent to a spooled file prior to printing.

OUTQ(*JOB|*DEV|library-name/output-queue- name) specifies the output queue for the spooled output file created.

FORMTYPE(form-type) specifies the type of form to use in the printer when the spooled file is printed. The PAGESIZE parameter overrides this parameter.

COPIES(number-of-copies) specifies the number of copies to be printed. Valid values range from 1–255.

MAXRCDS(maximum-records) specifies the maximum number of records that are placed in the output queue. Valid values range from 1–500,000.

FILESEP(number-of-file-separators) specifies the number of blank separator pages to be placed between each copy of the file printed.

HOLD(*YES|*NO) specifies whether the file is to be held on the output queue until released by the user.

SAVE(*YES|*NO) specifies whether the spooled output file is to be saved on the output queue once printed.

OUTPTY(*JOB|output-priority) specifies the scheduling priority of the file on the output queue.

USRDTA(user-data) allows up to 10 characters of data to identify the spooled output file.

Refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html for general information on SMS support.

XTRAN(table-name) specifies the translation table to use. The named table object must exist in a library that is in the session manager job library list or else the COPY step fails.

If the XTRAN keyword is present, then the following related optional keywords can also be used:

XTRANLSO(so-code) specifies extended translation local shift-out code. This keyword specifies the hexadecimal code to use for the local (i5/OS side) shift-out character and overrides the default value of 0E. You can specify any two valid hexadecimal digits.

XTRANLSI(si-code) specifies extended translation local shift-in code. This keyword specifies the hexadecimal code to use for the local (i5/OS side) shift-in character and overrides the default value of 0F. You can specify any two valid hexadecimal digits.

XTRANLDATA(MIXED|DBCS) specifies extended translation local data format. This keyword specifies the format of the data on the local (i5/OS side) of the COPY.

> **MIXED** indicates that the data can contain both DBCS and SBCS characters and that SO/SI characters are used. MIXED is the default.

> **DBCS** indicates that the data is pure DBCS characters and that no SO/SI characters are used.

XTRANPAD(pc) specifies that padding characters are in use. When DBCS data is translated from EBCDIC to ASCII, PAD specifies that the SHIFT-OUT and SHIFT-IN characters are replaced by a pad character to allow the displacement of fields within a record to remain unchanged during translation.

When DBCS data is translated from ASCII to EBCDIC, PAD specifies that the input ASCII DBCS file is in a padded format. The character immediately preceding a DBCS character or string is overlaid by the SHIFT-OUT character. The character immediately following a DBCS character or string is overlaid with the SHIFT-IN character. This allows the displacement of fields within a record to remain unchanged during translation.

> **pc** is the pad character to be used during EBCDIC to ASCII translation. **pc** is ignored for ASCII to EBCDIC translations.

> If XTRANPAD is not used, the SI/SO characters are stripped from the file when transferring from EBCDIC to ASCII, and added to the records when sending from ASCII to EBCIDC.

The following rules apply to the use of the XTRAN keyword:

❖ You must specify the XTRAN keyword to use extended translation all others are optional.

❖ The default for local shift-out is the IBM standard x0E.

❖ IBM standard xOF is the default for local shift-in.

❖ The default local data format is MIXED with SO/SI in use XTRAN is *not* allowed with PRECMPR(*YES) or DECMPR(*NO)

❖ To send a file to an ASCII platform using extended translation, you *must* specify in the TOSYSOPTS that the data type is binary. Refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html for platform-specific SYSOPTS parameters.

❖ To use the XTRAN keyword to receive DBCS data from an ASCII platform, ensure that the record length of the file on the i5/OS side of the transfer is large enough to contain the translated record.

The record length of the file on the i5/OS side of the transfer is generally larger than the ASCII equivalent. For additional information, refer to *Maintaining Extended Translation* in the *IBM Sterling Connect:Direct for i5/OS Installation and Administration Guide*

EXITCMD specifies a command to be executed only if the copy process is successful.

FAILCMD specifies a command to be executed only if the copy process is not successful.

CODEPAGE(nnnnn,nnnnn) converts data from one code page to another. The supported conversions are identified on the IBM Web site in the V5R1 Information Center, DB2 Universal

Database for iSeries SQL Reference, Appendix E. CODEPAGE() on Sterling Connect:Direct for i5/OS relates to CODEPAGE() developed for the z/OS system, UNIX, and Microsoft Windows.

nnnnn identifies the IBM CCSID codepage number to convert from and the IBM CCSID code page number to convert to. If the FROM code page or TO code page is locale, the code page for the locale where Sterling Connect:Direct is executing is used. For example, if fmsysopts(codepage(locale,1208)), then the FROM code page is the code page for the locale and the TO code page is UTF-8.

CCSID(nnnnn) specifies the coded character set ID to use when creating IFS files. If no character set ID is specified, the system default is used.

EORCHAR(xxxx) specifies the two-to four-digit hexadecimal symbol to identify the character to use in text files as the end-of-record character, for example, EORCHAR(0A).

Optional Parameters

The following parameters are optional. Unless otherwise noted, the parameters apply to all remote node environments.

BLKSIZE(n|*CALC)
specifies the blocksize value for the source file. This value must be a multiple of the file record size.

n specifies the block size of the file. This value must be a multiple of the record size. The valid range is 1–32720

*CALC indicates that the blocksize is calculated.

CHLVAL(*NORMAL| (channel#1 line#1) . . . (channel#12 line#12))
specifies the list of channel numbers with their assigned line numbers. Note that you must specify CTLCHAR(*FCFC) for this to be a valid parameter.

*NORMAL indicates that channel 1 causes a skip to the next line, and channel 12 causes a skip to the overflow line (OVERFLOW parameter). Channels 2–11 cause a space-one-line operation.

(channel#1 line#1) . . . (channel#12 line#12) specifies channel number and line number. Any combination of channel numbers, 1–12, is specified along with a line number to be assigned to that channel number. Valid line numbers range from 1–255. If no line number is assigned to a channel number and that channel number is found in the data, a default of space-one-line before printing is taken. You can specify each channel and line number once.

CKPTINV(n)
Number of bytes, from 1K to 2 gigabytes, to send or receive before taking a checkpoint. The format is *nnnnnnn*, *nnnnnn*K, or *nnnnnn*M, where **K** specifies thousands of bytes and **M** specifies millions of bytes. A value of **0** specifies no checkpoint restart Sterling Connect:Direct for i5/OS uses the value you specify, rounded up to the nearest record boundary, to determine when to take a checkpoint. If you specify a value between 1 and 1023, the value becomes 1024 or 1K.

A checkpoint interval specified here overrides the system-wide default value in the initialization parameters.

CLASS(n)
determines the node-to-node session on which a Sterling Connect:Direct operation can execute. The CLASS is a number from 1–255. If you do not specify the CLASS parameter, it defaults to the number of maximum sessions defined in the communications environment mode description.

Note: The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

COMPRESS (*YES|*NO|X\xx\|C\cc|EXT)

specifies data compression, which reduces the amount of data transmitted as the file is copied from one node to another. The file is automatically decompressed at its destination.

> **Note:** Compression is CPU-intensive. Its effectiveness is dependent on data and line speed and should be used only if it benefits the installation.

If compression is specified, Sterling Connect:Direct reduces the amount of data transmitted based on the following rules:

❖ Repetitive occurrences (ranging from 2–63) of the primary compression character are compressed to one byte.

❖ Repetitive occurrences (ranging from 3–63) of any other character are compressed to two bytes.

Specifying the primary compression character is recommended for text data or single-character repetitive data. Extended compression generally offers improved compression for all types of data.

*NO specifies no compression.

*YES enables compression. If *YES is specified, the default primary compression character is PRIMEchar=X\40\ (hex 40=" ").

X\xx enables compression, where *xx* is the hexadecimal representation of the value to be used for the primary compression character.

C\cc enables compression, where *cc* is the character representation of the value to be used for the primary compression character.

EXT specifies that extended compression is used to search for repetitive strings of characters in data and compress them to codes that are transmitted and converted back to the original string during decompression. It is advantageous to specify this parameter when line transmission speeds are limited, CPU is available, and data is repetitive.

CRC(*INITPARMS|*NETMAP|*OFF|*ON)

Determines whether node and Process statement overrides for Cyclic Redundancy Check (CRC) are allowed. If this value is set to *OFF, setting overrides for CRC checking will be ignored. The default value is *INITPARMS.

*INITPARMS specifies that the CRC setting is determined by the value for the initialization parameter, TCP.CRC.

*NETMAP specifies that the CRC setting is determined by the value for the NETMAP parameter, Cyclic Redundancy Check. The value for the initialization parameter TCP.CRC must be set to *ON and the value for the initialization parameter TCP.CRC.OVERRIDE must be set to *YES.

*OFF specifies that CRC is disabled.

*ON specifies that CRC is enabled.

ECTUNING (ecclevel,ecwinsize,ecmlevel)

ECCLEVEL specifies the extended compression level, which affects how much CPU the extended compression routines use. Higher compression levels use more CPU but achieve greater compression. The valid values for this subparameter are 1–9, inclusive. The default value is *INITPARMS.

ECWINSIZE specifies the extended compression window size, which is specifically for the history buffer that is filled from the user's input buffer (both compressing and decompressing). The window specifies the amount of storage designated to maintain data previously read.

This data can be scanned for string matches. The extended compression window size affects how much virtual memory the extended compression routines use. Higher window size values use more memory but achieve greater compression. The valid values for this subparameter are 8–15, inclusive. The default value is *INITPARMS.

ECMLEVEL specifies the extended compression memory level parameter, which determines how much memory should be allocated for other internal data structures like the hash table and the previous table (pointers to previous strings starting with the same 3 characters). The extended memory level affects how much memory the extended compression routines use. Higher memory levels use more virtual memory but achieve greater compression. The valid values for this subparameter are 1–9. inclusive. The default value is *INITPARMS.

CTLCHAR(*NONE|*FCFC|*PRTCTL)

specifies whether the data contains printer control characters. Valid values are:

***NONE** indicates that the data does not contain printer control characters.

***FCFC** indicates that the first character of each record contains an ANSI forms-control character. Any incorrect control characters are ignored, and single spacing is assumed. This parameter should be used when the source z/OS file is RECFM=xxA, which indicates it contains ANSI carriage control.

***PRTCTL** indicates that skip and space-before values are in the first four characters of every record. These values are useful in high-level language (HLL) programs. Refer to the CPYSPLF command in the *i5/OS CL Reference* for more information on these values.

FDSNLEN(*SPLF)

specifies the record length of the local file. The default value *SPLF means: look at the actual spool file and use its length in this parameter.

Note:	For TDSN, the values of *LIBL, *CURLIB, QTEMP cannot be used when sending to or from an i5/OS system using Sterling Connect:Direct for i5/OS. A specific library name must be used for copying from or to a data set on the i5/OS.

NOTIFY(userid)

specifies the user ID on the local node to receive status messages that are directed to the message queue of the user.

PLEXCLASS(user-defined class)

specifies a user-defined class containing up to eight characters associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment. This represents a type of server on which you want to run a task, for example TAPE.

Note:	This parameter is for use only in Sterling Connect:Direct for z/OS environments.

PNAME(name)

identifies the Sterling Connect:Direct Process in any messages or statistics related to the operator. The name is from 1 to 12 characters long. The first character must be alphabetic. Use this name to identify the operation in any messages or statistics. The default name is CDSNDSPL.

Note:	Only Sterling Connect:Direct for i5/OS and Sterling Connect:Direct for UNIX support Process names with more than 8 characters.

PNODEID(id, pswd, newpswd)
specifies security user IDs and passwords at the local node. This parameter should only be used to validate security with a different ID than the one you used to sign on to Sterling Connect:Direct. PNODEID is not used when both the ID and password match on the local and remote nodes.

id specifies the security ID passed to the security system on the local node (1–10 alphanumeric characters).

pswd specifies the current security password for the specified ID. This parameter is used by the security system on the local node to validate the current security password (1–10 alphanumeric characters). This is optional unless the user has security set to require a password.

newpswd specifies the new security password. It is used by the security system to change the current security password to the new security password (1–10 alphanumeric characters).

Note: Although you can specify a value for newpswd, Sterling Connect:Direct for i5/OS does not support this parameter.

PRTY(n)
specifies the priority of the operation. High numbers indicate high priorities; low numbers indicate low priorities. Use this priority only for selection within CLASS. It does not affect transmission priority. The range is from 0–15. The default is *INITPARMS. Type **DSPPFM INITPARMS** to view the default.

RMTWORK(*YES|*NO)
specifies whether a remote Process can run on the session after Sterling Connect:Direct for i5/OS has completed its Process on the session.

*YES allows the remote Process to run on the session after Sterling Connect:Direct for i5/OS completes its Process.

*NO terminates the session after Sterling Connect:Direct for i5/OS executes the command function. *NO is the default for this parameter.

SACCT(snode-accounting-data)
specifies the accounting data for the remote node. The maximum length of the accounting data is 256 characters. If special characters are part of the accounting data, the string must be enclosed in single quotation marks. This parameter is valid for z/OS nodes only.

SECOPTIONS(* *)
specifies Encryption and Digital Signature values.

Encryption specifies if data encryption is to be performed and what algorithm to use.

Digital Signature specifies if a digital signature is created during file transmission.

Note: The SECOPTIONS parameter is valid only if Sterling Connect:Direct Secure Plus is installed. For information about these parameters, refer to the *IBM Sterling Connect:Direct Secure Plus for i5/OS Implementation Guide*.

SNODEID(id, pswd, newpswd)
specifies security user IDs and passwords at the remote node. Use this parameter only to validate security with a different ID than the one you used to sign on to Sterling Connect:Direct.

Note: Parameter values are case sensitive.

---

id specifies the security ID sent to the remote node (1–64 alphanumeric characters).

pswd specifies the current security password and is used by the security system on the SNODE to validate the current security password (1–64 alphanumeric characters). This is optional unless the user has security set to require a password.

newpswd specifies the new security password and is used by the security system to change the current security password to the new security password (1–64 alphanumeric characters).

Note: newpswd is not supported if the remote node is an i5/OS node.

TBUFND(n)
specifies the number of I/O buffers VSAM uses to transmit data between virtual and auxiliary storage. Valid values range from 1–510. The default is **2**. Increasing this number generally improves the I/O performance on the file but requires more memory. This parameter is valid for z/OS nodes only.

TDBPARMS(dbid, dbsubid)
indicates that the Sterling Connect:Direct for z/OS SQL SERVER is to process the I/O request against the database identified by the subparameters of this keyword and defined by the SQL= parameter. The DBPARMS parameter is used with the optional Sterling Connect:Direct z/OS SQL feature. This parameter is valid for z/OS nodes only. Only DB2 is supported.

To determine the values to code for access to a given DB2 table or set of DB2 tables, consult the database administrator.

dbid specifies the 1–4 byte DB2 database ID.

dbsubid specifies the 1–4 byte DB2 database sub ID.

TDCB(modeldcb, blksize, den, dsorg, keylen, limct, lrecl, optcd, recfm, rkp, trtch)
overrides attributes of the source file. For existing source and destination files, DCB attributes are determined from the operating system unless specified. For a new destination file, the DCB attributes of the source file are used to allocate the destination file unless DCB information is provided in the operation.

modeldcb specifies a model data set control block (DSCB).

blksize specifies the block length in bytes. The minimum and maximum lengths are 18 bytes, and 32,760 bytes.

den specifies the magnetic tape mode setting. The following table shows values for the DEN parameter for 7- and 9-track tapes. When coded together, the DEN and TRTCH values are used to select a tape device for allocation by Sterling Connect:Direct z/OS.

DEN	7-Track Tape	9-Track Tape
1	556 bpi	--
2	800 bpi	800 bpi
3	--	1600 bpi
4	--	6250 bpi

dsorg specifies the file organization. Supported file organizations are BDAM, ISAM, PO, PS, and VSAM.

keylen specifies the length of the keys used in a file. Maximum length in bytes is 255.

limct specifies the blocks or tracks searched to find a free block or available space.

lrecl specifies the record length in bytes.

optcd establishes optional processing associated with a specific file. This optional processing only applies to this file and is not automatically applied to other files involved in a RECEIVE operation. Valid options are:

> **W** performs write validity checks on direct access storage devices.
>
> **Q** performs ASCII-to-EBCDIC conversion for input files and EBCDIC-to-ASCII conversion for output files. **Q** is the default and only used for AL-labeled tape files.
>
> **Z** performs reduced error recovery for tape files.

recfm specifies the format of the records in the file. You can specify any valid record format, such as:

> **F** specifies fixed format.
>
> **FA** specifies fixed format with ASA printer control.
>
> **FB** specifies fixed block format.
>
> **FBA** specifies fixed block format with ANSI carriage control.
>
> **FM** specifies fixed format with machine code control character.
>
> **U** specifies undefined format.
>
> **V** specifies variable format.
>
> **VB** specifies variable block.
>
> **VBA** specifies variable block format with ASA printer control.
>
> **VBM** specifies variable block format with machine code control character.
>
> **VS** specifies variable spanned format.
>
> **VBS** specifies variable block spanned format.
>
> For FDR volumes, you must specify RECFM=U.

rkp specifies the position of the first byte of the record key within each logical record. The beginning byte of a record is addressed as **0**.

trtch specifies the magnetic tape mode setting. When coded together, the TRTCH and DEN values are used to select a tape device for allocation by Sterling Connect:Direct for z/OS. Valid options are:

> **C** specifies data conversion, odd parity, a**4**nd no translation.
>
> **E** sets no data conversion, even parity, and no translation.
>
> **T** specifies no data conversion, odd parity, and BCD or EBCDIC translation.
>
> **ET** specifies no data conversion, even parity, and BCD or EBCDIC translation.
>
> **COMP** is a feature for 3480X tape drives only. It enables Improved Data Recording Capability (IDRC), which compresses the data. This subparameter overrides the system-wide IDRC setting for no compression. If you are specifying COMP, you must also include a UNIT= parameter that specifies either 3480X or a systems-programmer-defined name equivalent to a 3480X tape drive.
>
> **NOCOMP** overrides the system-wide IDRC setting for compression. NOCOMP applies to 3480X tape drives only.

TDISP(current, normal end, abnormal end)
> specifies the status of the file on the remote node.

current specifies the status of the file before the operation executes. Valid choices for this subparameter are:

NEW specifies that the operation creates the destination member for an existing file. NEW is the default. The file is created if the member does not exist. The file cannot be created if the member already exists.

OLD specifies that the destination member already exists. The operation has exclusive control of the member.

MOD specifies that the operation modifies the member by adding data to the end of the member or, if none exists, allocates a new member. The file is also created if it does not exist.

RPL specifies that the destination member replaces any existing member or, if none exists, allocates a new member. The file is created if it does not exist.

SHR specifies that the destination member already exists. The file is read simultaneously by another job or operation.

Note: Normal and abnormal second disposition are not applicable when sending to Sterling Connect:Direct for i5/OS.

For information on parameters for other platforms, refer to the appropriate volume of the IBM Sterling Connect:Direct Processes Web site at
http://www.sterlingcommerce.com/documentation/processes/processhome.html.

TIOEXIT(program-name)
specifies the name of the user-written program to be given control for I/O-related requests for the associated data. This parameter is valid for z/OS nodes only.

TIOPARM(parameter-name)
establishes a parameter, or list of parameters, to be passed to the specified exit. The TIOPARM syntax is dependent on the parameter list required by the program specified in TIOEXIT. This parameter is valid for z/OS nodes only.

TLABEL(seqno,labeltype,pswdread,inout,retpd,expdt)
specifies label information for the tape. This parameter is valid for z/OS nodes only.

seqno specifies the relative file position on the tape.

labeltype is designated as:

SL specifies IBM standard labels.

AL specifies American National Standard labels.

BLP specifies bypass label processing.

LTM specifies bypass leading tape marks.

NL specifies no labels.

pswdread specifies that a password must be given by the operator or user before the file is accessed.

inout specifies that a BSAM data set opened for INOUT or a BDAM data set opened for UPDAT is to be read only.

retpd specifies the retention period for the data set in days, where *nnnn* is 1–4 digits.

expdt specifies the expiration date for the data set, where *yyddd* or *yyyyddd* is a valid Julian date.

TLINK(vmid,pwd,accmode,cuu)
specifies the disk where the CMS file is located. This parameter allows the user to access the CMS file. This parameter is valid for VM or VSE nodes only.

vmid specifies the owner ID for the CMS minidisk where the file is located. The valid length ranges from 1–8 characters.

pwd specifies the appropriate password for the CMS minidisk where the file is located. The maximum length is 256 characters. The default password is ALL.

accmode specifies the link access mode.

When used with the FROM parameter, the access modes are **W** (primary read/write access), **M** (primary multiple access), **R** (primary read only), RR (primary and secondary read only access), WR (primary read/write access; alternate read only access), MR (primary multiple access; alternate read only access), and MW (primary multiple access; alternate read/write only access).

When used with the TO parameter, the access modes are **W**, **M**, and MW.

cuu specifies the virtual address of the disk where the CMS file is located. Any three-digit number is valid.

TMSVGP(n)
specifies the remote file mass storage volume group that resides on a mass storage system (MSS) device, which must be a valid DD (data definition) name. This parameter is valid for z/OS nodes only.

TPROTCT(*YES|*NO)
specifies whether an IBM RACF profile is created for a new file on a remote VM system.

TRACEOPT

Trace Instructions
(L, S, F, C, X, K, D, H, V, W, P,|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT

specifies the trace bits that define functions to be traced by Sterling Connect:Direct for i5/OS. The following are valid options:

❖   **L** enables the main line logic trace for all components.

❖   **S** enables the Process step logic trace.

❖   **F** enables the file handler trace.

❖   **C** enables the communications logic trace.

❖   **X** enables the XDR trace.

❖   **K** enables the KQV logic trace.

❖   **D** enables the all-purpose data dump.

❖   **H** enables the FMH dump.

❖   **V** enables the XDR dump.

❖   **W** enables the communications dump.

❖   **P** enables the CIPC dump.

❖   ***NONE** turns off all traces.

❖   ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, W and P)

❖   ***EXT** enables all product traces plus two system traces (TRCICF and TRCJOB).

❖   ***COMMON** enables the communications traces. (L, S, F, C, and H)

❖   ***INITPARMS** indicates the traces specified in the initialization parameters.

❖   <u>***CURRENT**</u> selects the trace bits that the session manager is currently using.

Command Trace Options
 L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| <u>*NONE)</u>

specifies the trace bits that define functions to be traced for this command but not for the Process it runs. The following are valid options:

❖   **L** enables the main line logic trace for all components.

❖   **S** enables the Process step logic trace.

❖   **F** enables the file handler trace.

❖   **C** enables the common logic trace.

❖   **X** enables the XDR trace.

❖   **K** enables the KQV logic trace.

❖   **D** enables the all-purpose data dump.

❖   **H** enables the FMH dump.

❖   **V** enables the XDR dump.

❖   **P** enables the CIPC dump.

❖   ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, and P)

❖   ***EXT** enables all product traces plus two other traces. (TRCICF and TRCJOB)

❖   ***COMMON** enables the most commonly used traces. (L, S, F, C, and H)

❖   <u>***NONE**</u> turns off all traces.

TSPACE(avgblk, type, primary, secondary, pdsblk, rlse, contig, round)
specifies the amount of storage to be allocated for new files on the destination node. If TSPACE is specified, the DISP of the destination file must be NEW. If TSPACE is not specified and the DISP is NEW, space allocation defaults to the value obtained from the source file (unless a TTYPE has been specified). The default allocation is in blocks, and if supplied with the ROUND option, provides device-independent space allocation. This parameter is valid only for z/OS nodes.

avgblk defines the average block size.

type defines the space allocation. Valid values are:

❖   **CYL** specifies that space is to be allocated by cylinder.

❖   **TRK** specifies that space is to be allocated by track.

❖   **blk** specifies that space is to be allocated by the average block length of the data and is the default. The system computes the number of tracks to be allocated. If the subparameter ROUND is also specified, the system allocates the space in cylinders. ROUND is preferred because allocation is performed on cylinders in a device-independent manner. If no space information is coded, allocation is in blocks, due to device dependencies.

primary specifies the primary allocation of storage (number of units).

secondary specifies the secondary allocation of storage (number of units).

pdsblk specifies the number of PDS directory blocks to be created in the file.

rlse sets the release of unused storage allocated to the output file. Valid values are *YES and *NO.

contig specifies the contiguous storage for the primary allocation. Valid values are *YES and *NO.

round specifies the rounding of storage allocated by average block length to an integral number of cylinders. Valid values are *YES and *NO.

TSQL(sql-statement|DSN=data-set-name)
  defines the SQL statement to be processed against the database identified by the DBPARMS parameter or the DSN containing the SQL statements(s). The SQL parameter is used with the optional Sterling Connect:Direct SQL feature. This parameter is valid for z/OS nodes only.

  sql-statement defines the actual SQL statement to be processed.

  data-set-name specifies the data set containing the SQL statement or statements to be processed.

TTYPE(name)
  specifies the entry name of the type defaults file on the remote node that contains the default file attributes used to allocate the destination file. TTYPE is required only if sending to a MS-DOS node.

TUNIT(unit-name)
  specifies the unit address, device type, or user-assigned group name where the file resides or will reside. For SAM-to-SAM copies where the destination file is new and the UNIT parameter is not coded, the device type from the source file is used. For VSE nodes, you must specify either this parameter or TVOL.

  Specify a unit-count to allow additional units to be allocated if required, or specify **P** to allocate the same number of units as volumes and then parallel mount the volumes.

TVOL(*YES|*NO)
  specifies the volume serial number(s) containing the file and optional processing associated with the file. If TVOL is not specified, the file must be cataloged. For VSE nodes, you must specify either this parameter or TUNIT.

  private specifies allocation of an output file only if the volume is specifically requested and is used for direct access storage devices only. Valid values are *YES and *NO.

  volcount specifies the maximum number of volumes required by an output file.

  ser identifies by serial number the volumes where the output file resides or will reside.

TVOLREF(data-set-name)
  allows you to place a data set on the same volume as the referenced data set. It must be cataloged on the system where it is referenced. This parameter is valid for z/OS nodes only.

TVSAMCAT(dsn,vmid,pwd,accmode,cuu)
  specifies the catalog for the VSAM file to be copied. This parameter is required only if using a catalog other than the master catalog. This parameter is valid for VSE nodes only.

  dsn specifies the filename of the VSAM catalog containing the file to be copied. The maximum length is 44 characters.

  vmid specifies the owner ID for the VSAM minidisk where the file is located. The maximum length is eight characters.

  pwd specifies the appropriate password for the VSAM minidisk where the file is located. The maximum length is eight characters.

  accmode specifies the link access mode. Valid access modes are NULL, **W** (primary read/write access), **M** (primary multiple access), and MW (primary multiple access; alternate read/write only access).

  cuu specifies the virtual address of the disk where the VSAM file is located. Any three-digit number is valid.

Sending a Spooled File to a Remote Node

Use the **Sterling Connect:Direct Send Spool (CDSNDSPL)** screens to send a spooled file to a remote node. Complete the following steps to send a spooled file to a remote node:

1. Access the **CDSNDSPL** screens by typing **CDSNDSPL** at the command line and pressing **F4** or by choosing the send spooled file option from the Sterling Connect:Direct main menu.

2. Type the remote node name and press **Enter**. The command retrieves the remote node environment and display fields for required parameters.

3. Type values for required and any optional parameters as appropriate and press **Enter**.

The following is a sample of the **Sterling Connect:Direct Send Spool (CDSNDSPL)** screen.

```
                    Connect:Direct Send Spool File (CDSNDSPL)

  Type choices, press Enter.

  Receiving Node Name  . . . . . .    _____
  Receiving Node Environment . . .    _____       AS400, MSP, MVS, OS/400...
  Spooled file . . . . . . . . . .    _____       Name
  Job name:

                                      _____       Name, *
    User Id  . . . . . . . . . . .    _____       Name
    Number . . . . . . . . . . . .    _____           000000-999999
  Spooled file number  . . . . . .    _____           1-9999, *ONLY, *LAST
  Receiving File Name  . . . . . .    _____
  _____


                                                                          Bottom
    F3=Exit    F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
    F24=More keys
```

Running a Remote Task

This chapter describes the Sterling Connect:Direct Run Task (CDRUNTASK) command and its function.

Using the CDRUNTASK Command

Use the CDRUNTASK command to run a task at a remote node. This command allows user programs, or subtasks, to be attached and run as a subtask under the remote Sterling Connect:Direct during command execution.

For additional information, refer to the appropriate RUN TASK section of the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html for information about the remote node.

Note: RUN JOB and RUN TASK Process statements use the authenticated user's JOBD for the library list and not the CDJOBD library list, which is the CDADMIN job description used to start Sterling Connect:Direct. RUN JOB and RUN TASK Process statements use the CDJOBQ job queue.

CDRUNTASK Command Example

The command shown in the following figure is an example of the CDRUNTASK command.

```
CDRUNTASK    PNAME(CDTASK) SNODE(DALLAS.OS3901)
      SNODENVIRN(OS390) PGM(ACCTUPDT)
      PARM(''CL44'DALLAS.ACCTDATA'' CL44'
          'DALLAS.REPORT''')
```

CDRUNTASK Example With New TraceOpt Parameters

```
 ===> CDRUNTASK SNODE(CDDV3600) SNODENVIRN(AS400)
CMD('WRKACTJOB SBS(CDDV3600) OUTPUT(*PRINT)') TRACEOPT(*ALL *ALL)
SNODEID(RMTUSER ())

The associated Statistics record:

                        Display Spooled File
 File . . . . . :   CDSELSTAT                                    Page/Line   1/6
 Control . . . . .                                         Columns    1 - 130
 Find . . . . . .
 *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....
 C:D  i5         Select Statistics (CDSELSTAT) Detail  03/16/04  11:03:12   Page 0001

 --------------------------------------------------------------------------------
 Event:       Communications Session Started (SMSES)
 Process Name: CDTASK                                   Process Number:  00014891
 Date/Time:    03/16/04    10:57:12
 Local Node:   CDDV3600                                 Local User:  LCLUSER
 Remote Node:  CDDV3600
 Protocol:     TCPIP                                    Type:  INIT
 Message Id:   ASMT292I

 --------------------------------------------------------------------------------
 Event:       Process Started (SMPST)
 Process Name: CDTASK                                   Process Number:  00014891
 Date/Time:    03/16/04    10:57:12
 Local Node:   CDDV3600                                 Local User:  RMTUSER
 Remote Node:  CDDV3600
 Submit User:  CDDV3600                                 Pnode:  N
 --------------------------------------------------------------------------------
 Event:       Process Started (SMPST)
 Process Name: CDTASK                                   Process Number:  00014891
 Date/Time:    03/16/04    10:57:13
 Local Node:   CDDV3600                                 Local User:  LCLUSER
 Remote Node:  CDDV3600
 Submit User:  IDEVUSER                                 Pnode:  Y
```

CDRUNTASK Command Format

The following are the parameters for the CDRUNTASK command. Required parameters are in bold.

Command	Parameters
CDRUNTASK	**SNODE(remote-node-name)**
	SNODENVIRN(remote-environment-name)
	†**PGM(program-name)**
	‡**CMD(command)**
	CLASS(n)
	CRC(*<u>INITPARMS</u>|*NETMAP|*OFF|*ON)
	NOTIFY(userid)
	‡‡PARM(parameters)

†   For tasks on z/OS, Microsoft Windows, HP NonStop, VM, and VSE

‡   For tasks on i5/OS, Microsoft Windows, OpenVMS, UNIX, Stratus VOS

‡‡   For tasks on z/OS, HP NonStop, VM, and VSE

Command	Parameters
	PLEXCLASS(user-defined class)
	PNAME(name)
	PNODEID(id, pswd, newpswd)
	RMTWORK(*YES|*NO)
	SACCT(snode-accounting-data)
	SNODEID(id, pswd, newpswd)
	TRACEOPT Trace Instructions: (L,S,F,C,X,K,D,H,V,W,P|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT Command Trace Options: L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| *NONE)

†   For tasks on z/OS, Microsoft Windows, HP NonStop, VM, and VSE

‡   For tasks on i5/OS, Microsoft Windows, OpenVMS, UNIX, Stratus VOS

‡‡   For tasks on z/OS, HP NonStop, VM, and VSE

Note: The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

Required Parameters

The following two parameters are required when you use the CDRUNTASK command.

SNODE(remote-node-name)
> specifies a 1–16 character alphanumeric name for the remote node.

> **Note:** This value is case sensitive.

SNODENVIRN(remote-environment-name)
> specifies the remote environment to execute the task.

One of the next two parameters is required for the CDRUNTASK command. Each parameter lists the environments for which they apply.

PGM(program-name)
> specifies the RUN TASK program name on the remote node. The following environments can use this parameter: OS/390, Microsoft Windows, Tandem, VM, and VSE

CMD(command)
> specifies batch-capable i5/OS CL commands and parameters for a remote node. The maximum number of permitted characters is 256. The following environments can use this parameter: i5/OS, MS-DOS, Microsoft Windows, OpenVMS, UNIX, and Stratus VOS.

Refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html for parameter values for the remote node.

Optional Parameters

The following parameters are optional. Unless otherwise noted, the parameters apply to all remote node environments.

CLASS(n)
    determines the node-to-node session on which a Sterling Connect:Direct operation can execute. The CLASS is a number from 1–255. If you do not specify the CLASS parameter, it defaults to the maximum number of sessions defined in the mode description for the communications environment.

Note: The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

CRC(*INITPARMS|*NETMAP|*OFF|*ON)
    Determines whether node and Process statement overrides for Cyclic Redundancy Check (CRC) are allowed. If this value is set to *OFF, setting overrides for CRC checking will be ignored. The default value is *INITPARMS.

    *INITPARMS specifies that the CRC setting is determined by the value for the initialization parameter TCP.CRC.

    *NETMAP specifies that the CRC setting is determined by the value for the NETMAP parameter, Cyclic Redundancy Check. The value for the initialization parameter TCP.CRC must be set to *ON and the value for the initialization parameter TCP.CRC.OVERRIDE must be set to *YES.

    *OFF specifies that CRC is disabled.

    *ON specifies that CRC is enabled.

NOTIFY(userid)
    specifies the user ID on the local node to receive status messages that are directed to the message queue of the user.

PARM(parameters)
    specifies the remote parameters needed for the program specified in the PGM parameter. This parameter is valid for tasks on z/OS, HP NonStop, VM, and VSE.

PLEXCLASS(user-defined class)

    specifies a user-defined class containing up to eight characters associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment. This represents a type of server on which you want to run a task.

Note: This parameter is for use only in Sterling Connect:Direct for z/OS environments.

PNAME(name)
    identifies the Sterling Connect:Direct Process in any messages or statistics. The name is from 1 to 12 characters long. The first character must be alphabetic. The default name is CDSND.

Note: Only Sterling Connect:Direct for i5/OS and Sterling Connect:Direct for UNIX support Process names with more than 8 characters.

PNODEID(id, pswd, newpswd)
    specifies security user IDs and passwords at the local node. Only use this parameter to validate security with a different ID than the one you used to sign on to Sterling Connect:Direct.

    id specifies the security ID passed to the security system at the local node (1–10 alphanumeric characters).

pswd specifies the current security password for the specified ID. The security system at the local node can use this parameter to validate the current security password (1–10 alphanumeric characters). This is optional unless the user has security set to require a password.

newpswd specifies the new security password. The security system can use this parameter to change the current security password to the new security password (1–10 alphanumeric characters).

Note: Although you can specify a value for the new password, Sterling Connect:Direct for i5/OS does not currently support this parameter.

RMTWORK(*YES|*NO)

specifies whether a remote Process can run on the session after Sterling Connect:Direct for i5/OS has completed its Process on the session.

*YES allows a remote Process to run on the session after the Sterling Connect:Direct for i5/OS completes its Process.

*NO terminates the session after Sterling Connect:Direct for i5/OS executes the command function. *NO is the default.

SACCT(snode-accounting-data)

specifies the accounting data for the remote node. The maximum length of the accounting data is 256 characters. If special characters are part of the accounting data, the string must be enclosed in single quotation marks.

SNODEID(id, pswd, newpswd)

specifies security user IDs and passwords at the remote node. This parameter should only be used to validate security with a different ID than the one you used to sign on to Sterling Connect:Direct.

id specifies the security ID passed to the security system on the remote node (1–64 alphanumeric characters).

pswd specifies the current security password and is used by the security system on the SNODE to validate the current security password (1–64 alphanumeric characters). This parameter is optional unless the user has security set to require a password.

newpswd specifies the new security password and is used by the security system to change the current security password to the new security password (1–64 alphanumeric characters).

Note: newpswd is not valid if the remote node is a Sterling Connect:Direct for i5/OS node. Parameter values are case sensitive.

TRACEOPT

Trace Instructions
(L, S, F, C, X, K, D, H, V, W, P,|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT

specifies the trace bits that define functions to be traced by Sterling Connect:Direct for i5/OS. The following are valid options:

❖   **L** enables the main line logic trace for all components.

❖   **S** enables the Process step logic trace.

❖   **F** enables the file handler trace.

❖   **C** enables the communications logic trace.

❖   **X** enables the XDR trace.

❖   **K** enables the KQV logic trace.

❖   **D** enables the all-purpose data dump.

❖ **H** enables the FMH dump.

❖ **V** enables the XDR dump.

❖ **W** enables the communications dump.

❖ **P** enables the CIPC dump.

❖ ***NONE** turns off all traces.

❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, W and P)

❖ ***EXT** enables all product traces plus two system traces (TRCICF and TRCJOB).

❖ ***COMMON** enables the communications traces. (L, S, F, C, and H)

❖ ***INITPARMS** indicates the traces specified in the initialization parameters.

❖ ***CURRENT** selects the trace bits that the session manager is currently using.

Command Trace Options
 L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| *NONE)

specifies the trace bits that define functions to be traced for this command but not for the Process it runs. The following are valid options:

❖ **L** enables the main line logic trace for all components.

❖ **S** enables the Process step logic trace.

❖ **F** enables the file handler trace.

❖ **C** enables the common logic trace.

❖ **X** enables the XDR trace.

❖ **K** enables the KQV logic trace.

❖ **D** enables the all-purpose data dump.

❖ **H** enables the FMH dump.

❖ **V** enables the XDR dump.

❖ **P** enables the CIPC dump.

❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, and P)

❖ ***EXT** enables all product traces plus two other traces. (TRCICF and TRCJOB)

❖ ***COMMON** enables the most commonly used traces. (L, S, F, C, and H)

❖ ***NONE** turns off all traces.

Using the CDRUNTASK Screens

Use the **Sterling Connect:Direct Run Task (CDRUNTASK)** screen to initiate a task on the remote node.

Initiating a Task on a Remote Node

Complete the following steps to initiate a task on a remote node:

1. Access the CDRUNTASK screen by typing **CDRUNTASK** at the command line and pressing **F4** or by selecting the Run Task option from the main menu.

2. Type the remote node name at the command prompt and press **Enter**. The command retrieves the remote node environment and display fields for required parameters.

3. Type values for required and optional parameters as appropriate, and press **Enter**.

The following figure shows a sample of the first screen in the **Sterling Connect:Direct Run Task (CDRUNTASK)** screen flow for a Sterling Connect:Direct for i5/OS remote environment.

```
                    Connect:Direct Run Task (CDRUNTASK)

 Type choices, press Enter.

 Remote Node Name . . . . . . . . > DALLAS_____
 Remote Environment . . . . . . . > OS/400____     AS400, MVS, OS390, OS/400...
 Remote Task Command  . . . . . .   _____
 _____
 _____
 CRC  . . . . . . . . . . . . . .   *INITPARMS    *INITPARMS, *NETMAP, *ON, *OFF
 Trace Options:
   Trace Instructions . . . . . .   *CURRENT_____
   Command trace options  . . . .   *NONE_____
 Process Name . . . . . . . . . .   CDTASK_____   Name
 Local Node User Info.:
   User Id  . . . . . . . . . . .   *CURRENT____   Character value, *CURRENT
   Password . . . . . . . . . . .                  Character value
   New Password . . . . . . . . .                  Character value
 User to Notify . . . . . . . . .   *CURRENT____    Name, *CURRENT, *NONE
                                                                    More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Additional screens vary according to the remote node environment.

Submitting a Sterling Connect:Direct Process on a Remote Node

This chapter describes the Sterling Connect:Direct Submit (CDSUBMIT) command and its function. This chapter also shows sample **CDSUBMIT** screens and describes the CL parameters used for the CDSUBMIT command.

Using the CDSUBMIT Command

Use the CDSUBMIT command to submit a Sterling Connect:Direct Process on a remote node. This command allows you to perform the following tasks:

❖ Initiate a session with a remote node

❖ Submit a Process to the remote Sterling Connect:Direct

❖ Override certain parameters of the submitted Process

The remote node must support the Sterling Connect:Direct Process language.

Note: The Process to be submitted must exist on the remote system.

CDSUBMIT Command Example

The following example presents a sample of the CDSUBMIT command.

```
CDSUBMIT SNODE(OS390.V20100) SNODENVIRN(OS390) PROCFILE(file1.tst) PNAME(CDSUBOS390)
```

CDSUBMIT Command Format

The following are the parameters for the CDSUBMIT command. Required parameters are in bold.

Command	Parameters
CDSUBMIT	**SNODE(remote-node-name)**
	SNODENVIRN(remote-environment-name)

† These parameters override the associated parameters of the remote Sterling Connect:Direct Process.

Command	Parameters
	PROCFILE(file-name)
	CLASS(n|*MODED)
	CRC(*INITPARMS|*NETMAP|*OFF|*ON)
	†NEWNAME(file-name|*NONE)
	NOTIFY(*CURRENT|*NONE|userid)
	†PCLASS(n)
	†PHOLD(*YES|*NO|*CALL)
	PLEXCLASS(user-defined class)
	PNAME(process-name)
	PNODEID(id,pswd,newpswd)
	†PNOTIFY(userid)
	†PPACCT(PNODE accounting-data)
	†PPNODEID(id,pswd,newpswd)
	†PPRTY(n)
	†PREQUEUE(*YES|*NO)
	†PRETAIN(*YES|*NO|*INITIAL)
	†PSACCT(SNODE accounting-data)
	†PSNODE(secondary-node-name)
	†PSNODEID(id,pswd,newpswd)
	†PSTARTT(day|date,time)
	†PSYMBOLS(&symbolic n = variable n)
	RMTWORK(*YES|*NO)
	SACCT(SNODE accounting-data)
	SNODEID(id,pswd,newpswd)
	TRACEOPT Trace Instructions: (L,S,F,C,X,K,D,H,V,W,P|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT Command Trace Options: L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| *NONE)

†   These parameters override the associated parameters of the remote Sterling Connect:Direct Process.

Note: The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

Required Parameters

The following parameters are required. Unless otherwise noted, the parameters apply to all remote node environments.

SNODE(remote-node-name)
    specifies a 1–16 character alphanumeric name for the remote node.

SNODENVIRN(remote-environment-name)
 specifies the remote node environment.

PROCFILE(file-name)
 specifies the name of the file or member that contains the Sterling Connect:Direct Process to be submitted. This file must already exist on the node where the Sterling Connect:Direct Process is to be submitted.

For information about parameters for the remote node, refer to the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html.

Optional Parameters

The following parameters are optional. Unless otherwise noted, the parameters apply to all remote node environments.

CLASS(n|*MODED)
 determines the node-to-node session on which an operation can execute. The CLASS is a number from 1–255. If you do not specify the CLASS parameter, it defaults to the number of maximum sessions defined in the mode description for the communications environment.

 Note: The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

---

 *MODED uses the class value specified for the destination node.

CRC(*INITPARMS|*NETMAP|*OFF|*ON)
 Determines whether node and process statement overrides for Cyclic Redundancy Check (CRC) are allowed. If this value is set to *OFF, setting overrides for CRC checking will be ignored. The default value is *INITPARMS.

 *INITPARMS specifies that the CRC setting is determined by the value for the initialization parameter TCP.CRC.

 *NETMAP specifies that the CRC setting is determined by the value for the NETMAP parameter, Cyclic Redundancy Check. The value for the initialization parameter TCP.CRC must be set to *ON and the value for the initialization parameter TCP.CRC.OVERRIDE must be set to *YES.

 *OFF specifies that CRC is disabled.

 *ON specifies that CRC is enabled.

NEWNAME(file-name|*NONE)
 specifies a new name to be given to the submitted Process on the remote system. This name overrides the name in the Process file.

 file-name specifies the name for the submitted Process on the remote system.

 *NONE uses the name specified in the Process.

NOTIFY(*CURRENT|*NONE|userid)
 specifies the user ID on the receiving node to receive status messages that are directed to the message queue of the user.

 *CURRENT uses the ID of the current user.

 *NONE indicates that no user receives the messages.

 userid specifies the name of the user to receive the status messages.

PCLASS(n)
> specifies the Sterling Connect:Direct Process CLASS for the submitted remote Process. This entry overrides the class specified in the Process.

PHOLD(*YES|*NO|*CALL)
> specifies whether the submitted remote Process is placed in the hold queue at submission. The default is the HOLD value of the Process.

> ***YES** specifies that the Process submits to the hold queue.

> ***NO** specifies that the Process executes as soon as possible.

> ***CALL** specifies that the remote Process is placed in the hold queue until a session is established with its SNODE.

PLEXCLASS(user-defined class)

> specifies a user-defined class containing up to eight characters associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment. This represents a type of server on which you want to submit a Sterling Connect:Direct Process.

> **Note:**   This parameter is for use only in Sterling Connect:Direct for z/OS environments.

PNAME(process-name)
> identifies the Process in any messages or statistics. The name is from 1 to 12 characters long. The first character must be alphabetic. The default name is CDSND.

> **Note:**   Only Sterling Connect:Direct for i5/OS and Sterling Connect:Direct for UNIX support Process names with more than 8 characters.

PNODEID(id, pswd, newpswd)
> specifies security user IDs and passwords at the local node. Use this parameter only to validate security with a different ID than the one you used to sign on to Sterling Connect:Direct. Do not use PNODEID when both the ID and password match on the local and remote nodes.

> **id** specifies the security ID passed to the security system at the local node (1–10 alphanumeric characters).

> **pswd** specifies the current security password for the specified ID. The security system at the local node can use this parameter to validate the current security password (1–10 alphanumeric characters). This is optional unless the user has security set to require a password.

> **newpswd** specifies the new security password.

> **Note:**   Although you can specify a value for newpswd, Sterling Connect:Direct for i5/OS does not support this parameter.

PNOTIFY(userid)
> specifies the user who is to receive remote Process completion messages. This entry overrides the one specified in the Process.

PPACCT(PNODE accounting-data)
> specifies the accounting data for the PNODE in the submitted remote Process. This entry overrides the one specified in the Process.

PPNODEID(id,pswd,newpswd)
> specifies the primary node user ID and password for the submitted remote Process. This entry overrides the one specified in the Process.

Note: Parameter values are case sensitive.

PPRTY(n)
> specifies the Sterling Connect:Direct priority class for the submitted remote Process. This entry overrides the one specified in the Process. The valid range is 0–15.

PREQUEUE(*YES|*NO)
> specifies whether a copy step should be requeued with HE status after an abnormal termination. This parameter is only valid when checkpointing.

PRETAIN(*YES|*NO|*INITIAL)
> tells Sterling Connect:Direct for i5/OS to keep a copy of the remote Process in the hold queue of the remote node after the Process executes.
>
> ***INITIAL** specifies that the Process executes each time the remote Sterling Connect:Direct is initialized.

PSACCT(SNODE accounting-data)
> specifies the accounting data for the remote node in the remote submitted Process. This entry overrides the one specified in the Process.

PSNODE(secondary node-name)
> specifies the secondary node for the submitted remote Process. This entry overrides the one specified in the submitted remote Process.

PSNODEID(id,pswd,newpswd)
> specifies the secondary node user ID and password for the submitted remote Process. This entry overrides the one specified in the Process.

Note: Parameter values are case sensitive.

PSTARTT(day|date,time)
> specifies the day or date and time the submitted remote Process is to execute. The date format must be specified as the format expected by the remote node. The time field is 10 characters in length and the date field is 9 characters in length.

PSYMBOLS(&symbolic n = variable n)
> specifies values to be used for symbolic substitution in the submitted remote Process.

RMTWORK(*YES|*NO)
> specifies whether a remote Process can run on the session after Sterling Connect:Direct for i5/OS has completed its Process on the session.
>
> ***YES** allows a remote Process to run on the session after the Sterling Connect:Direct for i5/OS completes its Process.
>
> ***NO** terminates the session after Sterling Connect:Direct for i5/OS executes the command function.

SACCT(SNODE accounting-data)

specifies the accounting data for the remote node. The maximum length of the accounting data is 256 characters. If special characters are part of the accounting data, the string must be enclosed in single quotation marks.

SNODEID(id,pswd,newpswd)

specifies security user IDs and passwords at the remote node. This parameter should only be used to validate security with a different user ID than the one you used to sign on to Sterling Connect:Direct.

id specifies the security user ID passed to the security system on the remote node (1–64 alphanumeric characters).

pswd specifies the current security password on the remote node and is used by the security system on the remote node to validate the current security password (1–64 alphanumeric characters). This is optional unless the user has security set to require a password.

newpswd specifies the new security password and is used by the security system to change the current security password to the new security password (1–64 alphanumeric characters).

Note: Sterling Connect:Direct for i5/OS does not support newpswd if the remote node is an i5/OS node. Parameter values are case sensitive.

TRACEOPT

Trace Instructions
(L, S, F, C, X, K, D, H, V, W, P,|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|<u>*CURRENT</u>

specifies the trace bits that define functions to be traced by Sterling Connect:Direct for i5/OS. The following are valid options:

❖ **L** enables the main line logic trace for all components.

❖ **S** enables the Process step logic trace.

❖ **F** enables the file handler trace.

❖ **C** enables the communications logic trace.

❖ **X** enables the XDR trace.

❖ **K** enables the KQV logic trace.

❖ **D** enables the all-purpose data dump.

❖ **H** enables the FMH dump.

❖ **V** enables the XDR dump.

❖ **W** enables the communications dump.

❖ **P** enables the CIPC dump.

❖ ***NONE** turns off all traces.

❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, W and P)

❖ ***EXT** enables all product traces plus two system traces (TRCICF and TRCJOB).

❖ ***COMMON** enables the communications traces. (L, S, F, C, and H)

❖ ***INITPARMS** indicates the traces specified in the initialization parameters.

❖ <u>***CURRENT**</u> selects the trace bits that the session manager is currently using.

Command Trace Options
 L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| <u>*NONE)</u>

specifies the trace bits that define functions to be traced for this command but not for the Process it runs. The following are valid options:

❖ **L** enables the main line logic trace for all components.

✧   **S** enables the Process step logic trace.

✧   **F** enables the file handler trace.

✧   **C** enables the common logic trace.

✧   **X** enables the XDR trace.

✧   **K** enables the KQV logic trace.

✧   **D** enables the all-purpose data dump.

✧   **H** enables the FMH dump.

✧   **V** enables the XDR dump.

✧   **P** enables the CIPC dump.

✧   ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, and P)

✧   ***EXT** enables all product traces plus two other traces. (TRCICF and TRCJOB)

✧   ***COMMON** enables the most commonly used traces. (L, S, F, C, and H)

✧   **<u>*NONE</u>** turns off all traces.

Using the CDSUBMIT Screens

Use the **CDSUBMIT** screens to submit a Sterling Connect:Direct Process on a remote node.

Submitting a Process on a Remote Node

Complete the following steps to submit a Process on a remote node:

1. Access the **CDSUBMIT** screens by typing **CDSUBMIT** at the command line and pressing **F4** or by selecting the SUBMIT option from the main menu.

2. Type the remote node name at the command prompt and press **Enter**. The command retrieves the remote node environment and display fields for required parameters.

3. Type values for required and optional parameters as appropriate and press **Enter**. Additional screens relative to the remote environment are displayed.

Sterling Connect:Direct Submit Primary Screen

The following is a sample of the first screen in the **Sterling Connect:Direct Submit (CDSUBMIT)** screen flow.

```
                    Connect:Direct Submit (CDSUBMIT)

  Type choices, press Enter.

  Remote Node Name . . . . . . . . > MVS.LEVEL1_____
  Remote Environment . . . . . . . > OS/390___     MVS, OS390, MSP, VSE, VM...
  Remote process file name . . . .   'KMOOR1.AS400.CNT($BOTH)'_____
  _____
  CRC  . . . . . . . . . . . . . .   *INITPARMS    *INITPARMS, *NETMAP, *ON, *OFF
  Trace Options:
    Trace Instructions . . . . . .   *CURRENT_____
    Command trace options  . . . .   *NONE_____
  Process Name . . . . . . . . . .   CDSUBMIT___   Name
  Local Node User Info.:
    User Id  . . . . . . . . . . .   *CURRENT__    Character value, *CURRENT
    Password . . . . . . . . . . .                 Character value
    New Password . . . . . . . . .                 Character value
  User to Notify . . . . . . . . .   *CURRENT__    Name, *CURRENT, *NONE


                                                                   More...
  F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
  F24=More keys
```

Submitting a Job on a Remote Node

This chapter describes the Sterling Connect:Direct Run Job (CDRUNJOB) command and its function. This chapter also shows sample **CDRUNJOB** screens and describes the required and optional CL parameters for the CDRUNJOB command.

Using the CDRUNJOB Command

Use the CDRUNJOB command to submit a job on the remote node. The job can be:

❖ A CL command that is submitted on a remote i5/OS node.

❖ JCL that is submitted by the remote Sterling Connect:Direct for z/OS, VM, or VSE to the z/OS, VM, or VSE system.

❖ A UNIX command or program that is submitted by Sterling Connect:Direct for Microsoft Windows, or UNIX to Microsoft Windows, or UNIX node.

❖ An OpenVMS command or program to submit a job on the OpenVMS node.

The command, JCL, or program must exist on the remote system before you submit it with CDRUNJOB.

> **Note:** RUN JOB and RUN TASK Process statements use the authenticated user's JOBD for the library list and not the CDJOBD library list, which is the CDADMIN job description used to start Sterling Connect:Direct. RUN JOB and RUN TASK Process statements use the CDJOBQ job queue.

CDRUNJOB Command Example

The command shown in the following figure is an example of the CDRUNJOB command.

```
CDRUNJOB    SNODE(DALLAS.OS3901) SNODENVIRN(OS390)
        JOBFILE('USER1.AS400.CNTL(IEFBR14)')
        SNODEID(USERID PASSWORD)
```

For additional examples, refer to the IBM Sterling Connect:Direct Process Web site at
http://www.sterlingcommerce.com/documentation/processes/processhome.html

CDRUNJOB Command Format

The following are the parameters for the CDRUNJOB command. Required parameters are in bold.

Command	Parameters
CDRUNJOB	**SNODE(node-name)**
	SNODENVIRN(environment-name)
	BATCHID(idname)
	CLASS(n)
	CRC(*INITPARMS|I*NETMAP|N*OFF|F*ON|O)
	†JOBFILE(filename)
	LINK(CMS-file-information
	NOTIFY(userid)
	PLEXCLASS(user-defined class)
	PNAME(name)
	PNODEID(userid,pswd,newpswd)
	RMTWORK(*YES|*NO)
	SACCT(SNODE accounting-data)
	SNODEID(userid,pswd,newpswd)
	‡TSYSOPTS(remote-job-command)
	TRACEOPT Trace Instructions: (L,S,F,C,X,K,D,H,V,W,P|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT Command Trace Options: L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| *NONE)

†	Valid for z/OS, OpenVMS, VM, VSE, and Microsoft Windows only
‡	Valid for i5/OS, MS-DOS, OpenVMS, UNIX, Stratus VOS, and Microsoft Windows

Note: The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

Required Parameters

The following parameters are required. Unless otherwise noted, the parameters apply to all remote node environments.

SNODE(node-name)
    specifies a 1–16 character alphanumeric name for the remote node.

Note: This value is case sensitive.

SNODENVIRN(environment-name)
    specifies the remote environment to execute the job.

Optional Parameters

The following parameters, listed alphabetically, are optional. Unless otherwise noted, the parameters apply to all remote node environments.

BATCHID(idname)
specifies the VM remote Virtual Machine ID name. The valid range is 1–8 characters.

CLASS(n)
determines the node-to-node session where a Sterling Connect:Direct operation can execute. The CLASS is a number from 1–255. If you do not specify the CLASS parameter, it defaults to the maximum number of sessions defined in the mode description for the communications environment.

> **Note:**   The CLASS parameter is not used by Sterling Connect:Direct for i5/OS.

CRC(*INITPARMS|I*NETMAP|N*OFF|F*ON|O)
Determines whether node and process statement overrides for Cyclic Redundancy Check (CRC) are allowed. If this value is set to *OFF, setting overrides for CRC checking will be ignored. The default value is *INITPARMS.

*INITPARMS (or *I) specifies that the CRC setting is determined by the value for the initialization parameter TCP.CRC.

*NETMAP (or *N) specifies that the CRC setting is determined by the value for the NETMAP parameter, Cyclic Redundancy Check. The value for the initialization parameter TCP.CRC must be set to *ON and the value for the initialization parameter TCP.CRC.OVERRIDE must be set to *YES.

*OFF (or *F) specifies that CRC is disabled.

*ON (or *O) specifies that CRC is enabled.

JOBFILE(filename)
specifies the name of the file that contains the job to be submitted. This file must already exist on the node where the job is to be submitted.

LINK(CMS-file-information)
specifies where the CMS file is located. This parameter allows you to access the VM CMS file.

owner id specifies the user ID for the owner of the CMS minidisk where the file is located.

owner password specifies the password for the CMS minidisk where the file is located. This parameter accepts 1–8 characters. The default is ALL.

LINK access mode specifies the LINK access mode. The following entries are valid:

❖   W for primary read/write

❖   M for primary multiple access

❖   R for primary read only

❖   RR for primary and secondary read only

❖   WR for primary read/write; alternate read only

❖   MW for primary multiple access; alternate read/write

virtual address specifies the virtual address of the disk where the CMS file is located. A three-digit number is valid.

NOTIFY(userid)
specifies the user ID on the local node to receive status messages that are directed to the message queue of the user.

PLEXCLASS(user-defined class)

specifies a user-defined class containing up to eight characters associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment. This represents a type of server on which you want to submit a job.

Note:	This parameter is for use only in Sterling Connect:Direct for z/OS environments.

PNAME(name)

identifies the Process in any messages or statistics related to the operation. The name is from 1–12 characters long. The first character must be alphabetic. The default name is CDSND.

Note:	Only Sterling Connect:Direct for i5/OS and Sterling Connect:Direct for UNIX support Process names with more than 8 characters.

PNODEID(id, pswd, newpswd)

specifies security user IDs and passwords at the local node. You should only use this parameter to validate security with a different ID than the one you used to sign on to Sterling Connect:Direct.

id specifies the security ID passed to the security system at the local node (1–10 alphanumeric characters).

pswd specifies the current security password for the specified ID. The security system at the local node can use this parameter to validate the current security password (1–10 alphanumeric characters). This is optional unless you have security set to require a password.

newpswd specifies the new security password. The security system can use this parameter to change the current security password to the new security password (1–10 alphanumeric characters).

Note:	Although you can specify a value for the new password, Sterling Connect:Direct for i5/OS does not support this parameter.

RMTWORK(*YES|*NO)

specifies whether a remote Process can run on the session after Sterling Connect:Direct for i5/OS has completed its Process on the session.

*YES allows a remote Process to run on the session after Sterling Connect:Direct for i5/OS completes its Process.

*NO terminates the session after Sterling Connect:Direct for i5/OS executes the command function.

SACCT(SNODE accounting-data)

specifies the accounting data for the remote node. The maximum length of the accounting data is 256 characters. If special characters are part of the accounting data, the string must be enclosed in single quotation marks.

SNODEID(userid, pswd, newpswd)

specifies security user IDs and passwords at the remote node. You should only use this parameter to validate security with a different ID than the one you used to sign on to Sterling Connect:Direct.

userid specifies the security ID passed to the security system on the remote node (1–64 alphanumeric characters).

pswd specifies the current security password and is used by the security system on the SNODE to validate the current security password (1–64 alphanumeric characters). This is optional unless the user has security set to require a password.

newpswd specifies the new security password and is used by the security system to change the current security password to the new security password (1–64 alphanumeric characters).

Note: Parameter values are case sensitive.
Newpswd is not valid if the remote node is a Sterling Connect:Direct for i5/OS node.

TRACEOPT

Trace Instructions
(L, S, F, C, X, K, D, H, V, W, P,|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT)

specifies the trace bits that define functions to be traced by Sterling Connect:Direct for i5/OS. The following are valid options:

❖ **L** enables the main line logic trace for all components.

❖ **S** enables the Process step logic trace.

❖ **F** enables the file handler trace.

❖ **C** enables the communications logic trace.

❖ **X** enables the XDR trace.

❖ **K** enables the KQV logic trace.

❖ **D** enables the all-purpose data dump.

❖ **H** enables the FMH dump.

❖ **V** enables the XDR dump.

❖ **W** enables the communications dump.

❖ **P** enables the CIPC dump.

❖ ***NONE** turns off all traces.

❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, W and P)

❖ ***EXT** enables all product traces plus two system traces (TRCICF and TRCJOB).

❖ ***COMMON** enables the communications traces. (L, S, F, C, and H)

❖ ***INITPARMS** indicates the traces specified in the initialization parameters.

❖ ***CURRENT** selects the trace bits that the session manager is currently using.

Command Trace Options
(L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| *NONE

specifies the trace bits that define functions to be traced for this command but not for the Process it runs. The following are valid options:

❖ **L** enables the main line logic trace for all components.

❖ **S** enables the Process step logic trace.

❖ **F** enables the file handler trace.

❖ **C** enables the common logic trace.

❖ **X** enables the XDR trace.

❖ **K** enables the KQV logic trace.

❖ **D** enables the all-purpose data dump.

❖ **H** enables the FMH dump.

❖ **V** enables the XDR dump.

❖ **P** enables the CIPC dump.

❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, and P)

❖ ***EXT** enables all product traces plus two other traces. (TRCICF and TRCJOB)

❖ ***COMMON** enables the most commonly used traces. (L, S, F, C, and H)

❖ ***NONE** turns off all traces.

TSYSOPTS(remote-job-command)

specifies system-specific submission information. For a remote i5/OS system, this parameter specifies a string 'cmd(any valid batch CL command) [any valid parameters for the i5/OS SBMJOB command]'. This CL command is submitted on the remote i5/OS system through a SBMJOB command. This parameter is valid for i5/OS, OpenVMS, UNIX, Stratus VOS, and Microsoft Windows.

See the IBM Sterling Connect:Direct Processes Web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html for valid platform-specific parameters.

Using the CDRUNJOB Screens

Use the **Connect:Direct Run Job (CDRUNJOB)** screens to submit a job to a remote node.

Submitting a Job to a Remote Node

Complete the following steps to submit a job to a remote node:

1. Access the **CDRUNJOB** screens by typing **CDRUNJOB** at the command line and pressing **F4** or by selecting the RUNJOB option from the main menu.

2. Type the remote node name at the command prompt and press **Enter**. The command retrieves the remote node environment and display fields for required parameters.

3. Type values for required and optional parameters as appropriate and press **Enter**. Additional screens displays as required by the remote node type.

The primary **CDRUNJOB** screen looks similar to the following.

```
                      Connect:Direct Run Job (CDRUNJOB)

 Type choices, press Enter.

 Remote Node Name . . . . . . . . > hotpepper_____
 Remote Environment . . . . . . . > AS400_____    AS400, MVS, OS390, OS/400...
 Remote Job command . . . . . . .  _____
 _____
 _____
 _____
 CRC  . . . . . . . . . . . . . .  *INITPARMS    *INITPARMS, *NETMAP, *ON, *OFF
 Trace Options:
   Trace Instructions . . . . . .  *CURRENT_____
   Command trace options  . . . .  *NONE_____
 Process Name . . . . . . . . . .  CDJOB_____   Name
 Local Node User Info.:
   User Id  . . . . . . . . . . .  *CURRENT__    Character value, *CURRENT
   Password . . . . . . . . . . .                Character value
   New Password . . . . . . . . .                Character value
 User to Notify . . . . . . . . .  *CURRENT__    Name, *CURRENT, *NONE
                                                                     More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Compressing Files

This chapter describes the Sterling Connect:Direct Compress (CDCOMP) command and its function. This chapter also shows sample **CDCOMP** screens and describes the parameters used with the CDCOMP command.

Using the CDCOMP Command

Use the CDCOMP command to compress a file on the i5/OS node before sending it to a remote node.

Note:	When you send a precompressed file to a remote node, specify the PRECMPR(*YES) in the FMSYSOPTS of the CDSND command to have the remote node decompress the file. See Chapter 3, *Sending a File*, for information on using the PRECMPR parameter with the Send operation. Tuning parameters are not supported with the CDCOMP command. If Sterling Connect:Direct Secure Plus is installed, PRECMPR(*YES) or DECMPR(*NO) options cannot be specified.

Required CDCOMP Tasks

You must *always* complete one of the following activities when you use the CDCOMP command:

❖ Compress members into a newly created file. You can create the file manually, or you can allow CDCOMP to create the file.

❖ Ensure that the output file contains no members before you execute CDCOMP.

❖ Ensure that the output file is a physical data file with a record length of at least 256 bytes.

CDCOMP Command Example

The following command is an example of how to code the CDCOMP command.

```
CDCOMP INFILE(TESTLIB/FILE1) OUTFILE(TESTLIB/CMP_FILE)
     REPLACE(*YES) SELMBR((TEST1 TEST2)) EXCMBR((M1 M2))
```

CDCOMP Command Format

The following table shows the format for the CDCOMP command.

Command	Parameters
CDCOMP	**INFILE(library-name/file-name)**
	OUTFILE(library-name/file-name)
	CKPTINV(n)
	EXCMBR(start-mbr end-mbr)
	REPLACE(*<u>NO</u>|*YES)
	SELMBR(start-mbr end-mbr new-mbr)

Required Parameters

The CDCOMP command has the following required parameters.

INFILE (library-name/file-name)
specifies the name and library of the file to be compressed. The input file is a database or a save file.

library-name specifies the name of the library to be used.

*LIBL specifies that the library list is used to locate the input file.

*CURLIB specifies that the current library for the job is used to locate the input file.

file-name specifies the name of the file to be compressed.

OUTFILE (library-name/file-name)
specifies the name and library of the database file to receive the compressed data. If the output file does not exist, it is created. The default value for library is *CURLIB.

library-name specifies the name of the library to be used.

*CURLIB specifies that the current library for the job is used to locate the output file.

file-name specifies the name of the file to receive the compressed data.

Optional Parameters

The optional parameters, listed alphabetically, are as follows. Unless otherwise noted, the parameters apply to all remote node environments.

CKPTINV(n)
Number of bytes, from 1K to 2 gigabytes, to send or receive before taking a checkpoint. The format is *nnnnnnn*, *nnnnnn*K, or *nnnnnn*M, where **K** specifies thousands of bytes and **M** specifies millions of bytes. A value of **0** specifies no checkpoint restart Sterling Connect:Direct for i5/OS uses the value you specify, rounded up to the nearest record boundary, to determine when to take a checkpoint. If you specify a value between 1 and 1023, the value becomes 1024 or 1K.

The value specified here is later used as the checkpoint interval for subsequent transfers.

EXCMBR(start-mbr end-mbr)
specifies criteria by which file members are excluded from compression. In any case where a member meets the criteria of both the SELMBR and EXCMBR parameters, the EXCMBR specification overrides the selection of the member.

You can type in multiple sets of values for this parameter.

start-mbr specifies the name of the member to be excluded from compression or the first name in a range of members to be excluded. If no members are to be excluded, this field should be left blank. Possible values are:

> **member-name** specifies the name of the file member to be excluded from compression.

> **generic*-member-name** specifies a generic member name to exclude all members whose names begin with the specified characters.

> **start-range** specifies the first name in an alphanumeric range of members. Although member names in a range are treated as generics, they cannot be used with an asterisk (*). The first and last members specified in the range, as well as all members between, are excluded from compression.

end-mbr specifies the last name in a range of members to be excluded from compression. Possible values are:

> ***STARTMBR** specifies that the name of the last member in the range is the same as the first member in the range, limiting the range to a single member. You should also use this value if you specified a generic in the starting member name (start-mbr) field. This is the default.

> **end-range** specifies the last name in an alphanumeric range of members. Although member names in a range are treated as generics, they cannot be used with an asterisk (*). The first and last members specified in the range, as well as all members between, are excluded from compression.

REPLACE (*NO|*YES)
specifies whether to replace the output member if it exists. This parameter applies to all members. Possible values are:

*NO specifies that the member is not replaced if it exists. *NO is the default.

*YES specifies that the member is replaced if it exists.

SELMBR(start-mbr end-mbr new-mbr)
specifies criteria by which file members are selected for compression. In any case where a member meets the criteria of both the SELMBR and EXCMBR parameters, the EXCMBR specification overrides the selection of the member.

You can type in multiple sets of values for this parameter.

start-mbr specifies the name of the member to be compressed or the first name in a range of members to be compressed. Possible values are:

> ***INFILE** specifies the name of the member is the same as the name of the input file. *INFILE is the default.
>
> ***ALL** indicates all members in the input file is selected for compression.
>
> **member-name** specifies the name of the file member to be compressed.
>
> **generic*-member-name** specifies a generic member name to select all members whose names begin with the specified characters.
>
> **start-range** specifies the first name in an alphanumeric range of members. Although member names in a range are treated as generics, they cannot be used with an asterisk (*). The first and last members specified in the range, as well as all members between, are compressed.

end-mbr specifies the last name in a range of members to be compressed. The possible values are:

> ***STARTMBR** indicates that the last member in the range is the same as the first member in the range, limiting the range to a single member. You should also use this value if you specified a generic in the Starting member name (start-mbr) field. *STARTMBR is the default.
>
> **end-range** specifies the last name in an alphanumeric range of members. Although member names in a range are treated as generics, they cannot be used with an asterisk (*). The first and last members specified in the range, as well as all members between, are compressed.

new-mbr specifies a new name for the member specified in the start-mbr field. If *ALL, a generic*, or a range has been specified for member selection, this parameter must contain the *NONE value. Possible values are:

> ***NONE** indicates the name of the output member is the same as the name of the input member. *NONE is the default.
>
> **newname** specifies the new name for the output member.

Using the CDCOMP Screen

Use the **Connect:Direct Compress File (CDCOMP)** screen to compress a file on the i5/OS node before sending it to a remote node.

Compressing a File Prior to Sending

Complete the following steps to compress a file before sending it to a remote node:

1. Access the **CDCOMP** screen by typing **CDCOMP** at the command line and pressing **F4** or by selecting the Compress file option from the main menu.

2. Type values for parameters as appropriate and press **Enter**.

   If you need additional entry fields for the fields that allow multiple sets of values, type a plus sign (+) in the field labeled + for more values and press **Enter**.

The following figure is a sample **Connect:Direct Compress File (CDCOMP)** screen.

```
                   Connect:Direct Compress File (CDCOMP)

  Type choices, press Enter.

  Input file name  . . . . . . . .      _____        Name
    Library  . . . . . . . . . . .     *LIBL____      Name, *LIBL
  Output file name . . . . . . . .      _____        Name
    Library  . . . . . . . . . . .     *CURLIB__      Name, *CURLIB
  File Members Selection List:
    Starting member name . . . . .     *INFILE___     Name, generic*, *INFILE, *ALL
    Ending member name . . . . . .     *STARTMBR_     Name, *STARTMBR
    New member name  . . . . . . .     *NONE_____     Name, *NONE
                + for more values
  Replace members  . . . . . . . .     *NO_           *NO, *YES
  File Members Exclusion List:
    Starting member name . . . . .                     Name, generic*
    Ending member name . . . . . .     *STARTMBR_     Name, *STARTMBR
                + for more values
  Checkpoint Interval  . . . . . .     *INITPARMS     0-9999999, *INITPARMS

                                                                    Bottom
  F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
  F24=More keys
```

Controlling Processes

Sterling Connect:Direct for i5/OS implements a Sterling Connect:Direct Process Management Queue. You can use two commands to schedule, control, and monitor any active or queued Processes:

❖ CDSUBPROC command allows you to:

   ◆ Submit Sterling Connect:Direct Processes for asynchronous execution

   ◆ Control certain characteristics of the execution

❖ WRKCDPROC command allows you to work with active or queued Sterling Connect:Direct Processes. With this command, you can perform the following Process tasks:

   ◆ Schedule

   ◆ Control

   ◆ Monitor

This chapter explains the Process Management Queue, the CDSUBPROC command, and the WRKCDPROC command and their use for Process management.

Understanding the Process Management Queue

The Process Management Queue is a repository for Processes currently in the Sterling Connect:Direct for i5/OS system. Five logical queues are associated with the Process Management Queue:

❖ ACTIVQ - active, executing Processes

❖ WAITQ - Processes waiting to run

❖ HOLDQ - Processes currently held

❖ TIMERQ - Processes waiting for a timer event

❖ STARTQ - Processes being activated

Understanding Asynchronous and Synchronous Processes

The Process Management Queue contains synchronous and asynchronous Processes.

Asynchronous Processes are those submitted using the CDSUBPROC command. These Processes are scheduled and maintained according to run instructions provided in the CDSUBPROC command.

Synchronous Processes are Sterling Connect:Direct commands issued through CL programs and CL commands other than CDSUBPROC. They cannot be scheduled once they are in the Process Management Queue.

The Process Management Queue handles all processes:

❖ Local Synchronous (Examples: CDSND, CDRCV, CDRUNTASK)

❖ Local Asynchronous (CDSUBPROC)

❖ Remote

Submitting Processes for Asynchronous Execution

The CDSUBPROC command allows you to submit a Sterling Connect:Direct Process to the Process queue for asynchronous execution. This command also allows you to determine:

❖ When the Process starts

❖ Whether the Process is retained in the queue after execution

❖ Whether the Process is placed in the HOLD queue initially

> **Note:** For TDSN and FDSN, the values of *LIBL, *CURLIB, QTEMP cannot be used when sending to or from an i5/OS system using Sterling Connect:Direct for i5/OS. A specific library name must be used for copying from or to a data set on the i5/OS.

CDSUBPROC Command Example

The following command example shows the CDSUBPROC command used to submit an asynchronous Process.

```
CDSUBPROC CMD(CDSND SNODE(remote.node) SNODENVIRON(Windows)
FDSN('library/file(mbr)')          TDSN('\\system\drive\directory\file')
FMSYSOPTS('TYPE(mbr)')) STARTT('11/22/96' *NOON *WEEK)          RETAIN(*YES)
```

CDSUBPROC Command Format

The following format is for the CDSUBPROC command. Required parameters are shown in bold print.

Command	Parameters
CDSUBPROC	**CMD*(command string)***
	HOLD(*YES|*<u>NO</u>)
	PRIORITY(*n*)
	RETAIN(*YES|*<u>NO</u>|*INITIAL)
	STARTT(day,time,freq)

	TRACEOPT
	  Trace Instructions:
	  (L,S,F,C,X,K,D,H,V,W,P|*NONE|*ALL|*EXT|
	  *COMMON|*INITPARMS|<u>*CURRENT</u>
	  Command Trace Options:
	  L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON|
	  <u>*NONE</u>)

Required Parameter

The CMD parameter is required for the CDSUBPROC command.

CMD(command string)
specifies the Sterling Connect:Direct command string to execute. This value must be a valid Sterling Connect:Direct for i5/OS command with any required parameters and subparameters. Sterling Connect:Direct checks the command and its parameters at submission. If the command or the parameters are not valid, the submission fails with an error message.

Optional Parameters

The following parameters are optional for the CDSUBPROC command.

HOLD(*YES|*NO)
specifies whether Sterling Connect:Direct places the Process in the HOLD queue upon submission.

*YES places the Process in the HOLD queue immediately. HOLD(*YES) is mutually exclusive with the STARTT parameter.

*NO prevents Sterling Connect:Direct from placing the Process in the HOLD queue.

PRIORITY(n)
specifies a priority value for the submitted Process. This parameter determines the Process position in the Process WAIT queue and can affect the order of Process execution. The value is 1–15, with 15 being the highest priority. The default value is **7**.

RETAIN(*YES|*NO|*INITIAL)
specifies whether Sterling Connect:Direct keeps a copy of the Process in the HOLD queue after the Process executes.

*YES places the Process in the HOLD queue after execution.

*NO deletes the Process after execution.

*INITIAL indicates that the Process executes every time the Sterling Connect:Direct for i5/OS node initializes. If you select *INITIAL, the Process does not execute when you submit it.

STARTT(day,time,freq)
specifies when the submitted command runs. Day and time together indicate the scheduled time. Frequency indicates a repeated execution. If you specify frequency, Sterling Connect:Direct ignores any RETAIN parameter.

day specifies the day of the week when the Process is executed. You can specify any of the following: *NONE, *SUN, *MON, *TUE, *WED, *THU, *FRI, *SAT, *TODAY, *TOMORROW, or the date. If you specify the date, you must give the date in the job date format. Input dates are interpreted according to the date format of the current job (i5/OS job date format).

If you use day without a time, the time defaults to 00:00 (midnight). The default value is *NONE, which indicates no scheduled day.

time indicates the time of day when the Process runs. You can specify time as any of the following: *NONE, *NOON, *MIDNIGHT, or hh:mm:ssXM.

If you give time in the hh:mm:ssXM format, you can enter the time with or without separators. Minutes and seconds are optional. If you do not enter minutes and seconds, they default to 00. If you specify AM or PM, Sterling Connect:Direct assumes the time is in 12-hour format. If you do not select AM or PM, Sterling Connect:Direct assumes the time is in 24-hour format.

If you specify time but not day, the Process is run on the first occurrence of the specified time.

frequency indicates how often the Process runs. You can determine the frequency by entering one of the following selections: *NONE, *DAY, or *WEEK.

If you enter *NONE, the Process is run only once automatically. *DAY indicates that the Process is run every day at the same time after the first scheduled time. *WEEK releases the Process weekly at the same time and day of the week as the first execution.

TRACEOPT

Trace Instructions
(L, S, F, C, X, K, D, H, V, W, P,|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT

specifies the trace bits that define functions to be traced by Sterling Connect:Direct for i5/OS. The following are valid options:

- ❖ **L** enables the main line logic trace for all components.
- ❖ **S** enables the Process step logic trace.
- ❖ **F** enables the file handler trace.
- ❖ **C** enables the communications logic trace.
- ❖ **X** enables the XDR trace.
- ❖ **K** enables the KQV logic trace.
- ❖ **D** enables the all-purpose data dump.
- ❖ **H** enables the FMH dump.
- ❖ **V** enables the XDR dump.
- ❖ **W** enables the communications dump.
- ❖ **P** enables the CIPC dump.
- ❖ ***NONE** turns off all traces.
- ❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, W and P)
- ❖ ***EXT** enables all product traces plus two system traces (TRCICF and TRCJOB).
- ❖ ***COMMON** enables the communications traces. (L, S, F, C, and H)
- ❖ ***INITPARMS** indicates the traces specified in the initialization parameters.
- ❖ ***CURRENT** selects the trace bits that the session manager is currently using.

Command Trace Options
L,S,F,C,X,K,D,H,V,P|*ALL|*EXT|*COMMON| *NONE)

specifies the trace bits that define functions to be traced for this command but not for the Process it runs. The following are valid options:

- ❖ **L** enables the main line logic trace for all components.
- ❖ **S** enables the Process step logic trace.
- ❖ **F** enables the file handler trace.
- ❖ **C** enables the common logic trace.
- ❖ **X** enables the XDR trace.
- ❖ **K** enables the KQV logic trace.
- ❖ **D** enables the all-purpose data dump.
- ❖ **H** enables the FMH dump.
- ❖ **V** enables the XDR dump.
- ❖ **P** enables the CIPC dump.

❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, and P)

❖ ***EXT** enables all product traces plus two other traces. (TRCICF and TRCJOB)

❖ ***COMMON** enables the most commonly used traces. (L, S, F, C, and H)

❖ <u>***NONE**</u> turns off all traces.

Using the CDSUBPROC Screens

Use the **Connect:Direct Submit Process (CDSUBPROC)** screen to submit a Sterling Connect:Direct Process to the Process queue for asynchronous execution.

Submitting a Process for Asynchronous Execution

Complete the following steps to submit a Process to the Process queue for asynchronous execution:

1. Access the **CDSUBPROC** screen by typing **CDSUBPROC** at the command line and pressing **F4** or by choosing the submit process option from the Sterling Connect:Direct menu.

2. Enter the parameters that define the Process execution: CMD, STARTT, RETAIN, HOLD, and PRIORITY.

3. After you enter the command, press **F4** to display the applicable entry fields for the command.

4. After you complete the parameters for the CDSUBPROC command, press **Enter**. Your Process name and number are assigned and displayed. The Process is placed in the Process Management Queue.

The following screen is an example of the **Connect:Direct Submit Process** screen.

```
                        Submit C:D Process (CDSUBPROC)

 Type choices, press Enter.

 Connect:Direct command . . . . .   CMD_____
_____
_____
_____
_____
_____
_____
_____                  ...
 Execution date & time:
   Start date . . . . . . . . . .   *NONE___       Character value, *SUN...
   Start time . . . . . . . . . .   *NONE___       Character value, *NONE...
   Frequency  . . . . . . . . . .   *NONE___       *NONE, *DAY, *WEEK
 Retain process after execution    *NO_____      *NO, *YES, *INITIAL
 Hold process on queue  . . . . .   *NO_           *NO, *YES
 Priority on queue  . . . . . . .   7_____        1-15


                                                                         Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
 F13=How to use this display        F24=More keys
```

Working with Sterling Connect:Direct Processes

Use the WRKCDPROC command to schedule, monitor, and control the Processes. The following options are available:

Selecting Specific Processes

Selection options allow you to specify the Processes with which you work.

Viewing All Processes

The Display option allows you to view detailed information for all Processes, including execution information for active Processes, both synchronous and asynchronous.

> **Note:** Your system administrator specifies the user's authority. If you do not have administrative authority, you can only select Processes that you submit.

WRKCDPROC Command Example

The following command example shows the WRKCDPROC command used to work with Sterling Connect:Direct Processes.

```
WRKCDPROC QNAME(ACTIVQ) PNAME(CDSND) PNUM(1896)
```

WRKCDPROC Command Format

The following syntax is for the WRKCDPROC command.

Command	Parameters
WRKCDPROC	PNAME(*ALL|name|generic)
	PNUM(*n*|*ALL)
	PUSER(*ALL|name|generic)
	QNAME(ACTIVQ|HOLDQ|WAITQ|TIMERQ|STARTQ|*ALL)
	RMTNODE(*ALL|name|generic)
	TYPE(*|L|R|S|A)

Required Parameters

There are no required parameters for the WRKCDPROC command. If you do not specify any parameters, Sterling Connect:Direct displays information for all Processes that you are authorized to view.

Optional Parameters

The following parameters are optional for the WRKCDPROC command.

PNAME(*ALL|name|generic)
specifies the Sterling Connect:Direct Processes you are selecting. The PNAME parameter can contain 1 to 12 characters and has the following options:

*ALL indicates that you select all Process names.

name is the name of a specific Process you want to select. Enter the name of a Sterling Connect:Direct Process.

generic identifies a generic Process name. For example, CD* selects all Processes that begin with CD.

PNUM(n|*ALL)
specifies the Process number for the selected Process. This parameter has two options:

*ALL indicates that you select all Process numbers.

n is the number of a specific Process you want to select. Enter the number of a Sterling Connect:Direct Process.

PUSER(*ALL|name|generic)
specifies the Sterling Connect:Direct Processes submitted by a specific user. This parameter has the following options:

*ALL indicates that you choose all submitter IDs.

name is the user ID of a specific user whose Processes you want to select. Enter the user ID of a Sterling Connect:Direct user.

generic identifies a generic user name. For example, TH* would select Processes submitted by all users whose submitter IDs begin with TH.

QNAME(ACTIVQ|HOLDQ|WAITQ|TIMERQ|STARTQ|*ALL)
specifies the Sterling Connect:Direct queue for the Processes you want to select. This parameter has six options:

ACTIVQ selects all Processes that are currently executing.

HOLDQ selects all Processes that are currently in the HOLD queue.

WAITQ selects all Processes that are waiting for a session manager to run.

TIMERQ selects all Processes that are awaiting execution time or retry time after a session failure.

STARTQ selects all Processes that are ready for execution.

*ALL selects all Processes.

RMTNODE(*ALL|name|generic)
specifies the selection of Processes that have the specified remote node name. The RMTNODE parameter has the following three options:

*ALL indicates all remote node names.

name indicates the name of a specific remote node.

generic indicates a generic node name. For example, CD* would select all remote node names that begin with CD.

TYPE(*|L|R|S|A)
specifies the category or type of Sterling Connect:Direct Process to select. Five values are options for the TYPE parameter:

* specifies all Processes.

L specifies all Processes initiated on the local node.

R specifies all Processes initiated on the remote node.

S specifies all synchronous Processes initiated on the local node.

A specifies all Processes except synchronous processes initiated on the local node.

Using the WRKCDPROC Screens

Use the **Work with Connect:Direct Process (WRKCDPROC)** screen to monitor and control Processes in the subsystem.

Monitoring and Controlling Processes

Complete the following steps to monitor or control a Process:

1. Access the **WRKCDPROC** screen by typing **WRKCDPROC** at the command line and press **F4** or choose the Work with Sterling Connect:Direct Processes option from the Sterling Connect:Direct main menu.

2. Complete the information requested on the screen and press **Enter**.

The following screen is an example of the **Work with C:D Process** prompt screen.

```
                        Work with C:D Process (WRKCDPROC)

 Type choices, press Enter.

 Process Type . . . . . . . . . .    *             *, L, R, S, A
 Process Queue  . . . . . . . . .    *ALL          *ALL, ACTIVQ, HOLDQ, WAITQ...
 Process Name . . . . . . . . . .    *ALL          Character value
 Process number . . . . . . . . .    *ALL          Character value
 Processing User  . . . . . . . .    *ALL          Character value
 Remote Node  . . . . . . . . . .    *ALL




                                                                       Bottom
   F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
   F24=More keys
```

The next screen is a sample of the **WRKCDPROC** screen (View 1) that displays in response to the information you entered on the prompt screen.

```
                        Work with C:D Process

 Type option and press Enter.
   2=Change   3=Hold   4=Delete   5=Display   6=Release   7=End   8=Suspend


      Process        Process                         Remote
 Opt  Name           Number    Ty  Queue    Submitter  Node            Task
      CDSND          00014895  A   HOLDQ    IDEVUSER   FRAN.CDDV3600




                                                                       Bottom
   F1=Help    F3=Exit    F5=Refresh    F11=View 2    F12=Cancel    F21=Command line
```

Press **F11** to display View 2, which provides additional information about Processes you selected. You can select an option to monitor or change Processes from this screen or the View 1 screen.

```
                        Work with C:D Process

   Type option and press Enter.
     2=Change    3=Hold    4=Delete    5=Display    6=Release    7=End    8=Suspend

        Process        Process           Security   Scheduled  Scheduled
   Opt  Name           Number    Ty  ID              Date       Time        Retry  Prty
        CDSND          00014895  A   IDEVUSER                   :  :        00     07




                                                                           Bottom
    F1=Help    F3=Exit    F5=Refresh    F11=View 2    F12=Cancel    F21=Command line
```

WRKCDPROC Option Descriptions

The seven options you can select from the **Work With C:D Process** screens are described in the following paragraphs. To select these options, type the appropriate number in the option column next to the applicable Process.

Changing Process Characteristics

Change (Option 2) allows you to modify certain Process characteristics. This option is only valid for asynchronous local Processes. The date format is subject to the interpretation of the job currently running.

Moving an Nonexecuting Asynchronous Process

Hold (Option 3) allows you to move a nonexecuting asynchronous Process (WAIT or TIMER queue) to the HOLD queue. No additional screen is displayed.

Removing an Nonexecuting Asynchronous Process

Delete (Option 4) allows you to remove a nonexecuting asynchronous Process from the system. The Process is in any queue except ACTIVE or WAITQ when you delete it. When you delete a Process, a confirmation panel displays.

Displaying Process Details

Display (Option 5) provides you the option to display details about any Process in the system. A sample of the Process information follows.

Note: If Sterling Connect:Direct Secure Plus is installed and you have authority, a **WRKCDPROC** screen containing Sterling Connect:Direct Secure Plus information displays after you press **Enter**. Refer to *IBM Sterling Connect:Direct Secure Plus for i5/OS Implementation Guide* for additional information.

The following is an example of the **Display C:D Process** screen.

```
                              Display C:D Process

   Process Name . :   CDSND              Queue  . . . . :   HOLDQ
   Number . . . . :   00014895           Remote Node  . :   CDDV3600
   Submitter  . . :   LCLUSER            Priority . . . :   07
   Frequency  . . :   *NONE              Retain . . . . :   *NO
   Submit Date  . :   03/16/04           Submit Time  . :   11:59:28
   Schedule Date  :                      Schedule Time  :


   ----------------------- Activity Details -----------------------


   Function . . . :
   From File  . . :
   From Member  . :
   To File  . . . :
   To Member  . . :
   File Bytes . . :            0
   Transmitted  . :            0
   Compression %  :     0.00
   Check point  . :   *NO
   % Complete . . :   N/A


   F1=Help   F3=Exit   F5=Refresh   F12=Cancel   F21=Command line
```

Releasing a Process in the HOLD Queue

Release (Option 6) permits you to release a Process in the HOLD queue and move it to the WAIT queue. There it is available for execution. No additional screen displays.

Terminating and Flushing an Executing PNODE Process

End (Option 7) terminates and flushes any executing synchronous or asynchronous PNODE process from the system. When using this option, use a different terminal from the one where the Process is submitted. If you use the same terminal, the next submitted Process fails. A confirmation panel displays when you end a Process. The default for this option is *CNTRLD. The value *IMMED should not be used unless *CNTRLD has first been attempted.

Interrupting an Executing Asynchronous Process

Suspend (Option 8) allows you to interrupt any executing asynchronous Process. This option also allows you to move the Process to the HOLD queue (LOCAL). You can then release the (LOCAL) Process from the HOLD queue to resume execution or delete it. If the COPY operation was checkpointed, you can use suspend/release to interrupt the COPY and later resume it from the latest checkpoint.

Releasing or Holding Asynchronous Processes

RLSCDPROC and HLDCDPROC allow you to release all held Processes or all Processes currently in the TIMER queue that meet the selection criteria identified when the command is entered. The commands can be used in either batch or interactive mode. Only local asynchronous Processes are considered for release. Following are sample RLSCDPROC and HLDCDPROC screens.

RLSCDPROC Screen

```
                     Release Held C:D Process (RLSCDPROC)

   Type choices, press Enter.

   Process Type . . . . . . . . . . .  A            A
   Process Queue  . . . . . . . . .    HOLDQ        HOLDQ
   Process Name . . . . . . . . . .    *ALL         Character value
   Process number . . . . . . . . .    *ALL         Character value
   Processing User  . . . . . . . .    *ALL         Character value
   Remote Node  . . . . . . . . . .    *ALL



   F1=Help   F3=Exit   F5=Refresh   F12=Cancel   F21=Command line
```

HLDCDPROC Screen

```
                     Hold Specified C:D Process (HLDCDPROC)

   Type choices, press Enter.

   Process Type . . . . . . . . . . .  A            A
   Process Queue  . . . . . . . . .    WAITQ        WAITQ, TIMERQ
   Process Name . . . . . . . . . .    *ALL         Character value
   Process number . . . . . . . . .    *ALL         Character value
   Processing User  . . . . . . . .    *ALL         Character value
   Remote Node  . . . . . . . . . .    *ALL



   F1=Help   F3=Exit   F5=Refresh   F12=Cancel   F21=Command line
```

Using Sterling Connect:Direct Statistics

Sterling Connect:Direct for i5/OS logs statistics information for all Processes. Each component of Sterling Connect:Direct for i5/OS generates statistics data to the statistics manager (STATMGR) job. The long-running STATMGR job formats the statistics information and writes it to the statistics file. You can view the results of the Processes by using the CDSELSTAT command. This chapter explains how to use the CDSELSTAT command, the command format, and the **CDSELSTAT** screens. For detailed information about the statistics facility, refer to the *IBM Sterling Connect:Direct for i5/OS Installation and Administration Guide*.

Selecting Statistics Information

Use the CDSELSTAT command to select statistics information for viewing or printing.

Specifying Selection Criteria

Specify several selection criteria to limit the records selected. The command selects records from either the active statistics file or a named statistics database file. Within the file, all members are available to CDSELSTAT and are viewed together as a single logical file.

CDSELSTAT Command Example

The following figure presents a sample CDSELSTAT command.

```
CDSELSTAT PERIOD('10:00:00' '11/13/98') PNAME(CDSND)
```

CDSELSTAT Command Format

The following table displays the command format for the CDSELSTAT command.

Command	Parameters
CDSELSTAT	FILE(filename|*ACTIVE)
	FORMAT(*SUMMARY|*DETAIL)
	OUTPUT(*|*PRINT)
	PERIOD([start-time, end-time|*NOON|*MIDNIGHT|*AVAIL] [start-date, end-date|*TODAY|*AVAIL])
	PNUM(process-number|*ALL)

Command	Parameters
	PNAME(process-name|generic|*ALL*)
	PUSER(local-userid|generic|*ALL*)
	RCDTPYE(record-type|*ALL*)
	RMTNODE(remote-node-name|*ALL*)
	TRACE(L,S,F,C,X,K,D,H,V,W,P|*NONE*|*ALL|*EXT|*COMMON|*INITPARMS|*CURRENT)

Required Parameters

The CDSELSTAT command has no required parameters.

Optional Parameters

The following parameters are optional for the CDSELSTAT command.

FILE(filename|*ACTIVE) allows you to specify the statistics database file to search.

filename specifies a statistics database file.

*ACTIVE directs the command to search the file to which Sterling Connect:Direct is currently logging statistics.

FORMAT(*SUMMARY|*DETAIL) controls how the selection results are presented. Sterling Connect:Direct for i5/OS presents the selected records in timestamp sequence regardless of the output format chosen. FORMAT allows you to select two formats.

*SUMMARY specifies that the summary information for the selected record is presented as a single row in a scrollable list.

*DETAIL specifies that the entire contents of information for the selected record is formatted into a spooled file. You can view this file at a display station, or you can queue the file to be printed. Each format is displayed or printed. When you use FORMAT(*SUMMARY) with OUTPUT(*), you can toggle between the two views.

OUTPUT(*|*PRINT) controls how the selection results are output. OUTPUT allows you to select two options.

* specifies that the statistics information displays on the screen.

*PRINT specifies that the statistics information is created as a spool file named CDSELSTAT.

PERIOD([start-time, end-time|*NOON|*MIDNIGHT|*AVAIL] [start-date, end-date|*TODAY|*AVAIL]) allows the search to be limited to a specific period of time rather than including the entire range available in the statistics file. The parameters for the PERIOD keyword are positional.

start-time and **end-time** specify the records being requested by giving the starting time and the ending time for statistics selection. Both start-time and end-time accept any one of the following subparameters:

hh:mm:ss XM indicates a beginning and/or an ending time to use as selection criteria for the requested records. Indicate the times as follows: hh specifies hours, mm specifies minutes, ss specifies seconds, XM specifies AM or PM. If you do not specify AM or PM, Sterling Connect:Direct assumes a 24-hour clock.

*NOON specifies 12:00:00 for the time value

*MIDNIGHT specifies 00:00:00 for the time value.

*AVAIL specifies the earliest available time for the date specified.

start-date and end-date indicate the records being selected by date criteria for statistics selection. Both start-date and end-date accept one of the following formats:

mmddyy, mm/dd/yy, mm.dd.yy.

Input dates are interpreted according to the date format of the current job (i5/OS job date format).

*TODAY specifies the current date. The starting and ending date fields default to *TODAY.

*AVAIL specifies the earliest and latest date in the file. The starting and ending time fields default to *AVAIL.

PNUM(process-number|*ALL) specifies the number of the Process to be selected.

PNAME(process-name|generic|*ALL) specifies the name of the Process to be selected. The PNAME parameter can contain 1 to 12 characters and allows generic selections.

PUSER(local-userid|generic|*ALL) specifies the local user ID of the Process to be selected. This parameter allows generic selections.

RCDTYPE(record-type|*ALL) specifies the record type of the Process to be selected.

RMTNODE(remote-node-name|*ALL) specifies the remote node name of the Process to be selected. This parameter allows generic selections.

TRACE

Trace Instructions
(L, S, F, C, X, K, D, H, V, W, P,|*NONE|*ALL|*EXT| *COMMON|*INITPARMS|*CURRENT)

specifies the trace bits that define functions to be traced by Sterling Connect:Direct for i5/OS. The following are valid options:

❖ **L** enables the main line logic trace for all components.

❖ **S** enables the Process step logic trace.

❖ **F** enables the file handler trace.

❖ **C** enables the communications logic trace.

❖ **X** enables the XDR trace.

❖ **K** enables the KQV logic trace.

❖ **D** enables the all-purpose data dump.

❖ **H** enables the FMH dump.

❖ **V** enables the XDR dump.

❖ **W** enables the communications dump.

❖ **P** enables the CIPC dump.

❖ ***NONE** turns off all traces.

❖ ***ALL** enables all product traces.(L, S, F, C, X, K, D, H, V, W and P)

❖ ***EXT** enables all product traces plus two system traces (TRCICF and TRCJOB).

❖ ***COMMON** enables the communications traces. (L, S, F, C, and H)

Using the CDSELSTAT Screens

Use the **CDSELSTAT** screen to select statistics information for viewing or printing. You can specify several selection criteria to limit the records selected or choose a summary of all records. In this section, two methods of displaying and printing both summary and detail statistics are shown.

Selecting and Displaying Summary Statistics

Complete the following steps to select and display summary statistics:

1. Access the **CDSELSTAT** screens by typing **CDSELSTAT** at the command line and pressing **F4** or by choosing the select statistics option (13) from the Sterling Connect:Direct main menu.
    The following screen is a sample of the first screen in the **CDSELSTAT** screen flow.

```
                   Select C:D Statistics (CDSELSTAT)

 Type choices, press Enter.

 Input file name  . . . . . . . .    *ACTIVE___     Name, *ACTIVE
   Library  . . . . . . . . . . .    _____     Name, *LIBL
 Time period for selection.:
   Period starting time . . . . .    *AVAIL____     Time, *AVAIL
   Period starting date . . . . .    *TODAY____     Date, *TODAY, *AVAIL
   Period ending time . . . . . .    *AVAIL____     Time, *AVAIL
   Period ending date . . . . . .    *TODAY____     Date, *TODAY, *AVAIL
 Process number . . . . . . . . .    *ALL____       Number, *ALL
 Process name . . . . . . . . . .    *ALL_____   Name, *ALL
 User ID  . . . . . . . . . . . .    *ALL_____     Name, *ALL
 Remote node name . . . . . . . .    *ALL_____
 Statistics record type . . . . .    *ALL___        Record type, *ALL
             + for more values      _____
 Output destination . . . . . . .    *_____         *, *PRINT
 Output format  . . . . . . . . .    *SUMMARY       *SUMMARY, *DETAIL
 Trace bits string  . . . . . . .    *NONE_____     *NONE, trace string
                                                                    Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

2. To display summary information, press **Enter** (* is the default Output destination and *SUMMARY is the default Output format). The following screen, **Select C:D Statistics**, is displayed. The displayed summary information includes an option column where you can request to display or print detailed information

about a particular statistics record. Type **5** in the option column for the Record type you want to review to display the detailed information and press **Enter**.

Note: You could also type **6** and press **Enter** for a print version of the detail list, which is spooled for printing to the default output queue. See the next section for information on retrieving a spooled file.

```
                          Select C:D Statistics

 Process number . .    *ALL              Statistics file  :   CDSTATFILE
 Process name . . .    *ALL              Library  . . . . :   CDDV3600
                                         Position to date

 Type options, press Enter.
   5=Display details    6=Print details


      Process    Process        Record  Step      Event     Event     Message
 Opt  number     name           type    name      time      date      ID
  5                             GNMSG             09:15:46  03/16/04
  _                             JOBEND            09:15:46  03/16/04
  _                             GNMSG             09:15:51  03/16/04
  _                             TLSES             09:16:53  03/16/04
  _                             JOBSUB            09:16:53  03/16/04
  _                             GNMSG             09:16:53  03/16/04
  _                             JOBSTR            09:16:55  03/16/04
  _                             GNMSG             09:16:55  03/16/04
                                                                       More...
 Parameters or command
 ===>
 F3=Exit   F4=Prompt   F9=Retrieve   F11=View 2   F12=Cancel
```

The following screen shows the results of using the display option, Output destination(*).

```
                          Display Spooled File
 File  . . . . . :   CDSELSTAT                              Page/Line   1/6
 Control . . . . .                                          Columns    1 - 130
 Find  . . . . . .
 *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....
 C:D  i5          Select Statistics (CDSELSTAT) Detail  03/16/04  12:10:55   Page 0001
 --------------------------------------------------------------------------------
 Event:          General Message Event (GNMSG)
 Date/Time:      03/16/04      09:15:46
 Text:      Connect:Direct job ended: 186578/CDDV3600/CDSMGR, CODE=N.
```

Note: If you have admin authority and Sterling Connect:Direct Secure Plus is installed, the **CDSELSTAT** screen displays Sterling Connect:Direct Secure Plus information. Refer to the *IBM Sterling Connect:Direct Secure Plus for i5/OS Implementation Guide* for information.

Selecting and Printing Detail Statistics

Complete the following steps to select and print detail statistics:

1. Access the **CDSELSTAT** screens by typing **CDSELSTAT** at the command line and pressing **F4** or by selecting the select statistics option from the Connect:Direct main menu.
    The first CDSELSTAT screen is displayed.

```
                    Select C:D Statistics (CDSELSTAT)

 Type choices, press Enter.

 Input file name  . . . . . . . .   *ACTIVE___    Name, *ACTIVE
   Library  . . . . . . . . . . .   _____    Name, *LIBL
 Time period for selection.:
   Period starting time . . . . .   *AVAIL____    Time, *AVAIL
   Period starting date . . . . .   *TODAY____    Date, *TODAY, *AVAIL
   Period ending time . . . . . .   *AVAIL____    Time, *AVAIL
   Period ending date . . . . . .   *TODAY____    Date, *TODAY, *AVAIL
 Process number . . . . . . . . .   *ALL_____     Number, *ALL
 Process name . . . . . . . . . .   *ALL_____  Name, *ALL
 User ID  . . . . . . . . . . . .   *ALL_____    Name, *ALL
 Remote node name . . . . . . . .   *ALL_____
 Statistics record type . . . . .   *ALL___       Record type, *ALL
               + for more values   _____
 Output destination . . . . . . .   *PRINT        *, *PRINT
 Output format  . . . . . . . . .   *DETAIL       *SUMMARY, *DETAIL
 Trace bits string  . . . . . . .   *NONE_____    *NONE, trace string
                                                              Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

2. To print a detail report of the CDSELSTAT file, change the Output destination to *PRINT and the Output format to *DETAIL, and then press **Enter**. Sterling Connect:Direct for i5/OS creates a print version of the detail list and spools it for printing to the default output queue.

Note: The default output queue is named CDOUT and is located in the Sterling Connect:Direct library.

---

3. To display the list of spooled files in the output queue, at the command line, type **WRKOUTQ**
    *cdlib***/CDOUT** where *cdlib* is the name of your Sterling Connect:Direct library.

```
                        Work with Output Queue

 Queue: CDOUT        Library: CDLIB        Status: RLS

 Type options, press Enter.
  1=Send   2=Change 3=Hold   4=Delete   5=Display     6=Release     7=Messages
  8=Attributes      9=Work with printing status

 Opt    File       User      User Data   Sts   Pages   Copies  Form Type   Pty
  _     CDTRACE    CDDV3600    SMGR       RDY     159       1   *STD          5
  _     CDLOG      CDDV3600               RDY       1       1   *STD          5
  _     CDLOG      CDDV3600               RDY       1       1   *STD          5
  _     CDLOG      CDDV3600               RDY       1       1   *STD          5
  _     CDLOG      CDDV3600               RDY       1       1   *STD          5
  _     CDTRACE    CDDV3600    RMTSYSTEM  RDY       5       1   *STD          5
  _     CDLOG      CDDV3600               RDY       1       1   *STD          5
  _     CDLOG      CDDV3600               RDY       1       1   *STD          5
  5     CDSELSTAT  LCLUSER                RDY      27       1   *STD          5
                                                                         Bottom
 Parameters for options 1, 2, 3 or command
 ===>
 F3=Exit   F11=View 2   F12=Cancel   F20=Writers   F22=Printers
 F24=More keys
```

4. In the Opt column, type **5** next to the CDSELSTAT spooled file and press **Enter** to go to the Display
    Spooled File screen. (If you have a lot of files in the output queue, you can press **F18** to quickly go to the
    bottom of the spooled file list.)

The following screen shows the results of using the display option, Output destination, (*PRINT).

```
                               Display Spooled File
 File . . . . . :   CDSELSTAT                                   Page/Line   1/6
 Control . . . . .
Columns     1 - 130
 Find  . . . . . .

*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....
+....9....+....0....+....1....+....2....+....3
 C:D  i5        Select Statistics (CDSELSTAT) Detail  03/18/04  15:45:05   Page 0001

------------------------------------------------------------------------------------
Event:        Job Submitted (JOBSUB)
Date/Time:    03/10/04    11:09:07
Job Name:     CDSMGR                                    Job Number:  186005
Job Program:  SMMAIN

------------------------------------------------------------------------------------
Event:        General Message Event (GNMSG)
Date/Time:    03/10/04    11:09:07
Text:     C:D  i5 Job submitted: CDSMGR.

------------------------------------------------------------------------------------
Event:        Job Started (JOBSTR)
Date/Time:    03/10/04    11:09:09
Job Name:     CDSMGR                                    Job Number:  186005
Job Program:  SMMAIN

------------------------------------------------------------------------------------
Event:        General Message Event (GNMSG)
Date/Time:    03/10/04    11:09:10
Text:     Connect:Direct job started: 186005/CDDV3600/CDSMGR

More...
 F3=Exit   F12=Cancel   F19=Left   F20=Right   F24=More keys
```

Decompressing Files

This chapter describes the Sterling Connect:Direct decompress (CDDECOMP) command and its function. This chapter also shows sample **CDDECOMP** screens and describes the parameters used for the CDDECOMP command.

Using the CDDECOMP Command

Files are received from another node and archived on the i5/OS node as compressed files. Use the CDDECOMP command to decompress these files.

> **Note:** Tuning parameters are not supported with the CDDECOMP command when sending a file.

CDDECOMP Command Example

The following command is an example of how to code the CDDECOMP command.

```
CDDECOMP INFILE(TESTLIB/CMP_FILE1) OUTFILE(TESTLIB/FILE2)
     REPLACE(*YES)
```

CDDECOMP Command Format

The following are the parameters for the CDDECOMP command:

Command	Parameters
CDDECOMP	INFILE(library-name/file-name)
	OUTFILE(library-name/file-name)
	NEWNAME(current-member-name, new-member-name)
	REPLACE(*NO|*YES)

Required Parameters

The CDDECOMP command has two required parameters.

INFILE(library-name/file-name)
specifies the name and library of the file to be decompressed. The default for library is *LIBL.

library-name specifies the name of the library to be used.

*LIBL specifies that the library list is used to locate the input file.

*CURLIB specifies that the current library for the job is used to locate the input file.

file-name specifies the name of the file to be decompressed.

OUTFILE(library-name/file-name)
specifies the name and library of the file to receive the uncompressed data. If the output file does not exist, it is created. The default value for library is *CURLIB.

library-name specifies the name of the library to be used.

*LIBL specifies that the library list is used to locate the input file.

*CURLIB specifies that the current library for the job is used to locate the output file.

file-name specifies the name of the file to receive the decompressed data.

Optional Parameters

The optional parameters are listed alphabetically. Unless otherwise noted, the parameters apply to all remote node environments.

NEWNAME(current-member-name, new-member-name)
specifies whether to rename selected member(s) when decompressed. You can type in multiple sets of values for this parameter.

current-member-name specifies the name of the compressed member to be renamed.

new-member-name specifies the new name to be given to the member when it is decompressed.

REPLACE(*NO|*YES)
specifies whether to replace the output member if it exists. This parameter applies to all members. *NO is the default. Possible values are:

*NO specifies that the member is not replaced if it exists.

*YES specifies that the member is replaced if it exists.

Using the CDDECOMP Screen

Use the **CDDECOMP** screen to decompress a file on the i5/OS node after receiving it from a remote node.

Decompressing a File

Complete the following steps to decompress a file after receiving it from a remote node:

1. Access the CDDECOMP screen by typing **CDDECOMP** at the command line and pressing **F4** or by selecting the Decompress option from the main menu.

2. Type values for parameters as appropriate and press **Enter**.

   If you need additional entry fields for multiple sets of values, type a plus sign (+) in the field labeled + for more values and press **Enter**.

The following figure shows a sample **Connect:Direct Decompress File (CDDECOMP)** screen:

```
                  Connect:Direct Decompress File (CDDECOMP)

 Type choices, press Enter.

 Input file name  . . . . . . . .    _____        Name
   Library  . . . . . . . . . . .    *LIBL___      Name, *LIBL
 Output file name . . . . . . . .    _____         Name
   Library  . . . . . . . . . . .    *CURLIB__     Name, *CURLIB
 Replace members  . . . . . . . .   *NO_           *NO, *YES
 Rename members:                      _
   Current member name  . . . . .   _____      Character value
   New member name  . . . . . . .   _____      Character value
             + for more values _



                                                                   Bottom
   F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
   F24=More keys
```

Displaying Sterling Connect:Direct Message Descriptions

Sterling Connect:Direct for i5/OS generates messages that detail aspects of the Sterling Connect:Direct for i5/OS operation. Sterling Connect:Direct for i5/OS routes two types of messages during operations:

❖   Sterling Connect:Direct messages that are routed to the Sterling Connect:Direct log file

❖   Status messages that are routed to a single user ID identified in the Sterling Connect:Direct initialization parameters file during installation

You can send Sterling Connect:Direct messages to the Sterling Connect:Direct user ID or the QSYSOPR message queues. You can also use the Sterling Connect:Direct for i5/OS command Display Sterling Connect:Direct Message File (DSPCDMSGD) to display the message text for Sterling Connect:Direct messages.

Specifying Recipient of Status Messages

Complete the following steps to specify the user who receives status messages:

1.   Access the **Change Connect:Direct Parameters (CHGCDPARM)** screen by typing **CHGCDPARM** at the command line and pressing **F4** or by choosing the Change Connect:Direct parameters option from the main administration menu**.**

2.   Specify the user ID in the User to Receive Sterling Connect:Direct Messages (TOUSR) parameter on the **Change Connect:Direct Parameters (CHGCDPARM)** screen and press **Enter**. This is the user profile that receives Sterling Connect:Direct status messages.

Refer to the *IBM Sterling Connect:Direct for i5/OS Installation and Administration Guide* for details on providing user profile information.

Using the DSPCDMSGD Command

Use the DSPCDMSGD command to display the text associated with a specified Sterling Connect:Direct message ID.

DSPCDMSGD Command Example

The following figures illustrate two ways of accessing a Sterling Connect:Direct message.

```
DSPCDMSGD CDMSGID(AFLH001I)
```

```
DSPCDMSGD AFLH001I
```

DSPCDMSGD Command Format

The following is the parameter for the DSPCDMSGD command:

Command	Parameters
DSPCDMSGD	CDMSGID(msgid)

Required Parameter

The DSPCDMSGD command has one required parameter.

CDMSGID(msgid)
    specifies an eight-character Sterling Connect:Direct message ID.

Optional Parameters

There are no optional parameters for the DSPCDMSGD command.

Using the DSPCDMSGD Screen

Use the **Display Connect:Direct Message (DSPCDMSGD)** screen to display the text for Sterling Connect:Direct message IDs that are returned in the Sterling Connect:Direct log file and statistics file for each operation.

Displaying Sterling Connect:Direct Message Text

Complete the following steps to display the text for Sterling Connect:Direct messages IDs:

1. Access the **DSPCDMSGD** screen by typing **DSPCDMSGD** at the command line and pressing **F4** or by choosing the display message option from the main menu**.**

2. Type the Sterling Connect:Direct message ID and press **Enter**. A screen is displayed with the message text for the specified message ID.

The following screen is an example of the screen associated with the DSPCDMSGD command.

```
                      Display Connect:Direct Message (DSPCDMSGD)

   Type choices, press Enter.

   Connect:Direct Message ID  . . .    SCPA000I      Character value



























                                                                            Bottom
     F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
   F24=More keys
```

Sample Message Description

The following figure shows a sample message description.

```
                      Display C:D Message Description
                                                            System :   FRAN
   Message ID . . . . . . . . . :  SCPA000I
   Issuing module . . . . . . . :  DMCOPYRT


           Copy step successful.

           The process copy step successfully completed.
           The Return-code may be 4, in which case a "Level-4"
           error has occurred in transmitting a PDS.  A Level-4
           error indicates that an error was found, but was not
           sufficient to cause termination of the COPY step.


           SYSTEM ACTION:  The process continues executing.

           RESPONSE:  See the specific member entry in the Connect:Direct
                      STAT file for the detailed message id for a Level-
                      4 error.

   Press Enter to continue.

   F3=Exit
```

Appendix A

CL Program Examples

The tables provide examples of i5/OS CL Programs using features of Sterling Connect:Direct. These examples are stored in a Physical Source File that is restored to the system during installation.

If PDM is installed, you can then use the WRKMBRPDM command to browse the members.

i5/OS Compress/Decompress Examples

Member Name	Description
ACMPPDS01	CDCOMP/CDDECOMP Example Using Selmbr
ACMPPDS02	CDCOMP/CDDECOMP Example Using Excmbr
AAPROCS	Readme file

i5/OS Block Mode Transfer Examples

Member Name	Description
ASNDBTBI1	CDSND Block Mode Transfers Using Integrated File System Binary File
ASNDBTBN1	CDSND Block Mode Transfers Using Native File System
ASNDBTP31	CDSND Block Mode Transfer to SPLF
ASNDBTSN1	CDSND Block Mode Transfer to Save File
ASNDBTTN1	CDSND Block Mode Transfer Using Native File System to Text File
ARCVBTBI1	CDRCV Block Mode Transfers Using Integrated File System Binary File
ARCVBTPN1	CDRCV Block Mode Transfer to SPLF
ARCVBTP31	CDRCV Block Mode Transfer to SPLF
ARCVBTSN1	CDRCV Block Mode Transfer to Save File
ARCVBTTN1	CDRCV Block Mode Transfer Using Native File System to Text File
ASPLBTTN1	CDSNDSPL Block Mode Transfer Using Native File System

i5/OS Run Task Example

Member Name	Description
ARNJDS01	CDRUNTASK Example

i5/OS Send Example Using Send File Field Description

Member Name	Description
ASNDCF1A	CDSND Using SNDFFD Parameter

i5/OS Send and Receive Examples Using Native File System

Member Name	Description
ASNDCR1A ASNDCRIA.$	CDSND Physical Source File
ASNDCR1B	CDSND Physical Data File
ASNDCR1D ASNDCRID.T	CDSND Physical Source File to Physical Data File (PDS)
ASNDCR1E	CDSND Multiple Members of Physical Source File
ASNDCR1F ASNDCRIF.1	CDSND Physical Source File to Spool File Spool File (B G)
ASNDCR1G1	CDSND Physical Data File to Spool File
ASNDCR1N	CDSND Save File to Save File
ASNDCR2A	CDSND Precompressed File
ASNDCR2E 4D, 4E	CDSND Multiple Member Precompressed File EXO1
ARCVCR1A ARCVCRIA.S	CDRCV Physical Source File
ARCVCR1B	CDRCV Physical Data File
ARCVCR1D ARCVCRID.1, 3	CDRCV Physical Source File to Physical Data File
ARCVCR1E	CDRCV Multiple Members of Physical Source File
ARCVCR1F	CDRCV Physical Source File to Spool File
ARCVCR1G1	CDRCV Physical Data File to Spool File
ARCVCR1N	CDRCV Save File to Save File
ARCVCR2A	CDRCV Precompressed File
ARCVCR4A	CDRCV Multiple Member Precompressed File

i5/OS Send and Receive Examples Using Integrated File System

Member Name	Description
ASNDIFI1A	CDSND /QSYS Text
ASNDIFI1B ASNDIFI1B.D	CDSND /QSYS Binary
ASNDIFI1J ASNDIFI1J.D	CDSND /QOpenSys
ASNDIFI1K	CDSND /root
ASNDIFI1KB	CDSND /root and block size specified
ASNDIFI1L	CDSND Binary to Text File
ASNDIFN1A	CDSND Integrated File System to Native /QSYS
ASNDIFN1J	CDSND Integrated File System to Native /QOpenSys
ASNDIFN1JB	CDSND Integrated File System to Native /QOpenSys, Using Blocksize
ASNDIFN1KB	CDSND Integrated File System to Native /root, Using Blocksize
ASNDIFN1M	CDSND Integrated File System to Native /root Binary File to Binary File
ASNDIFN1N	CDSND Integrated File System to Native /QOpenSys
ASNDIFN1P	CDSND Integrated File System to Native /QDLS
ASNDIFS1C	CDSND Integrated File System /QSYS to SPLF
ASNDIFS1J	CDSND Integrated File System /QOpenSYS to SPLF
ASNDIFS1K	CDSND Integrated File System /root to SPLF
ASNDIFS1P	CDSND Integrated File System /QDLS to SPLF
ASNDIF01A	CDSND NATIVE File System to Integrated File System /QSYS
ASNDIF01J	CDSND Native File System to Integrated File System /QOpenSys
ASNDIF01K	CDSND Native File System to Integrated File System /root
ASNDIF01L	CDSND Native File System to Integrated File System /QDLS
ARCVIFI1A	CDSND /QSYS Text
ARCVIFI1B	CDSND /QSYS Binary
ARCVIFI1J	CDSND /QOpenSys
ARCVIFI1K	CDSND /root
ARCVIFI1KB	CDSND /root and Blocksize Specified
ARCVIFI1L	CDSND /QDLS Binary to Text File
ARCVIFN1A	CDSND Integrated File System to Native /QSYS
ARCVIFN1J	CDSND Integrated File System to Native /QOpenSys
ARCVIFN1JB	CDSND Integrated File System to Native /QOpenSys, Using Blocksize
ARCVIFN1KB	CDSND Integrated File System to Native /root, Using Blocksize
ARCVIFN1M	CDSND Integrated File System to Native /root Binary File to Binary File
ARCVIFN1N	CDSND Integrated File System to Native /QOpenSys

Member Name	Description
ARCVIFN1P	CDSND Integrated File System to Native /QDLS
ARCVIFS1C	CDSND Integrated File System /QSYS to SPLF
ARCVIFS1J	CDSND Integrated File System /QOpenSYS to SPLF
ARCVIFS1K	CDSND Integrated File System /root to SPLF
ARCVIFS1P	CDSND Integrated File System /QDLS to SPLF
ARCVIF01A	CDSND NATIVE File System to Integrated File System /QSYS
ARCVIF01J	CDSND Native File System to Integrated File System /QOpenSys
ARCVIF01K	CDSND Native File System to Integrated File System /root
ARCVIF01L	CDSND Native File System to Integrated File System /QDLS
ASPLIF0SC	CDSNDSPL to Integrated File System /QSYS
ASPLIF0SJ	CDSNDSPL to Integrated File System /QOpenSys
ASPLIF0SK	CDSNDSPL to Integrated File System /root
ASPLIF0SP	CDSNDSPL to Integrated File System /QDLS

i5/OS–z/OS Send and Receive Examples

Member Name	Description
MRCVCFGDG	CDRCV GDG Files from z/OS
MRCVCFPDS1	CDRCV PDS File
MRCVCRKFD1	CDRCV KSDS File
MRCVCRKFD5	CDRCV KSDS File Using Blocksize
MRCVCRKFI4	CDRCV Using Integrated File System
MRCVCRKFP4	CDRCV KSDS to SPLF
MRCVCRKVS1	CDRCV KSDS VB File to Physical Source File (Records are padded)
MRCVCRSAVF	CDRCV Save File
MRCVCRSFI2	CDRCV Using Integrated File System /root
MRCVCRSVI2	CDRCV Using Integrated File System /root
MRCVEBCX1	CDRCV Extended Translation to Integrated File System
MSNDCFGDG	CDSND to z/OS GDG
MSNDCFPDS1	CDSND to z/OS PDS
MSNDCF01D	CDSND of Physical Source File
MSNDCRKFB1	CDSND of Physical Data Binary File to KSDS
MSNDCRKFD5	CDSND of Physical Data File to KSDS Using Blocksize Parameter
MSNDCRKFI6	CDSND Using Integrated File System /root
MSNDCRKVS1	CDSND to VB KSDS

Member Name	Description
MSNDCRSAVF	CDSND Save File to Save File
MSNDCRSFI2	CDSND to VB File from Integrated File System /root
MSNDCRSFS1	CDSND from Physical Source to z/OS Physical Sequential CLP
MSNDDBCS01	CDSND DBCS File
MSNDIF01K	CDSND from Integrated File System /root
MSNDRCVPS3	CDSND/CDRCV with *EXT Compression
MSNDRDR	CDSND JCL to z/OS READER Using SPOOL TRANSFER OPTION
MSPLCRKFP4	CDSNDSPL to z/OS KSDS

i5/OS–NT Send and Receive Examples

Member Name	Description
NRCVCF01A	CDRCV into Physical Source File
NRCVCF01H	CDRCV Text File to Physical Data File
NRCVCF01I	CDRCV Binary File to Physical Data File
NRCVCF01J	CDRCV Binary File to Save File
NRCVIF01A	CDRCV to Integrated File System /QSYS
NRCVIF01B	CDRCV to Integrated File System /QSYS Physical Data File
NRCVIF01C	CDRCV of Binary File to Integrated File System /QSYS
NRCVIF01H	CDRCV of Text File to Integrated File System
NRCVIF01I	CDRCV of Binary File to Integrated File System
NRCVIF01J	CDRCV of File to Integrated File System /QOpenSys
NRCVIF01K	CDRCV to Integrated File System /root
NRCVIF01L	CDRCV of Binary File to Integrated File System /root
NRCVIF01M	CDRCV of Binary File to /QOpenSys
NRCVIF01N	CDRCV of Binary File to /QDLS
NRCVIF01P	CDRCV to Integrated File System /root
NRCVIF01Q	CDRCV to Integrated File System to /QDLS
NSNDCF01A	CDSND of Physical Source File Using Native File System
NSNDCF01H	CDSND of Physical Data to Text File Using Native File System
NSNDCF01I	CDSND of Physical Data File to Binary Using Native File System
NSNDIF01A	CDSND Using Integrated File system /QSYS
NSNDIF01C	CDSND Using Integrated File System /QSYS Physical Data File
NSNDIF01H	CDSND Using Integrated File System to Text File
NSNDIF01I	CDSND Using Integrated File System to Binary File

Member Name	Description
NSNDIF01J	CDSND Using Integrated File System /QOpenSys
NSNDIF01K	CDSND Using Integrated File System /root
NSNDIF01L	CDSND Using Integrated File System /QDLS
NSNDIF01M	CDSND Using Integrated File System /root and Binary File
NSNDIF01N	CDSND Using Integrated File System /QOpenSys and Binary File
NSNDIF01P	CDSND Using Integrated File System /QDLS and Binary File

i5/OS–Microsoft Windows Run Job and Run Task Examples

Member Name	Description
NRNJOB01A	CDRUNJOB Without Desktop Parameter, UNC names
NRNJOB01B	CDRUNJOB Without Desktop Parameter, C: names
NRNJOB01C	CDRUNJOB With Desktop Parameter, NT 1.3.00
NRNTDL01A	CDRUNTASK to Delete Data Set
NSBMCF01A	CDSUBMIT an NT copy Process

i5/OS–UNIX Send and Receive Examples

Member Name	Description
URCVCF01A	CDRCV Using Native File System into Physical Source File
URCVCF01B	CDRCV Using Native File System Binary File into save File
URCVCF01C	CDRCV Using Native File System Binary to Physical Data File
URCVCF01D	CDRCV Using Native File System Text File to Physical Data File
URCVIF01A	CDRCV Using Integrated File System /QSYS
URCVIF01C	CDRCV Using Integrated File System /QSYS and Binary File
URCVIF01D	CDRCV Using Integrated File System /QSYS and Text File
URCVIF01J	CDRCV Using Integrated File System /QOpenSys
URCVIF01K	CDRCV Using Integrated File System /root
URCVIF01L	CDRCV Using Integrated File System /root and Binary File
URCVIF01M	CDRCV Using Integrated File System /QOpenSys and Binary File
URCVIF01N	CDRCV Using Integrated File System /QDLS and Binary File
URCVIF01Q	CDRCV Using Integrated File System and /QDLS
USNDCF01A	CDSND of Physical Source File

Member Name	Description
USNDCF01H	CDSND of Physical Data Text File
USNDCF01I	CDSND of Physical Data Binary File
USNDCF01S	CDSND of Save File
USNDIF01A	CDSND of Physical Source File Using Integrated File System /QSYS
USNDIF01H	CDSND of Physical Data File Using Integrated File System /QSYS
USNDIF01I	CDSND of Physical Data Binary File Using Integrated File System /QSYS
USNDIF01J	CDSND of Text File Using Integrated File System /QOpenSys
USNDIF01K	CDSND of Text File Using Integrated File System /root
USNDIF01L	CDSND of Text File Using Integrated File System/QDLS
USNDIF01M	CDSND of Binary File Using Integrated File System/root
USNDIF01N	CDSND of Binary File Using Integrated File System /QOpenSys
USNDIF01P	CDSND of Binary File Using Integrated

i5/OS–UNIX Run Task and Run Job Examples

Member Name	Description
URNJOB01A	CDRUNJOB to List Directory
URNTDL01A	CDRUNTASK to List Directory
URNTDL02A	CDRUNTASK to List Directory
USBMCF01A	CDSUBMIT a UNIX copy Process

i5/OS–UTIL Test Examples

Member Name	Description
AABNDCL	Creates loopback test nodes
CD$RETRO	cmd - execute several loopback tests
CD$RETRO$	pgm - execute several loopback tests

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing

IBM Corporation

North Castle Drive

Armonk, NY 10504-1785

U.S.A.

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual

Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing

Legal and Intellectual Property Law

IBM Japan Ltd.

1623-14, Shimotsuruma, Yamato-shi

Kanagawa 242-8502 Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT,

MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation

J46A/G4

555 Bailey Avenue

San Jose, CA__95141-1003

U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information is for planning purposes only. The information herein is subject to change before the products described become available. This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are ficticious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

© IBM 2011. Portions of this code are derived from IBM Corp. Sample Programs. © Copyright IBM Corp. 2011.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

The following terms are trademarks of the International Business Machines Corporation in the United States, other countries, or both: *http://www.ibm.com/legal/copytrade.shtml*.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency which is now part of the Office of Government Commerce.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft Windows, Microsoft Windows NT, and the Microsoft Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.

Linear Tape-Open, LTO, the LTO Logo, Ultrium and the Ultrium Logo are trademarks of HP, IBM Corp. and Quantum in the U.S. and other countries.

Connect Control Center®, Connect:Direct®, Connect:Enterprise, Gentran®, Gentran:Basic®, Gentran:Control®, Gentran:Director®, Gentran:Plus®, Gentran:Realtime®, Gentran:Server®, Gentran:Viewpoint®, Sterling Commerce™, Sterling Information Broker®, and Sterling Integrator® are trademarks or registered trademarks of Sterling Commerce, Inc., an IBM Company.

Other company, product, and service names may be trademarks or service marks of others.

Glossary

A

Adjacent Node

An adjacent node is an entry in the Network Map that defines a Sterling Connect:Direct node with which the local Sterling Connect:Direct node can communicate. The adjacent node is also referred to as a remote node.

Application Program Interface (API)

The Application Program Interface (API) is a Sterling Connect:Direct component that accepts commands and places them in an executable format.

Asynchronous

Asynchronous Process execution occurs when the system starts the job. The CDSUBPROC command execution is asynchronous.

C

Checkpoint Restart

The Checkpoint Restart feature eliminates the need to retransmit an entire file in the event of a transmission failure. If a copy procedure is interrupted, Sterling Connect:Direct restarts that copy at the last checkpoint.

Command Line Interface

The Command Line Interface is a Sterling Connect:Direct interface that allows users to submit Sterling Connect:Direct Processes and commands from their native command line environment.

Commands

Sterling Connect:Direct commands initiate and monitor activity within the Sterling Connect:Direct system.

I

Integrated File System

The integrated file system provides an integrated structure of all stored information. This file system provides stream files, directory structure accessed by path, and a user and application interface that accesses all information stored in the i5/OS.

L

Local Node

The local node is the Sterling Connect:Direct server on which the Process is submitted. The local node may also be referred to as the primary node, controlling node or initiating node, but should not necessarily be interpreted as the sending node, since PNODE can be the receiver. In every Process, there is one local (PNODE) and one remote (SNODE) specified. The submitter of a Process is always the PNODE.

Local Process

A local Process is a Sterling Connect:Direct Process initiated on the local Sterling Connect:Direct for i5/OS node.

N

Native File System

The native file system accepts the file name in the following formats: library-name/file-name and library-name/file-name(member-name).

Network Map (Netmap)

The Network Map (netmap) is a file that identifies all valid Sterling Connect:Direct nodes in the network. One Network Map is associated with each Sterling Connect:Direct local node. The netmap has one entry for each of the other Sterling Connect:Direct nodes to which the local Sterling Connect:Direct node communicates. The netmap entries also contain the rules or protocol that the nodes adhere to when communicating.

Node

A node is any site in a network from which information distribution can be initiated.

P

Permanent Session Managers

Permanent Session Managers are reusable session managers submitted when Sterling Connect:Direct is started or when the Sterling Connect:Direct administrator increases the number of permanent session managers.

Primary Node (PNODE)

The local node or primary node (PNODE) is the Sterling Connect:Direct node on which the Process is submitted. The primary node may also be referred to as the controlling node or initiating node, but should not

necessarily be interpreted as the sending node, since PNODE can be the receiver. In every Process, there is one local (PNODE) and one remote (SNODE) specified. The submitter of a Process is always the PNODE.

Process

A Process is a series of statements that initiate Sterling Connect:Direct activity, such as copying files, and running jobs.

Process Management Queue

The Process Management Queue (PMQ) holds information about Sterling Connect:Direct Processes that are currently executing or scheduled to execute in the future.

Process Manager (PMGR)

The Process Manager initiates and manages the Sterling Connect:Direct environment.

Process Statements

Process Statements are instructions for transferring files, running operating system jobs, executing programs, or submitting other Sterling Connect:Direct Processes. They are used to build a Sterling Connect:Direct Process.

Q

Queue Manager (QMGR)

The Queue Manager is a fixed Sterling Connect:Direct for i5/OS component. The Process Manager starts the Queue manager when it starts Sterling Connect:Direct, and the QMGR remains active while Sterling Connect:Direct is active. The Queue Manager has five logical queues: ACTIVQ, executing processes; WAITQ, processes waiting to run; HOLDQ, processes currently held; TIMERQ, processes waiting to be moved to the WAITQ; and STARTQ, asynchronous processes being activated.

R

Remote Node

A remote node is an entry in the Network Map that defines a Sterling Connect:Direct node with which the local Sterling Connect:Direct node can communicate. The remote node is also referred to as an adjacent node.

Remote Process

A remote Process is a Sterling Connect:Direct Process initiated on the remote Sterling Connect:Direct node.

Retry Interval

The retry interval is the interval at which retries are performed as a part of the checkpoint-restart feature.

S

Secondary Node (SNODE)

The remote or secondary node (SNODE) is the Sterling Connect:Direct node that interacts with the primary node (PNODE) during Process execution. SNODE may also be referred to as the participating (non-controlling) or partner node. Every Process has one PNODE and one SNODE.

Session Manager (SMGR)

The session manager component executes the Sterling Connect:Direct Processes. You can set the initialization parameters to make the SMGR either fixed or dynamic.

Spool Monitor (CDSPLMON)

The Sterling Connect:Direct Spool Monitor (CDSPLMON) is a variable component of Sterling Connect:Direct for i5/OS. CDSPLMON uses Spool Monitor entries to associate output queues with destination Sterling Connect:Direct nodes. These entries also include default values used to transfer spooled files.

Statistics Facility

The Sterling Connect:Direct Statistics Facility records Sterling Connect:Direct activities.

Statistics File

The statistics file holds Sterling Connect:Direct statistics records that document the history of a Process.

Statistics Manager (STATMGR)

Sterling Connect:Direct for i5/OS logs statistics information for all Sterling Connect:Direct Processes. Each component of Sterling Connect:Direct for i5/OS generates statistics data to the statistics manager (STATMGR). The long-running STATMGR formats the statistics information and writes it to the statistics file.

Submitted Session Managers are session managers submitted by the Process Manager.

Synchronous

Synchronous Process execution occurs when you submit a Sterling Connect:Direct command. Processes such as CDSND and CDRCV are submitted by the user and they execute immediately.

T

TCP/IP Listener

The TCP/IP Listener component requests session managers from the Process Manager when it receives connection requests. The Process Manager starts and controls the TCPLIST component.

Timer Queue (TIMER)

This Sterling Connect:Direct for i5/OS component provides timer services to the other components. The process manager submits and controls the TIMER. The TIMER is always present when Sterling Connect:Direct is active.

Index

Q

W

X

Free Manuals Download Website

http://myh66.com

http://usermanuals.us

http://www.somanuals.com

http://www.4manuals.cc

http://www.manual-lib.com

http://www.404manual.com

http://www.luxmanual.com

http://aubethermostatmanual.com

Golf course search by state

http://golfingnear.com

Email search by domain

http://emailbydomain.com

Auto manuals search

http://auto.somanuals.com

TV manuals search

http://tv.somanuals.com