

Sterling Connect:Direct



Statements and Parameters

March 31, 2012

Sterling Connect:Direct



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Note

Before using this information and the product it supports, read the information in "Notices" on page 229.

This edition applies to the March 31, 2012 version of IBM Sterling Connect:Direct Process Language Reference Guide and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. HP Non-Stop Statements and Parameters

Sterling Connect:Direct for HP NonStop Process Statement

The PROCESS statement defines the attributes of a Process and is always the first statement in a Process.

The following is the Sterling Connect:Direct® for HP NonStop Process statement format. Refer to the Sterling Connect:Direct for HP NonStop Process Parameters for more information.

Label	Statement	Parameters
process name	PROCCess	SNODE=secondary-node-name
		SACCT='snode-accounting-data'
		PNODE=primary-node-name
		PNODEID=(id [,pswd])
		SNODEID=(id [,pswd] [,newpswd])
		PACCT='pnode-accounting-data'
		CLASS=n
		HOLD=Yes No Call
		PRTY=n
		RETAIN=Yes No Initial
		STARTT=([date day][,hh:mm:ssXM])
		&symbolic_name_1=variable-string-1 & symbolic_name_2=variable-string-2 . . . & symbolic_name_n=variable-string-n

Sterling Connect:Direct for HP NonStop Copy Statement for Spooler Jobs

Sterling Connect:Direct for HP NonStop supports the use of ISO/ANSI printer control characters between files on an IBM® z/OS node and the HP NonStop spooler system. These characters provide carriage control instructions to the printer. A description of these characters follows:

- `` skips one line before printing a record (single-spacing).
- ``0' skips two lines before printing a record (double-spacing).
- ``-' skips three lines before printing a record (triple-spacing).
- ``+' suppresses spacing before printing a line (used for overstriking).
- ``1' begins a new page.

When transferring jobs defined as including ANSI carriage control between an IBM z/OS node and the HP NonStop spooler system, the Sterling Connect:Direct system converts HP NonStop carriage control to ANSI or ANSI to HP NonStop carriage control as appropriate. A RECFM that includes the A characteristic must be specified on the clause of the COPY statement pertaining to the IBM z/OS node.

The following is the Sterling Connect:Direct for HP NonStop Copy statement for Spooler Jobs. See the Sterling Connect:Direct for HP NonStop Process Parameters for more information.

Label	Statement	Parameters	
stepname	COPY	From	(
			DSN=filename FILE=filename
			PNODE SNODE
			DISP=([OLD SHR] , [KEEP DELETE])
			SYSOPTS=(["SET SPOOLER \$spooler-name"] ["SET SPOOLNUM job-number"])
)
		TO	(
			DSN=filename FILE=filename
			PNODE SNODE
			SYSOPTS=["SET SPOOLER \$spooler-name"]
)

Sterling Connect:Direct for HP NonStop Copy Statement for Guardian Disk and Tape Files

The COPY statement allows you to copy files from one node to another.

The COPY statement contains a FROM parameter that specifies the source file name and a TO parameter that specifies the destination file name. Additional parameters and subparameters can be specified to customize the file transfer operation.

To copy from one Sterling Connect:Direct platform to another, refer to the appropriate COPY FROM and TO pages for those platforms. For example, if the source file is located on a Sterling Connect:Direct for z/OS® node, refer to the Sterling Connect:Direct for z/OS COPY FROM information. If the destination node is Sterling Connect:Direct for HP NonStop, refer to the TO information for this platform.

Note: Use SYSOPTS parameters, not DCB, when creating HP NonStop files, as not all z/OS DCB statements have an exact correlation to HP NonStop file attributes.

If a time-out occurs before a tape is loaded on an adjacent node, the operator must cancel the tape mount. This action cancels the Process on the adjacent node.

The following is the Sterling Connect:Direct for HP NonStop Copy statement for Guardian Disk and Tape Files. See the Sterling Connect:Direct for HP NonStop Process Parameters for more information.

Label	Statement	Parameters
stepname	COPY	FROM (
		DSN=filename FILE=filename
		PNODE SNODE
		DCB=([RECFM=record-format] [,BLKSIZE=no.-bytes] [,LRECL=no.-bytes
		DISP=([OLD SHR] , [KEEP DELETE])
		IOEXIT=[exit-name (exit-name [,parameter,...])] [\$process-name]
		SYSOPTS=["SET XLATE ON YES OFF NO table-name"] ["SET OPENFILEXMT Y"]
)
		TO (
		DSN=filename FILE=filename
		PNODE SNODE
		DCB=([BLKSIZE=no.-bytes] [,DSORG=[U 0] [R 1] [E 2] [K 3] [,KEYLEN=no.-bytes] [,LRECL=no.-bytes] [,RECFM=record-format]
		TYPE=typekey
		DISP=([NEW OLD MOD RPL SHR] , [KEEP DELETE])
		IOEXIT=[exit-name (exit-name [,parameter,...])] [\$process-name]

Label	Statement	Parameters
<p>Note: For transfers from Microsoft Windows to HP NonStop, use single quotation marks around each SET statement. Omit the parentheses and enclose the entire SYSOPTS statement in double quotation marks.</p>		<pre> SYSOPTS=(["SET TYPE [U 0] [R 1] [E 2] [K 3]"] ["SET CODE file-code"] ["SET EXT (extent.size) (pri.ext.size , sec.ext.size)"] ["SET REC record-length"] ["SET BLOCK data-block-length"] ["SET [NO] COMPRESS"] ["SET FORMAT 0 1 2"] ["SET PART ([sec.partition.num] [\system.name.\$volume] [pri.ext.size] [sec.ext.size] [partial.key.value])"] ["SET [NO] AUDIT"] ["SET [NO] DCOMPRESS"] ["SET [NO] ICOMPRESS"] ["SET KEYLEN key-length"] ["SET KEYOFF key-offset"] ["SET ALTKEY ([key-specifier])"] ["SET [NO] PARTONLY"] ["SET ODDUNSTR"] ["SET [NO] REFRESH"] ["SET [NO] AUDIT"] ["SET MAXEXTENTS maximum-extents"] ["SET BUFFERSIZE unstructured-buffer-size"] ["SET [NO] BUFFERED"] ["SET [NO] AUDITCOMPRESS"] ["SET [NO] VERIFIEDWRITES"] ["SET [NO] SERIALWRITES"] ["SET [NO] BLOCKIO"] ["SET [NO] LARGEIO"] ["SET FAST.LOAD Y"] [FILE key-file-number] [KEYLEN key-length] [KEYOFF key-offset] [NULL NO NULL] [[NO] UNIQUE] [[NO] UPDATE"])"] ["SET ALTFILE key-file-number ,filename"] ["SET [NO] ALTCREATE"] ["SET FAST.LOAD.PRI priority"] ["SET FAST.LOAD.CPU cpu-number"] ["SET FAST.LOAD.SORTED Y"] ["SET XLATE ON YES OFF NO table-name"])) </pre>
		<pre>CKPT=nK nM</pre>
		<pre>COMPRESS [[PRIMEchar=X'xx' X'20' C'c'] EXTended] Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.</pre>

Sterling Connect:Direct for HP NonStop Copy Statement for OSS Disk and Tape Files

The COPY statement allows you to copy files from one node to another.

The COPY statement contains a FROM parameter that specifies the source file name and a TO parameter that specifies the destination file name. Additional parameters and subparameters can be specified to customize the file transfer operation.

To copy from one Sterling Connect:Direct platform to another, refer to the appropriate COPY FROM and TO pages for those platforms. For example, if the source file is located on a Sterling Connect:Direct for z/OS node, refer to the Sterling Connect:Direct for z/OS COPY FROM information. If the destination node is Sterling Connect:Direct for HP NonStop, refer to the TO information for this platform.

Note: Use SYSOPTS parameters, not DCB, when creating HP NonStop files, as not all z/OS DCB statements have an exact correlation to HP NonStop file attributes.

If a time-out occurs before a tape is loaded on an adjacent node, the operator must cancel the tape mount. This action cancels the Process on the adjacent node.

The following is the Sterling Connect:Direct for HP NonStop Copy statement for Guardian Disk and Tape Files. See the Sterling Connect:Direct for HP NonStop Process Parameters for more information.

Label	Statement	Parameters
stepname	COPY	FROM (
		DSN=filename FILE=filename
		PNODE SNODE
		DCB=([RECFM=record-format] [,BLKSIZE=no.-bytes] [,LRECL=no.-bytes
		DISP=([OLD SHR] , [KEEP DELETE])
		IOEXIT=[exit-name (exit-name [,parameter,...])] [\$process-name]
		SYSOPTS=["SET XLATE ON YES OFF NO table-name" "SET OPENFILEXMT Y"]
)
		TO (
		DSN=filename FILE=filename
		PNODE SNODE
		DCB=([BLKSIZE=no.-bytes] [,DSORG=[U 0] [R 1] [E 2] [K 3] [,KEYLEN=no.-bytes] [,LRECL=no.-bytes] [,RECFM=record-format]
		TYPE=typekey
		DISP=([NEW OLD MOD RPL SHR] , [KEEP DELETE])
		IOEXIT=[exit-name (exit-name [,parameter,...])] [\$process-name]

Label	Statement	Parameters
<p>Note: For transfers from Microsoft Windows to HP NonStop, use single quotation marks around each SET statement. Omit the parentheses and enclose the entire SYSOPTS statement in double quotation marks.</p>		<pre> SYSOPTS=(["SET TYPE [U 0] [R 1] [E 2] [K 3]"] ["SET CODE file-code"] ["SET EXT (extent.size) (pri.ext.size , sec.ext.size)"] ["SET REC record-length"] ["SET BLOCK data-block-length"] ["SET [NO] COMPRESS"] ["SET FORMAT 0 1 2"] ["SET PART ([sec.partition.num] [\system.name.\$volume] [pri.ext.size] [sec.ext.size] [partial.key.value])"] ["SET [NO] AUDIT"] ["SET [NO] DCOMPRESS"] ["SET [NO] ICOMPRESS"] ["SET KEYLEN key-length"] ["SET KEYOFF key-offset"] ["SET ALTKEY ([key-specifier])"] ["SET [NO] PARTONLY"] ["SET ODDUNSTR"] ["SET [NO] REFRESH"] ["SET [NO] AUDIT"] ["SET MAXEXTENTS maximum-extents"] ["SET BUFFERSIZE unstructured-buffer-size"] ["SET [NO] BUFFERED"] ["SET [NO] AUDITCOMPRESS"] ["SET [NO] VERIFIEDWRITES"] ["SET [NO] SERIALWRITES"] ["SET [NO] BLOCKIO"] ["SET [NO] LARGEIO"] ["SET FAST.LOAD Y"] [FILE key-file-number] [KEYLEN key-length] [KEYOFF key-offset] [NULL NO NULL] [[NO] UNIQUE] [[NO] UPDATE"])] ["SET ALTFILE key-file-number ,filename"] ["SET [NO] ALTCREATE"] ["SET FAST.LOAD.PRI priority"] ["SET FAST.LOAD.CPU cpu-number"] ["SET FAST.LOAD.SORTED Y"] ["SET XLATE ON YES OFF NO table-name"])) </pre>
		<pre> CKPT=nK nM </pre>
		<pre> COMPRESS [[PRIMEchar=X'xx' X'20' C'c'] EXTended] </pre> <p>Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.</p>

Sterling Connect:Direct for HP NonStop Run Job Statement

While Sterling Connect:Direct for HP NonStop cannot execute the RUN JOB statement, it supports a RUN JOB statement executed on the Sterling Connect:Direct for z/OS and Sterling Connect:Direct for VSE nodes (RUN JOB SNODE). See the RUN JOB Statement syntax for the appropriate platform.

Sterling Connect:Direct for HP NonStop Run Task Statement

The RUN TASK statement executes user-written or system programs during a Process. With a RUN TASK, the Process waits until the program completes before executing the next step in the Process.

Sterling Connect:Direct for HP NonStop issues a return code of zero if the program starts successfully. If the program does not start successfully, Sterling Connect:Direct generates a failure return code. Once the external program begins, Sterling Connect:Direct has no control of it and no knowledge of the outcome.

You can specify a list of parameters for the program in the RUN TASK statement. The program can run at either the PNODE or SNODE.

The RUN TASK statistics log records the program name, HP NonStop process id (PID), and the date and time the program began

The following is the Sterling Connect:Direct for HP NonStop Run Task statement format. See the Sterling Connect:Direct for HP NonStop Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN TASK	(PGM=program-name)
		SYSOPTS=("/run-option parameters/ [program-parameter] [program-parameter...]")
		TIMEOUT=n
		PNODE SNODE

Sterling Connect:Direct for HP NonStop Submit Statement

The SUBMIT statement submits another Process to either the PNODE or to the SNODE during Process execution. The submitted Process must reside on the node where the SUBMIT statement will execute. This node is referred to as the SUBNODE.

The following is the Sterling Connect:Direct for HP NonStop Submit statement format. See the Sterling Connect:Direct for HP NonStop Process Parameters for more information.

Label	Statement	Parameters
stepname	SUBMIT	DSN=filename FILE=filename
		NEWNAME=new-name
		SUBNODE=PNODE SNODE
		SNODE=secondary-node-name
		SNODEID=(id [pswd] [,newpswd])

Label	Statement	Parameters
		SACCT='snode-accounting-data'
		PNODEID=(id [,pswd])
		PACCT='pnode-accounting-data'
		CLASS=n
		HOLD=Yes No Call
		PRTY=n
		RETAIN=Yes No Initial
		STARTT=([date day][,hh:mm:ssXM])
		&symbolic_name_1=variable-string-1 & symbolic_name_2=variable-string-2 . . . & symbolic_name_n=variable-string-n

Sterling Connect:Direct for HP NonStop Conditional Statements

Conditional statements alter Process execution sequence based on the completion of the previous step in the Process.

The following is the Sterling Connect:Direct for HP NonStop Conditional statements format. See the Sterling Connect:Direct for HP NonStop Process Parameters for more information.

Label	Statement	Parameters
optional	IF	(label condition nn) THEN
		(process steps)
	ELSE	
		(alternative process steps)
	EIF	
optional	GOTO	label
	EXIT	

Sterling Connect:Direct for HP NonStop Symbol Statement

The Symbol statement creates symbolic substitution values.

The following is the Sterling Connect:Direct for HP NonStop Symbol statement format. See the Sterling Connect:Direct for HP NonStop Process Parameters for more information.

Label	Statement	Parameters
optional	SYMBOL	&symbolic_name=variable-string

Sterling Connect:Direct for HP NonStop Process Parameters

CLASS = n

determines the node-to-node session on which a Process can execute. Each logical unit (LU) has an assigned default class value, which allows a Process to execute on an LU having a matching class value or on LUs with higher class values. Class numbers are assigned in the order in which LUs appear in the network map. If a class value of 1 is specified, a Process will run on the first available LU.

If CLASS is not specified in the Sterling Connect:Direct Process or Submit command, CLASS defaults to the default class specified in the PARSESS parameter of the adjacent node network map record.

CKPT = nK | nM

specifies the byte interval for checkpoint support. Checkpointing allows restarting interrupted transmissions at the last valid transmission point, thus avoiding the need to restart transmission from the beginning; restart time is therefore reduced. Sterling Connect:Direct converts the specified value to a block boundary, and a data transmission checkpoint is taken at that position. K denotes thousands; M denotes millions.

Sterling Connect:Direct for HP NonStop supports checkpointing for entry sequenced files, key sequenced files, unstructured files (but not unstructured code 101), and relative files. Sterling Connect:Direct for HP NonStop does not support checkpointing for edit files, spool files, or file copies using the Fastload option.

Specifying CKPT=0K in the Copy statement overrides any checkpointing values specified in the initialization parameters; checkpointing will not occur.

COMPRESS [[PRIMEchar = X'xx' | X'20' | C'c'] | EXTended]

specifies to compress the data, which reduces the amount of data transmitted. The file is automatically decompressed at the destination node. X'xx' is the hexadecimal representation of the compression character. C'cc' is the character representation of the compression character. The default subparameter for the COMPRESS parameter is PRIMEchar=X'20' (blank).

If you specify compression, 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 will be compressed to 1 byte.
- Repetitive occurrences (ranging from 3-63) of any other character will be compressed to 2 bytes.

Compression is CPU-intensive, and its effectiveness is data dependent. It should only be used if its benefits are known.

Note: If the SNODE is Sterling B2B Integrator, only COMPRESS EXT is supported.

PRIMEchar specifies the primary compression character. The default value for PRIMEchar is a blank (X'20').

EXTended searches for repetitive strings of characters in data and compresses 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 and data is repetitive.

condition

specifies the type of comparison to be performed. This condition checking is based on comparisons for equality, inequality, greater than, less than, greater than or equal to, and less than or equal to.

Valid symbols, alternate symbols, and conditions follow:

= or EQ specifies that the completion code must be equal to the value nn for the condition to be satisfied.

<> or != or NE specifies that the completion code must not equal the value nn for the condition to be satisfied.

>= or >= or GE specifies that the completion code must be greater than or equal to the value nn for the condition to be satisfied.

> or GT specifies that the completion code must be greater than the value nn for the condition to be satisfied.

<= or <= or LE specifies that the completion code must be less than or equal to the value nn for the condition to be satisfied.

< or LT specifies that the completion code must be less than the value nn for the condition to be satisfied.

COPY

identifies the Copy statement. This statement identifier is specified with either the FROM or TO parameter, whichever is specified first.

CLASS = n

determines the node-to-node session where a Process can execute. Each logical unit (LU) has an assigned default class value, which allows a Process to execute on an LU having a matching class value or on LUs with higher class values. Class numbers are assigned in the order in which LUs appear in the network map. If a class value of 1 is specified, a Process will run on the first available LU.

If CLASS is not specified in the Process or Submit command, CLASS defaults to the default class specified in the PARSESS parameter of the adjacent node network map record.

DSN = filename | FILE = filename

specifies the name of the file containing the Process.

EIF

is required for specifying the end of the IF THEN or IF THEN ELSE block of statements. There are no parameters for this statement.

ELSE

designates a block of Sterling Connect:Direct statements that execute when the IF THEN condition is not satisfied. There are no parameters for this statement.

EXIT

bypasses all remaining steps within a Process. There are no parameters for this statement.

FROM

specifies the source file characteristics.

(FROM) DCB =([RECFM = record-format] [,BLKSIZE = no.-bytes] [,LRECL = no.-bytes])

specifies attributes to be used in allocating source files. If reading in an unstructured file by record count, BLKSIZE and LRECL must be specified.

RECFM specifies the format of the records in the file. Sterling Connect:Direct for HP NonStop automatically determines the RECFM of the ENSCRIBE file; however, you can override this value to allow an unstructured file to be handled differently. For example, to copy an unstructured file containing 4096-byte records to an adjacent node in 132-byte records, specify the following in the FROM clause of the Sterling Connect:Direct for HP NonStop Copy statement:

```
DCB=(RECFM=U,BLKSIZE=4096,LRECL=132)
```

BLKSIZE specifies the length in bytes of the block. The minimum length is 512 bytes, and the maximum length is 4,096 bytes. All valid sizes are supported. If the value specified is not a standard value, it will be rounded up to the next largest standard size or to the maximum length.

LRECL specifies the length in bytes of the record. The LRECL values for each supported HP NonStop file type for the DP1 and DP2 operating systems are listed in the following table.

File Type	DP1 Limit	DP2 Limit
Relative Record	4072	4072
Unstructured	4096	4096
Entry Sequenced	4072	4072
Key Sequenced	2035	4062
Unstructured Code 101	2048	2048

(FROM) DCB =([,LRECL = no.-bytes])

specifies the length in bytes of the record when sending a binary OSS file (ranging from 1-32764). This value overrides the default record length (4096 bytes) for binary files.

(FROM) DISP = ([OLD | SHR], [KEEP | DELETE])

specifies the status of the file and its disposition after notification of successful transmission. Subparameters are as follows:

First Subparameter specifies the status of the file. This subparameter applies to all files. Options for this subparameter are as follows:

- **OLD** specifies that the source file will be opened with exclusive access.
- **SHR** specifies that the source file will be opened with shared access. SHR is the default.

Second Subparameter specifies the disposition of a normal Process step termination. Valid source file dispositions are as follows:

- **KEEP** specifies that the system will keep the file after the Process step has been completed. KEEP is the default.

- **DELETE** specifies that the system will delete the file after the Process step has been successfully completed.

(FROM) DSN | FILE

specifies the source file name. File names are verified based on HP NonStop standard file name conventions. DSN or FILE is invalid if you specify the IOEXIT parameter.

**(FROM) SYSOPTS = ["SET XLATE ON | YES | OFF | NO | table-name"]
["SET OPENFILEXMT Y"]**

specifies whether the file being transferred is converted from either ASCII to EBCDIC or EBCDIC to ASCII during Guardian disk and tape file copies.

If XLATE ON or XLATE YES is specified or the file being copied is a spooler file or an edit file (unstructured file, code 101), Sterling Connect:Direct for HP NonStop will check the XLFILE for a table named DEFAULT. If the DEFAULT table is not in XLFILE, then Sterling Connect:Direct for HP NonStop uses the standard English language ASCII/EBCDIC table as defined by HP NonStop.

If the file being copied is a spooler file or an edit file (unstructured file, code 101), XLATE does not need to be specified because these files are automatically translated. Specifying SET XLATE OFF or XLATE NO disables translation.

SET XLATE indicates whether file conversion should be set on, off, or to a specified table.

- **ON | YES** specifies that text will be converted from either ASCII to EBCDIC or EBCDIC to ASCII, depending upon the copy direction.
- **OFF | NO** ensures that text conversion does not occur during file transfer.
- **table-name** is a 1–8 character name of a user-defined translation table in XLFILE. See the *IBM Sterling Connect:Direct for HP NonStop Installation Guide* and the *IBM Sterling Connect:Direct for HP NonStop Administration Guide* for further details on user-defined translation tables.

SET OPENFILEXMT allows the transfer of open source files. This SYSOPTS parameter overrides the SENDOPENFILE setting in the NDMINIT file. If the source file is being written to by another process and SETOPENFILEXMT Y is specified in the SYSOPTS, when Sterling Connect:Direct for HP NonStop reaches the current end of the data, it waits for and transfers any additional data until the creating process completes and closes the file.

**(FROM) SYSOPTS = ["SET XLATE ON | YES | OFF | NO | table-name"]
["SET DATATYPE ASCII | BINARY"]**

specifies system operation parameters on the Copy statement. These parameters can be used to specify whether to convert files from either ASCII to EBCDIC or EBCDIC to ASCII during OSS disk and tape file copies. The SET OPENFILEXMT Y parameter can be used to allow data to be transferred while it is being written to the source file.

If XLATE ON or XLATE YES is specified or the file being copied is a spooler file or an edit file (unstructured file, code 101), Sterling Connect:Direct for HP NonStop will check the XLFILE for a table named DEFAULT. If the DEFAULT table is not in XLFILE, then Sterling Connect:Direct for HP NonStop uses the standard English language ASCII/EBCDIC table as defined by HP NonStop.

If the file being copied is a spooler file or an edit file (unstructured file, code 101), XLATE does not need to be specified because these files are automatically translated. Specifying SET XLATE OFF or XLATE NO disables translation.

SET XLATE indicates whether file conversion should be set on, off, or to a specified table.

- **ON | YES** specifies that text will be converted from either ASCII to EBCDIC or EBCDIC to ASCII, depending upon the copy direction.
- **OFF | NO** ensures that text conversion does not occur during file transfer.
- **table-name** is a 1-8 character name of a user-defined translation table in XLFILE. See the *IBM Sterling Connect:Direct for HP NonStop Installation Guide* and the *IBM Sterling Connect:Direct for HP NonStop Administration Guide* for further details on user-defined translation tables.

SET DATATYPE specifies whether the source file being transferred is in ASCII or BINARY format.

Note: To successfully transfer binary files from an OSS files system to either UNIX or Microsoft Windows, you must specify BINARY as the datatype because UNIX and Microsoft Windows expect text (ASCII) files.

(FROM) SYSOPTS =(["SET SPOOLER \$spooler-name"] ["SET SPOOLNUM job-number"])

specifies system operation parameters on a spooler file copy. It is an alternative way of specifying file creation attributes.

Each system operation is indicated as a HP NonStop SET command and is enclosed in double quotation marks. You can specify multiple SET command parameters with SET preceding each parameter.

For example:

```
SET parameter  
SET parameter
```

You can also specify multiple SET command parameters with SET preceding the first parameter and commas separating each parameter. For example:

```
SET parameter, parameter, parameter
```

Do not use continuation marks in the sysopts parameter. Type the text in a continuous string, with blanks separating each subparameter.

SET parameter commands define HP NonStop file attributes or special processing instructions for Sterling Connect:Direct for HP NonStop. The SET commands follow in alphabetical order.

SPOOLER specifies the spooler supervisor process name used to transfer a file between the spooler and another node. The default is \$SPLS. The symbol \$ must precede specified spooler supervisor names.

If only the spooler supervisor name is specified and multiple instances of a spooler file name are in the spooler, the Sterling Connect:Direct system accesses the job with the highest job number corresponding to the given filename in the READY state.

SPOOLNUM specifies the job number of the spooler file. This SYSOPTS SET parameter can be used in conjunction with the spooler file name to clarify selection criteria.

Users can only access jobs that they own in the spooler.

If the HP NonStop system is operating with PERUSE, version T9101C20^16MAR90^IPM^T9101AAR, any user in the SUPER group can access all jobs in the spooler. If you are logged on as a user in the SUPER group and multiple jobs with the same name are in the spooler but none are owned by users in the SUPER group, the Sterling Connect:Direct system accesses the job with the highest number. If one or more of the jobs are owned by users in the SUPER group, the Sterling Connect:Direct system accesses the job with the highest job number that is owned by any user in the SUPER group.

If the HP NonStop system is operating with PERUSE, version T9101C20^15MAY90^IPM^T9101ABJ, you must be logged on as SUPER.SUPER or bring up the server to access all jobs in the spooler. If you are logged on as SUPER.SUPER and multiple jobs with the same name are in the spooler but none are owned by SUPER.SUPER, the Sterling Connect:Direct system accesses the job with the highest number. If one or more of the jobs are owned by SUPER.SUPER, the Sterling Connect:Direct system accesses the job with the highest job number that is owned by SUPER.SUPER.

GOTO

moves to a specific step within a Process. See the following Field Descriptions section for details on using the step label.

HOLD = Yes | No | Call

specifies whether the Process is placed in the Hold queue at submission.

Yes specifies that the Process is submitted to the Hold queue and remains there until the operator explicitly releases the Process.

When both HOLD=Yes and a STARTT value are specified, the HOLD specification takes precedence. A Process submitted with HOLD=Yes is placed on the Hold queue even if a start time is specified.

No specifies that the Process is to execute as soon as possible. This is the default.

Call specifies that the Process is placed in the Hold queue until a session is established with the specified SNODE. This session could be established by either another Process running on the PNODE or the SNODE contacting the PNODE. For example, a Process submitted HOLD=NO establishes a session and causes execution of any Processes for this node that are designated HOLD=CALL.

IF THEN

specifies that the Sterling Connect:Direct system executes a block of Sterling Connect:Direct statements based on the completion code of a Process step. An EIF statement must be used in conjunction with an IF THEN statement.

IOEXIT = [exit-name | (exit-name [,parameter,...])] | [\$process-name]

indicates that a user-written program is to be called to perform I/O requests for the associated data.

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

parameter specifies a parameter, or list of parameters, to be passed to the specified exit. The parameters are only valid if the SNODE is a Sterling Connect:Direct for HP NonStop node.

\$process-name specifies the name of the I/O exit Process currently running. This Process is given control for I/O-related requests for the associated data.

label

For the IF THEN statement, the label specifies the name of a previous step whose completion code is used for comparison.

For the **GOTO** statement, the label specifies the name of a subsequent step in a Process (required for GOTO only). The name can neither be the label of a preceding step nor the label of the GOTO statement of which it is a part.

User-defined labels must begin in column one. Labels are 1-8 character alphanumeric strings. The first character must be alphabetic.

NEWNAME = new-name

specifies a new name for the Process. The default value is the label on the Process statement.

nn

specifies the numeric value to be used for completion code checking. If specified as X'nn', it is a hexadecimal value; any other specification indicates it as decimal.

If a completion code less than 4 is returned, the Process completed successfully. A return code greater than 4 indicates the Process ended in error. Note that a return code equaling 4 indicates a warning.

PACCT = 'pnode-accounting-data'

specifies the accounting data for the primary node (PNODE). The maximum length of the accounting data is 256 characters. Enclose the string in single quotation marks if it contains special characters.

PACCT is used only for documentation purposes.

PGM = program-name

specifies the name of the object file to be executed.

PNODE

On the Copy statement, specifies the transfer direction. When PNODE is specified on the FROM parameter, the file to be copied resides on the primary node. When PNODE is specified in the TO parameter, the file is sent to the primary node. PNODE is the default for the FROM parameter.

On the Run Task statement, specifies that the program will be executed on the PNODE. PNODE is the default.

PNODE = primary-node-name

specifies the 1-16 character name of the primary node (PNODE) used in the Process. The name can be expressed in alphanumerics or nationals (@ # \$), with embedded periods. The Process is always submitted to the

PNODE. This parameter defaults to the name of the node submitting the Process and need not be specified. It is used for documentation purposes only.

PNODEID = (id [,pswd])

specifies security user IDs and passwords at the primary node (PNODE). This parameter should only be used to validate security with an ID different from the one you used to sign on to a Sterling Connect:Direct node.

id specifies the HP NonStop group number and user number. These numbers can range from 0-255 and are separated by a period (.).

pswd specifies the current security password for the specified ID. This parameter can be used by the security system at the PNODE to validate the current security password (1-8 alphanumeric characters).

PROcEss

identifies the statement. This statement can be abbreviated to PROC.

process name

specifies the 1-8 character name of the Process. The Process name is required. The first character must be alphabetic and must start in column one. The PROCESS keyword must be on the same line as the Process name.

This label identifies the Process in messages or statistics.

PRTY = n

specifies the Process priority in the Transmission Control Queue (TCQ). The TCQ holds all Processes that have been submitted to a node. High numbers indicate high priorities; low numbers indicate low priorities.

This priority is used only for Process selection within class and does not affect transmission priority. The range is from 0-15. If PRTY is not specified, the default is the priority defined during Sterling Connect:Direct installation. See the Sterling Connect:Direct for HP NonStop installation and administration guides for more information.

RETAIN = Yes | No | Initial

keeps a copy of the Process in the Hold queue after the Process executes.

Yes specifies the Process remains on the Hold queue after initial execution. The Process must then be released manually through the Change Process command to cause it to be executed, or explicitly deleted through the Delete Process command.

If RETAIN=YES is specified, the Process is held until released unless the STARTT parameter is specified. Use RETAIN in conjunction with STARTT to cause a Process to run repeatedly at a given interval. However, a date is invalid as a STARTT subparameter when used in conjunction with RETAIN.

When a Process is submitted with RETAIN=YES and HOLD=NO or CALL, the HOLD parameter is ignored.

No specifies that the system deletes the Process after execution. The default value for RETAIN is NO.

Initial specifies that the Process is executed every time the Sterling Connect:Direct system is initialized. Processes submitted with RETAIN=INITIAL do not execute when initially submitted. Do not specify STARTT with RETAIN=INITIAL.

RUN TASK

identifies the Run Task statement.

SACCT = 'snode-accounting-data'

specifies the accounting data for the SNODE. The maximum length of the accounting data is 256 characters. Enclose the string in single quotation marks if it contains special characters.

This parameter is ignored when Sterling Connect:Direct for i5/OS® is the SNODE.

SNODE

On the Copy statement, this parameter specifies the secondary node and defines the direction of transfer. When SNODE is specified with the FROM parameter, the file to be copied resides on the secondary node.

When SNODE is specified with the TO parameter, the file is sent to the secondary node. SNODE is the default with the TO parameter.

On the Run Task statement, this parameter specifies that the program will be executed on the SNODE, which is the destination node.

SNODE = secondary-node-name

specifies the 1-16 character alphanumeric name of the secondary node (SNODE) used in this Process. The name can be expressed in alphanumerics or nationals (@ # \$), with embedded periods. This parameter is required.

This is the logical node name defined as the adjacent node in the network map.

This parameter is not required if SNODE is specified on the Submit command.

When specified in the Submit statement, this parameter overrides the value specified in the Process statement.

The PNODE and SNODE can specify the same symbolic node name.

SNODEID = (id [,pswd] [,newpswd])

specifies security user IDs and passwords at the secondary node (SNODE).

For Sterling Connect:Direct for i5/OS, if an SNODEID and password of the Process submitter is not specified in the Process statement, the user ID and password of the Process submitter is used for the security ID and password check by Sterling Connect:Direct for i5/OS.

For Sterling Connect:Direct for UNIX, the security user ID and passwords are case sensitive.

id specifies the HP NonStop group number and user number. These numbers can range 0-255 and are separated by a period (.). Other operating environments limit the ID to 1-8 alphanumeric characters.

For Sterling Connect:Direct for i5/OS, this subparameter specifies the i5/OS user profile used for authorization checks during Process execution and is limited to 8 characters.

pswd specifies the current security password. This parameter can be used by the security system on the SNODE to validate the current security password and can be 1-8 alphanumeric characters. This is optional unless the user has security set to require a password.

z/OS, VM, and VSE nodes only recognize passwords specified in uppercase alphanumeric characters. See the Sterling Connect:Direct for HP NonStop installation and administration guides for a solution for mixed-case passwords.

newpswd specifies the new security password and can be used by the security system to change the current security password to the new security password (1-8 alphanumeric characters).

For Sterling Connect:Direct for HP NonStop, SAFEGUARD must be running on HP NonStop.

This subparameter is ignored for Sterling Connect:Direct for i5/OS.

STARTT = ([date | day][,hh:mm:ssXM])

specifies that the Process execute on a specified date or time. The date, day, and time are positional parameters. If the date or day parameter is not specified, a comma must precede the time.

date specifies that the Process executes on the indicated date. Specify the date in one of the following formats:

yymmdd	mm/dd/yy	yy/mm/dd	mm.dd.yy
yy.mm.dd	mmddy	yyddd (Julian date)	yy/ddd (Julian date)

If only date is specified, the time defaults to 00:00.

If RETAIN=YES, do not specify a date in the STARTT parameter.

day specifies the day of the week that the Process is released for execution. Valid names include Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday. The day value may be abbreviated to the first two characters.

If you specify the day of the week with RETAIN=YES, the Process executes the same day every week. If you only specify a day, the time defaults to 00:00. This means that if a Process is submitted on Monday, with Monday as the only STARTT parameter, the Process will not run until the following Monday.

You can also specify TODAY, which releases the Process for execution the day and time of Process submission (unless the time of day is specified), or TOMORROW, which releases the Process for execution the next day. If a time of day is not specified with TOMORROW, the Process will execute after midnight.

hh:mm:ssXM indicates the time of day in hours (hh), minutes (mm), and seconds (ss) that the Process is released. XM can be set to AM or PM.

The time of day can be expressed using the 24-hour clock or the 12-hour clock. If the 24-hour clock is used, valid times are from 00:00:00 to 24:00:00. If AM and PM are not used, the 24-hour clock is assumed.

If the 12-hour clock is used, specify 01:00:00 hours as 1:00AM, and specify 13:00 hours as 1:00PM.

If you specify hh:mm:ssXM with RETAIN=YES, the Process executes at the same time every day. You do not need to specify minutes and seconds.

You can also specify NOON, which releases the Process for execution at noon, or MIDNIGHT to release the Process for execution at midnight.

When you specify both HOLD=YES and a STARTT value, the HOLD specification takes precedence. A Process submitted with HOLD=YES is placed on the Hold queue even if a start time is specified.

Do not specify STARTT with RETAIN=I.

stepname

specifies the user-defined name of the Copy, Run Task, or Submit step.

Stepnames must begin in column one. Stepnames are 1-8 character alphanumeric strings. The first character must be alphabetic.

SUBMIT

identifies the Submit statement.

SUBNODE = PNODE | SNODE

specifies the node where the Process defined in the Submit statement will execute. PNODE means that the Process is submitted on the node that has Process control. SNODE means that the Process is submitted on the node participating in, but not controlling, Process execution. In both cases, the Process must reside on the node on which it is being submitted. The default is PNODE.

SYMBOL

identifies the Symbol statement.

&symbolic_name = variable-string

specifies a string that is substituted into the Process.

When Sterling Connect:Direct software encounters an ampersand (&) plus 1-17 alphanumeric characters, Sterling Connect:Direct substitutes a string represented by that ampersand and the alphanumeric characters.

Symbols in the string are resolved from previously specified values in a Process, Submit, or Symbol statement. With the Symbol statement, different pieces of a Sterling Connect:Direct statement string can be concatenated, allowing the user to move data in a variety of ways.

A null value can be specified if the equal sign (=) is immediately followed by a comma. Enclose a symbolic parameter string containing special characters in single quotation marks.

&symbolic_name_1 = variable-string-1

&symbolic_name_2 = variable-string-2

.

.

.

&symbolic_name_n = variable-string-n

specifies the default value for a symbolic parameter in the Process. This default can be overridden in the Submit command.

A null value can be specified if the equal sign (=) is immediately followed by a comma. Enclose a symbolic parameter string containing special characters in single quotation marks.

When specified on the Submit statement, this parameter override the value in the Process statement.

An ampersand symbolic parameter can be set to a single ampersand symbolic parameter that was resolved during the first Process submission. Do not use identical symbolic names.

SYSOPTS = ("[/run-option parameters/] [program-parameter] [program-parameter...]")

specifies the parameters passed to the new HP NonStop Process when it is created. Enclose the SYSOPTS string in either single or double quotation marks. Enclose any literal parameter values to be passed in single quotation marks. Enclose any symbolic values (&value) in double quotation marks.

Note: There is a limit of 256 characters to the SYSOPTS string. This includes the opening and closing quotation marks and the resolved values of any symbolics. SYSOPTS strings greater than 256 characters may cause an ABEND.

CPU n specifies the CPU where the newly created HP NonStop process will execute. Values range from 0-15 inclusive.

IN file specifies the name of the file containing the HP NonStop program parameters.

INSPECT [OFF | ON | SAVEABEND] specifies the debugging environment for the HP NonStop process being created. OFF selects the NonStop Kernel DEBUG debugging facility. ON and SAVEABEND select INSPECT as the debugger. SAVEABEND and ON function the same except that SAVEABEND creates a dump file if the program ends abnormally. The default is OFF.

LIB filename specifies a user library file of object routines to be searched prior to the system library file to satisfy external references in the executing program.

MEM n specifies the maximum number of virtual pages to allocate for the new HP NonStop process. Values range from 1-64 inclusive.

NAME specifies the name of the new HP NonStop process, where name is a 1-5 character alphanumeric string with the first character alphabetic.

If the new HP NonStop process name will be used across a network, the name must be in the form \$name, where name is a 1-4 character alphanumeric string.

OUT file specifies the name of the file where the output will be directed.

PRI n specifies the priority of the new HP NonStop process. Values range from 1-199 inclusive.

If this parameter is not specified, a priority is assigned by the program that creates the new HP NonStop process.

SWAP filename specifies the name of the file that will hold the virtual data for the new HP NonStop process. This parameter is for debugging purposes only.

TERM \$termname specifies the home terminal for the new HP NonStop process, where termname is an alphanumeric string. The first character is alphabetic.

VOL specifies the volume and subvolume where the PGM value can be found.

THEN

specifies subsequent processing to be performed if the condition specified is true.

TIMEOUT=n

specifies the number of minutes to attempt Process execution before the session is cancelled. The range is 1-32768 minutes (22 days and 18 hours).

TO

specifies the destination file characteristics.

(TO) DCB =([BLKSIZE = no.-bytes] [,DSORG = dsorg] [,KEYLEN = key-length] [,LRECL = no.-bytes] [,RECFM = record-format])

specifies attributes to be used in allocating destination. For destination files, these parameters override the DCB information provided in the source file at open time.

If you are transferring a text file without the DCB parameter specified, the file type on the HP NonStop node defaults to an unstructured file, code 101.

If you are transferring a binary file without the DCB parameter specified, the file type on the HP NonStop node defaults to an unstructured file, code 0.

For UNIX to HP NonStop copies: When copying files from UNIX to HP NonStop, use the DCB parameter to allocate destination files. Specify any additional options using the SYSOPTS parameter.

BLKSIZE specifies the length in bytes of the block. The minimum length is 512 bytes, and the maximum length is 4,096 bytes. All valid sizes are supported. If the value specified is not a standard value, it is rounded up to the next largest standard size or to the maximum length.

DSORG specifies the file organization. File organizations supported are U, R, E, and K. If no value is supplied, DSORG defaults to the file organization of the sending file. Also valid are the numerical representations of 0, 1, 2, and 3, respectively.

KEYLEN specifies the length of the keys used in a file. The maximum length in bytes is 255.

LRECL specifies the length in bytes of the record. The LRECL values for each supported HP NonStop file type for the DP1 and DP2 operating systems are listed in the previous table.

RECFM specifies the format of the records in the file. Any valid record format, such as F (Fixed), FB (Fixed Block), FBA (Fixed Block ANSI carriage control), U (Undefined), V (Variable), VB (Variable Block), VBA (Variable Block ASA printer control), VBM (Variable Block Machine code control character), and VBS (Variable Block Spanned), can be specified.

(TO) DISP = ([NEW | OLD | MOD | RPL | SHR], [KEEP | DELETE])

specifies the status of the data on the receiving node. Subparameters are as follows:

First Subparameter specifies the status of the file. Options for this subparameter are as follows:

- **NEW** specifies that the Process step will create the destination file. NEW is the default.
- **OLD** specifies that the destination file existed before the Process began executing and that the Process will have exclusive control of the file. If DISP=OLD, the destination file may be any HP NonStop disk file.
- **MOD** specifies that the Process step will modify the file by adding data to the end of the file. DISP=MOD is valid for file types K, R, E, and EDIT files. DISP=MOD is not valid for other unstructured files. When setting DISP=MOD for file types E and R, specify SYSOPTS="SET NO BLOCKIO".

When using checkpointing, DISP=MOD is required.

- **RPL** specifies that the destination file will replace any existing file or create a new file. If DISP=RPL and the file exists, the existing file attributes will be retained. Sterling Connect:Direct will not change existing file attributes.
- **SHR** specifies that the destination file existed before the Process began executing and that the file can be used simultaneously by another Process. The file is opened in shared access mode.

Second Subparameter is ignored and is indicated with a comma.

Third Subparameter specifies abnormal termination disposition. The KEEP/DELETE option is deactivated if checkpointing is specified. Sterling Connect:Direct must always KEEP the file to allow checkpointing to restart transmission from the last valid transmission point.

Valid destination file dispositions are as follows:

- **KEEP** specifies that the system will keep the file after the Process step is terminated abnormally. This is the default.
- **DELETE** specifies the system will delete the file when the Process step is terminated abnormally.

(TO) DSN | FILE

specifies the destination file name. DSN or FILE is invalid if you specify the IOEXIT parameter.

```
(TO) SYSOPTS =(
["SET TYPE [U | 0] | [R | 1] | [E | 2] | [K | 3]"]
["SET CODE file-code"]
["SET EXT (extent.size) | (pri.ext.size,sec.ext.size)"]
["SET REC record-length"
] ["SET BLOCK data-block-length"]
["SET [NO] COMPRESS"]
["SET [NO] DCOMPRESS"]
["SET [NO] ICOMPRESS"]
["SET KEYLEN key-length"]
["SET KEYOFF key-offset"]
["SET ALTKEY
 ( [key-specifier]
 [FILE key-file-number]
 [KEYLEN key-length]
```

```

[KEYOFF key-offset ]
[[NO] NULL]
[[NO] UNIQUE]
[[NO] UPDATE]
)"]
["SET ALTFILE key-file-number , filename"]
["SET [NO] ALTCREATE"]
["SET PART
 ( [sec.partition.num]
 [\system.name.$volume]
 [pri.ext.size]
 [sec.ext.size]
 [partial.key.value]
 )"]
["SET [NO] PARTONLY"]
["SET ODDUNSTR"]
["SET [NO] REFRESH"]
["SET [NO] AUDIT"]
["SET MAXEXTENTS maximum-extents"]
["SET BUFFERSIZE unstructured-buffer-size"]
["SET [NO] BUFFERED"]
["SET [NO] AUDITCOMPRESS"]
["SET [NO] VERIFIEDWRITES"]
["SET [NO] SERIALWRITES"]
["SET [NO] BLOCKIO"]
["SET [NO] LARGEIO"]
["SET FAST.LOAD Y"]
["SET FAST.LOAD.PRI priority"]
["SET FAST.LOAD.CPU cpu-number"]
["SET FAST.LOAD.SORTED Y"]
["SET XLATE ON | YES | OFF | NO | table-name"]
["SET FORMAT 0|1|2"]
)

```

specifies system operation parameters on the Copy statement. It is an alternative way of specifying file creation attributes. You can use HP NonStop File Utility Program (FUP) syntax to create HP NonStop-specific file options that are available through Sterling Sterling Connect:Direct syntax.

SYSOPTS are expressed as HP NonStop SET commands. There are two ways to express multiple SET command parameter:

- SET precedes each parameter. For example:

```
SYSOPTS=("SET parameter" "SET parameter" "SET parameter")
```

- SET precedes the first parameter, and commas separate subsequent parameters. For example:

```
SYSOPTS=("SET parameter, parameter, parameter")
```

Enclose each sysopts string in double quotation marks except when copying from Microsoft Windows to HP NonStop. For copies from Microsoft Windows to HP NonStop, enclose each SET parameter in single quotation marks and enclose the entire SYSOPTS string in double quotation marks. For example:

```
SYSOPTS=""SET parameter' 'SET parameter' 'SET parameter'"
```

Do not use continuation marks in the SYSOPTS parameter. Type the text in a continuous string, with blanks separating each subparameter.

For details on listed FUP SET commands, refer to the appropriate HP NonStop manual. The following commands are Sterling Connect:Direct for HP NonStop SET commands and are described only in the documentation set for Sterling Connect:Direct for HP NonStop: SET [NO] BLOCKIO, SET [NO] LARGEIO, SET XLATE, SET SPOOLER, SET FAST.LOAD Y, SET FAST.LOAD.PRI, SET FAST.LOAD CPU, SET FAST.LOAD.SORTED Y, and SET SPOOLNUM.

SET parameter commands define HP NonStop file attributes or special processing instructions for Sterling Connect:Direct for HP NonStop. The SET commands follow in alphabetical order.

[NO] ALTCREATE specifies whether automatic alternate-key files will be created. The default is ALTCREATE.

ALTFILE specifies the file number and file name of an alternate-key file. When using the SET ALTFILE or SET ALTKEY commands, the first key file number must be equal to zero (0).

- **key-file-number** is an integer from 0-255, inclusive.
- **filename** is the name of the alternate-key file for the key-file-number.

ALTKEY specifies an alternate key. When using the SET ALTFILE or SET ALTKEY commands, the first key file number must be equal to zero (0). Valid values are as follows:

- **key-specifier** is a 2-byte value that uniquely identifies the alternate-key field.
- **FILE** specifies the key file number. Valid entries range from 0-255. The default is 0.
- **KEYLEN** specifies the length of the key. This parameter is required for creating a key-sequenced file.
- **KEYOFF** specifies the offset for the key. The default is 0.
- **[NO] NULL** specifies the null value set for the key. Valid entries are an ASCII character in quotation marks or an integer ranging from 0-255. The default is NO NULL.
- **[NO] UNIQUE** specifies whether the key is unique. The default is NO UNIQUE.
- **[NO] UPDATE** specifies whether automatic updating is set for the alternate-key file. The default is UPDATE.

[NO] AUDIT specifies whether the file will be audited by the Transaction Monitoring Facility (TMF). The default is NO AUDIT.

[NO] AUDITCOMPRESS specifies whether auditing mode is to compress or generate entire before/after messages. The default is NO AUDITCOMPRESS.

BLOCK specifies the data block length. Values range from 1-4096. The default is 1024.

[NO] BLOCKIO specifies that Sterling Connect:Direct will perform its own block I/O for high performance. With BLOCKIO specified, data is transferred in blocks determined by the file block size, with a

4K-maximum block size. Specifying BLOCKIO or NO BLOCKIO in the SYSOPTS parameters overrides the setting in the initialization parameters file.

Improving I/O performance for entry-sequenced and relative files with alternate keys must be handled differently. The alternate key is not updated if BLOCKIO is activated unless a Run Task statement to run the FUP LOADALTFILE utility is added to the Process. FUP is then instructed to update the alternate keys for any alternate key files.

[NO] BUFFERED specifies the mode of handling write requests. To buffer write requests into the disk-process cache, specify BUFFERED. The default for audited files is BUFFERED. The default for nonaudited files is NO BUFFERED.

BUFFERSIZE specifies the size in bytes of the internal buffer used when accessing an unstructured file. Values range from 1-4096. The default is 4096.

CODE specifies the file code. Values range from 0-65,535. Codes 100-999 are used exclusively by the system. The default is 0.

[NO] COMPRESS specifies whether keys will be compressed in both index and data blocks. In data blocks, the key offset must be 0, and the maximum record size will be reduced by 1 byte. The default is NO COMPRESS.

[NO] DCOMPRESS specifies whether keys will be compressed in data blocks. The key offset must be 0, and the maximum record size will be reduced by 1 byte. The default is NO DCOMPRESS.

[NO] ICOMPRESS specifies whether keys will be compressed in index blocks. The default is NO ICOMPRESS.

EXT specifies the size of the extents. Valid values are as follows:

- **extent.size** specifies the extent size. The default is 10.
- **pri.ext.size , sec.ext.size** specifies the sizes of the primary and secondary extents. The default is 10.

FAST.LOAD Y indicates that the FASTLOAD facility be used. FASTLOAD is a function that can reduce disk I/O overhead and is used when the HP NonStop node is the destination. With FASTLOAD, the Sterling Connect:Direct for HP NonStop system passes data through the SPI interface to FUP to load into a destination data file. The feature is particularly useful for key-sequenced files, although FASTLOAD is also supported for entry-sequenced and relative record files. Because edit files are unstructured, they cannot be loaded with the FASTLOAD feature.

FAST.LOAD.PRI <priority> sets FASTLOAD and specifies the priority to run FUP. Valid values for priority range from 1-199. The default priority is the priority of the session manager (NDMSMGR). It is recommended to set this priority higher than that for NDMSMGR.

FAST.LOAD.CPU <cpu number> sets FASTLOAD and specifies the CPU to use to run FUP. Valid values for the CPU number range from 0-15. The default CPU is the CPU of the session manager (NDMSMGR).

FAST.LOAD.SORTED Y sets FASTLOAD and indicates to FUP that the data is sorted. This option (valid only for key-sequenced files) bypasses invocation of FASTSORT by FUP. The default is NO; that is, the data is not assumed to be sorted and FASTSORT is called.

SET FORMAT indicates what file format is used when the file is created. The **FORMAT** parameter applies only to HP NonStop files, when receiving, and the file is being created **NEW**. It is not used in a non-HP NonStop data set definition, when sending a file from HP NonStop, or when overwriting an existing file on a HP NonStop computer.

- **0** directs the Enscribe File System to set the format based on the space requested when the file is created. This is the default value.
- **1** requests that a Format 1 file be created. If the space requested is greater than the space supported by a Format 1 file, a file creation error occurs.
- **2** requests that a Format 2 file be created.

KEYLEN specifies the primary-key length. Values range from 1-255. **KEYLEN** must be specified to create key-sequenced files.

KEYOFF specifies the primary-key offset. Values range from 0-2034. The default is 0.

[NO] LARGEIO specifies the transfer of data in blocks of 28K. Specifying **LARGEIO** or **NO LARGEIO** in the **SYSOPTS** parameters overrides the setting in the initialization parameters file.

Improving I/O performance for entry-sequenced and relative files with alternate keys must be handled differently. The alternate keys are not updated if **LARGEIO** is activated unless a Run Task statement to run the **FUP LOADALTFILE** utility is added to the Process. **FUP** would then be instructed to update the alternate keys for any alternate key files.

MAXEXTENTS specifies the maximum number of extents for the file. Values range from 16-n, where n is the maximum value determined by the amount of free space remaining in the file label. The default is 16, and the maximum value allowed is 978. For partitioned files, this value is always 16.

ODDUNSTR specifies that no upward rounding of an odd byte count will occur.

PART specifies secondary partition specifications for partitioned files. Valid values are as follows:

- **sec.partition.num** specifies the name of the volume where this secondary partition will reside. Values range from 1-15.
- **\system.name.\$volume** specifies the names of the system and volume to contain the partition.
- **pri.ext.size** specifies the primary extent size. The default is 1.
- **sec.ext.size** specifies the secondary extent size. The default is 1.
- **partial.key.value** specifies the lowest key value that can reside in this partition. This value is only for key-sequenced files. Valid entries include a string of characters enclosed in double quotation marks; a list of single characters, each enclosed in double quotation marks and separated by commas; and integers representing byte values, ranging from 0-255, and separated by commas.

[NO] PARTONLY specifies whether subsequent file creations will create all partitions of a partitioned file or only a single partition. The default is **NO PARTONLY**.

REC specifies the length of the records. For relative and entry-sequenced files, values range from 1-4072. For DP1 key-sequenced files, values range

from 1-2035. For DP2 key-sequenced files, values range from 1-4062. The default is 80. REC is not valid if the destination file is unstructured.

[NO] REFRESH specifies whether the file label will be automatically copied to disk each time the file control block is marked as dirty. The default is NO REFRESH.

[NO] SERIALWRITES specifies whether serial or parallel mirror writes will occur at file open. The default is NO SERIALWRITES, which will result in parallel mirror writes at file open.

TYPE specifies the file type. Values include:

- Use **U** or **0** for an unstructured file.
- Use **R** or **1** for a relative record file.
- Use **E** or **2** for an entry-sequenced file.
- Use **K** or **3** for a key-sequenced file.

[NO] VERIFIEDWRITES specifies whether disk writes will be verified. The default is NO VERIFIEDWRITES.

XLATE indicates whether the file being transferred will be converted from either ASCII to EBCDIC or EBCDIC to ASCII.

If XLATE ON or XLATE YES is specified or the file being copied is a spooler file or an edit file (unstructured file, code 101), Sterling Connect:Direct for HP NonStop will check the XLFILE for a table named DEFAULT. If the DEFAULT table is not in XLFILE, then Sterling Connect:Direct for HP NonStop will use the standard English language ASCII/EBCDIC table as defined by HP NonStop.

For spooler or edit files: If the file being copied is a spooler file or an edit file (unstructured file, code 101), XLATE does not need to be specified because these files are automatically translated.

- **ON | YES** specifies whether text will be converted from either ASCII to EBCDIC or EBCDIC to ASCII, depending upon the copy direction.
- **OFF | NO** ensures that text conversion does not occur during file transfer.
- **table-name** is a 1-8 character name of a user-defined translation table. See the *IBM Sterling Connect:Direct for HP NonStop Administration Guide* for further details on user-defined translation tables.

(TO) SYSOPTS = "SET XLATE ON | YES | OFF | NO | table-name" ["SET DATATYPE ASCII | BINARY"]

specifies system operation parameters on OSS disk and tape file copies. It is an alternative way of specifying file creation attributes.

You can use HP NonStop File Utility Program (FUP) syntax to create HP NonStop-specific file options that are available through Sterling Connect:Direct syntax.

SYSOPTS are expressed as HP NonStop SET commands. There are two ways to express multiple SET command parameter:

- SET precedes each parameter. For example:

```
SYSOPTS=("SET parameter" "SET parameter" "SET parameter")
```

- SET precedes the first parameter, and commas separate subsequent parameters. For example:

```
SYSOPTS=("SET parameter, parameter, parameter")
```

Enclose each sysopts string in double quotation marks except when copying from Microsoft Windows to HP NonStop. For copies from Microsoft Windows to HP NonStop, enclose each SET parameter in single quotation marks and enclose the entire SYSOPTS string in double quotation marks. For example:

```
SYSOPTS="'SET parameter' 'SET parameter' 'SET parameter'"
```

Do not use continuation marks in the SYSOPTS parameter. Type the text in a continuous string, with blanks separating each subparameter.

For details on listed FUP SET commands, refer to the appropriate HP NonStop manual. The following commands are Sterling Connect:Direct for HP NonStop SET commands and are described only in the documentation set for Sterling Connect:Direct for HP NonStop: SET [NO] BLOCKIO, SET [NO] LARGEIO, SET XLATE, SET SPOOLER, SET FAST.LOAD Y, SET FAST.LOAD.PRI, SET FAST.LOAD CPU, SET FAST.LOAD.SORTED Y, and SET SPOOLNUM.

SET parameter commands define HP NonStop file attributes or special processing instructions for Sterling Connect:Direct for HP NonStop. The SET commands follow in alphabetical order.

XLATE indicates whether the file being transferred will be converted from either ASCII to EBCDIC or EBCDIC to ASCII.

If XLATE ON or XLATE YES is specified or the file being copied is a spooler file or an edit file (unstructured file, code 101), Sterling Connect:Direct for HP NonStop will check the XLFILE for a table named DEFAULT. If the DEFAULT table is not in XLFILE, then Sterling Connect:Direct for HP NonStop will use the standard English language ASCII/EBCDIC table as defined by HP NonStop.

If the file being copied is a spooler file or an edit file (unstructured file, code 101), XLATE does not need to be specified because these files are automatically translated.

- **ON | YES** specifies whether text will be converted from either ASCII to EBCDIC or EBCDIC to ASCII, depending upon the copy direction.
- **OFF | NO** ensures that text conversion does not occur during file transfer.
- **table-name** is a 1-8 character name of a user-defined translation table. See the *IBM Sterling Connect:Direct for HP NonStop Administration Guide* for further details on user-defined translation tables.

SET DATATYPE specifies whether the source file being transferred is in ASCII or BINARY format.

To successfully transfer binary files from an OSS files system to either UNIX or Microsoft Windows, specify BINARY as the datatype.

(TO) SYSOPTS = ["SET SPOOLER \$spooler-name"]

specifies system operation parameters on spooler job copies. It is an alternative way of specifying file creation attributes.

SET parameter commands define HP NonStop file attributes or special processing instructions for Sterling Connect:Direct for HP NonStop.

SPOOLER specifies the spooler supervisor process name used to transfer a file between the spooler and another node. The default is \$SPLS. The symbol \$ must precede specified spooler supervisor names.

If only the spooler supervisor name is specified and multiple instances of a spooler file name are in the spooler, the Sterling Connect:Direct system accesses the job with the highest job number corresponding to the given filename in the READY state.

TYPE = typekey

specifies the entry in the type defaults file containing the file attribute defaults used to open the destination file. This type key is specified only when defaults are requested by the user.

Chapter 2. i5/OS Statements and Parameters

Sterling Connect:Direct for i5/OS Process Statements

Sterling Connect:Direct for i5/OS uses CL commands instead of the Sterling Connect:Direct Process language to initiate Processes using LU6.2 or TCP/IP sessions to remote Sterling Connect:Direct nodes. The Sterling Connect:Direct for i5/OS statements are used in Processes where Sterling Connect:Direct for i5/OS is the remote node.

Sterling Connect:Direct for z/OS, VSE, VM, and HP NonStop users can submit Processes to connect to Sterling Connect:Direct for i5/OS using SNA LU0 sessions. Sterling Connect:Direct for z/OS, VM, UNIX, VSE, and Microsoft Windows users can submit Sterling Connect:Direct Processes to initiate SNA LU6.2 independent or dependent LU sessions. Sterling Connect:Direct for z/OS, VSE, OpenVMS, HP NonStop, UNIX, and Microsoft Windows users can submit Processes to connect to Sterling Connect:Direct for i5/OS using TCP/IP.

When writing a Process for a platform, use the PROCESS, SYMBOL, and conditional statements for that operating environment. Use the COPY FROM and COPY TO formats from the appropriate FROM and TO platforms. Use the RUN JOB and RUN TASK format of the platform on which the job will execute. For example, to run a program on z/OS, you will use the RUN JOB statement for Sterling Connect:Direct for z/OS.

Sterling Connect:Direct for i5/OS CL commands are used to initiate connections to remote nodes running Sterling Connect:Direct using LU6.2 sessions or TCP/IP. See the *IBM Sterling Connect:Direct for i5/OS User's Guide* for a description of CL commands, their syntax and parameters.

Sterling Connect:Direct for i5/OS Copy Files Statement

The Sterling Connect:Direct for i5/OS COPY statement is used in a Process initiated on a non-i5/OS node to copy files, members, objects, and spooled files to or from an i5/OS node.

The COPY statement consists of a COPY FROM clause that specifies the source object name and a COPY TO clause that specifies the destination object name. You can specify additional parameters to customize the file transfer operation.

Use the file format to copy a physical database file to and from a Sterling Connect:Direct for i5/OS node.

Refer to Sterling Connect:Direct for i5/OS File Support for guidelines when copying files in Sterling Connect:Direct for i5/OS.

Note: z/OS member naming conventions can have unexpected results when you copy a file from i5/OS to z/OS. Refer to Member Name Length in Sterling Connect:Direct for i5/OS Copy to z/OS for more information.

The PROCESS statement defines the attributes of a Process and is always the first statement in a Process.

The following is the Sterling Connect:Direct for i5/OS Copy-Files statement format. Refer to Sterling Connect:Direct for i5/OS Process Parameters for more information.

Label	Statement	Parameters	
stepname	COPY	FROM	(
			DSN='library-name/file-name' ` /directory/file-name' ` /QLANSrv/file-name' ` /QDLS/folder-name' ` /QOpenSys/file-name'
			SYSOPTS="TYPE(FILE)
			PRECMPR (*YES *NO)
			EXITCMD(valid i5/OS command)
			FAILCMD(valid i5/OS command)
			SNDFFD(*YES *NO)
			TEXTFILE(*YES *NO)
			EORCHAR(xxxx)
			CCSID(nnnnn)
			CODEPAGE(from code set, to Unicode set)
			XTRAN (table-name)
			[XTRANLSO (so-code) XTRANLSI (si-code) XTRANLDATA (MIXED DBCS)]"
			DISP=([SHR OLD] , [KEEP DELETE] , [KEEP DELETE])
			EXCLUDE=(generic member (start-range/stop-range) list)
			REPLACE NOREPLACE
			SELECT=(member generic (*)) (member, [new-name], [NR R]) generic,, [NR R])
			(start-range/stop-range,, [NR R]) (list)
)
		TO	(
			DSN='library-name/file-name' ` /directory/file-name' ` /QLANSrv/file-name' ` /QDLS/folder-name' ` /QOpenSys/file-name'
			SNODE (remote-node-name)

Label	Statement	Parameters
		SYSOPTS="TYPE(FILE) DECMPR (*YES *NO) EXITCMD(valid i5/OS command) FAILCMD(valid i5/OS command) TEXTFILE(*YES *NO) EORCHAR(xxxx) CCSID(nnnnn) CODEPAGE(from Unicode set, to code set) RCDLEN(record-length) FILETYPE(*SRC *DATA) TEXT('text-description') EXPDATE(expiration-date) MAXMBRS(number *NOMAX) SIZE(#-of-recs incr-value#-of-incrs *NOMAX) AUT(*CHANGE *ALL *USE *EXCLUDE) IGCDTA(*YES *NO)"
		DISP=([NEW OLD MOD RPL SHR])
		UNIT=(unit-identifier)
)
		CKPTINV=[nnnnnnn nnnnnnK nnnnnnM]
		COMPRESS [[PRIMEchar =X`xx' X`40' C`cc'] EXTended = ECCLEVEL(n), ECWINSIZE(n), ECMEMLEVEL(n) Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

Sterling Connect:Direct for i5/OS Copy Members Statement

The Sterling Connect:Direct for i5/OS COPY statement is used in a Process initiated on a non-i5/OS node to copy files, members, objects, and spooled files to or from an i5/OS node.

The COPY statement consists of a COPY FROM clause that specifies the source object name and a COPY TO clause that specifies the destination object name. You can specify additional parameters to customize the file transfer operation.

Use this format to copy a physical database file member to and from a Sterling Connect:Direct for i5/OS node.

The following is the Sterling Connect:Direct for i5/OS Members statement format. Refer to Sterling Connect:Direct for i5/OS Process Parameters for more information.

Label	Statement	Parameters	
stepname	COPY	FROM	(
			DSN='library-name/file-name' `library-name/file-name(member-name)' `/QSYS.LIB/library-name.LIB'/ file-name.FILE/member-name.MBR'
			SYSOPTS="TYPE(MBR) PRECMPR (*YES *NO) EXITCMD(valid i5/OS command) FAILCMD(valid i5/OS command) SNDFFD(*YES *NO) TEXTFILE(*YES *NO) CODEPAGE(from code set, to Unicode set) XTRAN (table-name) [XTRANLSO (so-code) XTRANLSI (si-code) XTRANLDATA (MIXED DBCS)]"
			DISP=([SHR OLD] ,[KEEP DELETE] ,[KEEP DELETE])
)
		TO	(
			DSN='library-name/file-name' `library-name/file-name(member-name)' `/QSYS.LIB/library-name.LIB/ file-name.FILE/member-name.MBR'
			SNODE

Label	Statement	Parameters
		SYSOPTS="TYPE(MBR) DECMPR (*YES *NO) EXITCMD(valid i5/OS command) FAILCMD(valid i5/OS command) TEXTFILE(*YES *NO) CODEPAGE(from Unicode set, to code set) RCDLEN(record-length) FILETYPE(*SRC *DATA) TEXT('text-description') EXPDATE(expiration-date) MAXMBRS(number *NOMAX) SIZE(#-of-recs incr-value#-of-incrs *NOMAX) AUT(*CHANGE *ALL *USE *EXCLUDE) IGCDA(*YES *NO)"
		DISP=([NEW OLD MOD RPL SHR])
		UNIT=(unit-identifier)
)
		CKPTINV=[nnnnnnn nnnnnnK nnnnnnM]
		COMPRESS [[PRIMEchar = X'xx' X'40' C'cc'] EXTended = ECCLEVEL(n), ECWINSIZE(n), ECMEMLEVEL(n) Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

Sterling Connect:Direct for i5/OS Copy Objects Statement

The Sterling Connect:Direct for i5/OS COPY statement is used in a Process initiated on a non-i5/OS node to copy files, members, objects, and spooled files to or from an i5/OS node.

The COPY statement consists of a COPY FROM clause that specifies the source object name and a COPY TO clause that specifies the destination object name. You can specify additional parameters to customize the file transfer operation.

Use this format to copy one or more objects to and from a Sterling Connect:Direct for i5/OS node. The object must be in save file format on the i5/OS prior to copying. You can view the save file information by displaying the save files on the i5/OS.

The following is the Sterling Connect:Direct for i5/OS Copy Objects statement format. Refer to Sterling Connect:Direct for i5/OS Process Parameters for more information.

Label	Statement	Parameters	
stepname	COPY	FROM	(
			DSN=`library-name/save-file-name'
			SNODE
			SYSOPTS="TYPE(OBJ)
			EXITCMD(valid i5/OS command)
			FAILCMD(valid i5/OS command)
			DISP=([SHR OLD] , [KEEP DELETE] , [KEEP DELETE])
)
		TO	(
			DSN=`library-name/save-file-name'
			SNODE
			SYSOPTS="TYPE(OBJ)
			EXITCMD(valid i5/OS command)
			FAILCMD(valid i5/OS command)
			MAXRCDS(number *NOMAX)
			ASP(auxiliary-storage-pool)
			TEXT('text-description')
			AUT(*EXCLUDE *CHANGE *ALL *USE)"
			DISP=([NEW OLD MOD RPL SHR])
)
			COMPRESS [[PRIMEchar = X`xx' X`40' C`cc'] EXTended = ECCLEVEL(n), ECWINSIZE(n), ECMEMLEVEL(n) Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

Sterling Connect:Direct for i5/OS Copy Spooled Files Statement

The Sterling Connect:Direct for i5/OS COPY statement is used in a Process initiated on a non-i5/OS node to copy files, members, objects, and spooled files to or from an i5/OS node.

This format is used to copy to a spooled file on a Sterling Connect:Direct for i5/OS node. There is no FROM clause.

The following is the Sterling Connect:Direct for i5/OS Copy-Spooled Files statement format. Refer to Sterling Connect:Direct for i5/OS Process Parameters for more information.

Label	Statement	Parameters	
stepname	COPY	FROM	(
			DSN=`library-name/save-file-name'

Label	Statement	Parameters
		SNODE
		SYSOPTS="TYPE(OBJ)
		EXITCMD(valid i5/OS command)
		FAILCMD(valid i5/OS command)
		DISP=([SHR OLD] ,[KEEP DELETE] ,[KEEP DELETE])
)
	TO	(
		DSN='library-name/save-file-name'
		SNODE
		SYSOPTS="TYPE(OBJ)
		EXITCMD(valid i5/OS command)
		FAILCMD(valid i5/OS command)
		MAXRCDS(number *NOMAX)
		ASP(auxiliary-storage-pool)
		TEXT('text-description')
		AUT(*EXCLUDE *CHANGE *ALL *USE)"
		DISP=([NEW OLD MOD RPL SHR])
)
		COMPRESS [[PRIMEchar = X'xx' X'40' C'cc'] EXTended = ECCLEVEL(n), ECWINSIZE(n), ECMEMLEVEL(n) Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

Sterling Connect:Direct for i5/OS File Support

A file is an object that contains a set of related records grouped as members. A file must have one or more members.

When copying a file to or from a Sterling Connect:Direct for i5/OS node, you can specify whether:

- To send an entire file.
- To send one specific file member.
- To select certain members for transmission (with the SELECT parameter).
- To exclude certain members from transmission (with the EXCLUDE parameter).
- To rename a member (with the NEWNAME parameter).
- To replace existing members of the same name at the receiving node (with the REPLACE and NOREPLACE parameters, or the R and NR subparameters of the SELECT parameter).

Use the following guidelines when copying a file:

- You cannot use EXCLUDE and SELECT if the FROM DSN or TO DSN contains a member name.
- The hierarchy for the SELECT and EXCLUDE parameters from highest override priority to lowest, is:
 - Exclude by member name
 - Select by member name
 - Exclude by generic (or range)
 - Select by generic (or range)
 - Combine various specifications in a list after the EXCLUDE parameter
- If you specify EXCLUDE and do not specify SELECT, all members not excluded are copied. If you do not specify EXCLUDE and specify SELECT, only selected members are copied.
- When copying to a file, all members are sent unless one of the following conditions exists:
 - The SELECT option is specified.
 - The EXCLUDE option is specified.
 - A member name is specified.

Member Name Length in Sterling Connect:Direct for i5/OS Copy to z/OS

i5/OS allows 10-character member names. z/OS only allows 8-character member names. When you copy a file from a Sterling Connect:Direct for i5/OS node to a PDS on a Sterling Connect:Direct for z/OS node, the ninth and tenth characters of the member name are dropped on z/OS.

This can have unwanted results with members whose names have the same first eight characters. For example:

Name of Member	Creation Date
membrnamea	08/11/91
membrnameb	08/01/91

Both member names will be truncated to membrnam on z/OS. The first member name is written to z/OS. The second membrnam will overwrite the previous membrnam, unless NO REPLACE (NR) is specified.

Sterling Connect:Direct for i5/OS Run Job Statement

The Sterling Connect:Direct for i5/OS RUN JOB statement is used in a non-i5/OS Process to execute i5/OS CL commands on a remote Sterling Connect:Direct for i5/OS node. The i5/OS CL command is submitted to the i5/OS to run as a separate job through the SBMJOB command. The Process does not wait until the i5/OS command finishes before executing the next step in the Process.

The RUN JOB execution results in a return code but Sterling Connect:Direct does not verify the execution of the CL commands.

The following is the Sterling Connect:Direct for i5/OS Run Job statement format. Refer to Sterling Connect:Direct for i5/OS Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN JOB	(DSN=AS400)
		SYSOPTS="cmd(CL command)"
		SNODE

Sterling Connect:Direct for i5/OS Run Task Statement

The Sterling Connect:Direct for i5/OS RUN TASK statement is used in a non-i5/OS Process to execute i5/OS CL commands on a remote Sterling Connect:Direct for i5/OS node. Possible uses include:

- Calling programs before or after copying files (CALL command)
- Submitting jobs before or after copying files (SBMJOB command)
- Creating save files prior to transport (CRTSAVF and SAVxxx commands)
- Restoring save files after transport (RSTxxx command)
- Sending notification to a user on the Sterling Connect:Direct for i5/OS node (SNDBRKMSG, SNDMSG, or an equivalent command)

The following is the Sterling Connect:Direct for i5/OS Run Task statement format. Refer to Sterling Connect:Direct for i5/OS Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN TASK	(PGM=AS400)
		SNODE
		SYSOPTS = "string"

Sterling Connect:Direct for i5/OS Process Parameters

CKPTINV = [nnnnnnn | nnnnnnK | nnnnnnM]

specifies the number of bytes, from 0 to 2 gigabytes, to send before taking a checkpoint. The format is nnnnnnn, nnnnnnK, or nnnnnnM, where K specifies thousands of bytes and M specifies millions of bytes. A value of 0 specifies no checkpoint.

A checkpoint interval specified here overrides the initialization parameter default value.

Checkpointing will not 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 (TO) SYSOPTS parameter has DECMPR(*NO) specified.
- A compressed file is sent and decompressed by the receiving node during the send operation. That is, the (FROM) SYSOPTS has PRECMPR(*YES) specified and (TO) SYSOPTS has DECMPR(*YES) specified.
- 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.

COMPRESS [[PRIMEchar = X'xx' | X'40' | C'cc'] | EXTended = ECCLEVEL(n), ECWINSIZE(n), ECMEMLEVEL(n)]

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. The default for the COMPRESS parameter is PRIMEchar=X'40'.

Note: Compression is CPU-intensive and its effectiveness is data dependent. It should only be used if its benefits are known.

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 1 byte.
- Repetitive occurrences (ranging from 3-63) of any other character are compressed to 2 bytes.

Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

PRIMEchar specifies the primary compression character. The default value for PRIMEchar is a blank (X'40').

EXTended 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 and data is repetitive.

ECCLEVEL(n) specifies the extended compression level, which affects how much CPU the extended compression routines will 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 specified in the initialization parameter.

ECCLEVEL(n) specifies the extended compression level, which affects how much CPU the extended compression routines will 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 specified in the initialization parameter.

ECWINSIZE(n) 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 will 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 specified in the initialization parameter.

ECMEMLEVEL(n) 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 will 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 specified in the initialization parameter.

COPY

identifies the COPY statement.

DSN = AS400

is required when submitting a Process with RUN JOB from z/OS that executes commands on i5/OS. This parameter is used to satisfy syntax requirements on the z/OS node. In this case, both SYSOPTS and DSN are required. Specify the value for this parameter in uppercase characters. This parameter is required.

EXCLUDE = (generic | member | (start-range/stop-range) | list)

specifies criteria that identifies the file members that are not to be copied. The EXCLUDE parameter can be specified only in the FROM clause of the COPY statement. EXCLUDE allows the user to make exceptions to members specified generically or by range in the SELECT option.

generic specifies a generic member name. For example, if CD0* is specified, all member names beginning with CD0 are excluded. The only way to override an excluded generic is to specify an individual member name in the SELECT parameter.

member specifies an individual member name. When a member is specified in the EXCLUDE parameter, its exclusion cannot be overridden.

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 (*). A slash (/) separates the first (start-range) and last (stop-range) member names. When used with the EXCLUDE statement, the first and last members specified in the range, as well as all members between, are not copied.

stop-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 (*). A slash (/) separates the first (start-range) and last (stop-range) member names. When used with the EXCLUDE statement, the first and last members specified in the range, as well as all members between, are not copied.

Note: The only way to override an excluded range is to specify an individual member name in the SELECT parameter.

list specifies a list of member names.

FROM

specifies that the subsequent parameters and subparameters define the source object characteristics. This parameter is required.

(FROM) DISP = ([SHR | OLD] ,[KEEP | DELETE] ,[KEEP | DELETE])

specifies the status of the file and what is to be done with the file after notification of successful or unsuccessful transmission. Subparameters are as follows:

First Subparameter specifies the status of the object. Options for this subparameter are as follows:

- **SHR** specifies that the member can be read simultaneously by another job or Process. The default is SHR.
- **OLD** specifies that the Process is to be given exclusive control of the file.

Second Subparameter specifies the disposition of the file following a normal Process step termination, resulting in a zero completion code. Valid dispositions are as follows:

- **KEEP** specifies that the system keeps the member after the Process step ends.
- **DELETE** specifies that the system deletes the member after the Process step ends.

Third Subparameter specifies the disposition of the file after an abnormal Process step termination, resulting in a nonzero completion code. Valid source file dispositions are as follows:

- **KEEP** specifies that the system keeps the member after the Process step terminates abnormally.
- **DELETE** specifies the system deletes the member if the Process step terminates abnormally.

(FROM) DSN='library-name/file-name' | 'directory/file-name' | '/QLANSrv/file-name' | '/QDLS/folder-name' | '/QOpenSys/file-name'

specifies the source name. File names are verified by the i5/OS standard file name conventions. The entire DSN must be in single quotation marks. This parameter is required.

'library-name/file-name' specifies the library and file name to be copied using the native file system.

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

Directories like /QOpenSys and /root are case-sensitive.

(FROM) DSN = 'library-name/file-name' | 'library-name/file-name(member-name)' | /QSYS.LIB/library-name.LIB/file-name.FILE/member-name.MBR'

specifies the source member name. Member names are verified based on the i5/OS standard name conventions. The entire DSN must be in single quotation marks. This parameter is required.

'library-name/file-name' specifies the library and file name of the member to be copied. The file name is used as the member name.

'library-name/file-name(member-name)' specifies the library, file, and member name of the member to be copied. The member name is only required if it is different from the file name.

'/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.

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

(FROM) REPLACE | NOREPLACE

specifies that members of a sending file replace or do not replace existing members of the same name at the receiving file.

REPLACE specifies that members of the sending file replace members of the same name at the receiving file. REPLACE is the default.

NOREPLACE specifies that members of the sending file do not replace members of the same name at the receiving file. The NOREPLACE parameter takes effect only when copying from a file to a file. Note that NOREPLACE applies to an entire file as opposed to the NR option of the SELECT parameter, which applies to members within a file.

(FROM) DSN = 'library-name/save-file-name'

specifies the source save file name. File names are verified based on the i5/OS standard file name conventions. This parameter is required.

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

(FROM) SYSOPTS = "TYPE(FILE)

PRECMPR(*YES | *NO)

EXITCMD(valid i5/OS command)

FAILCMD(valid i5/OS command)

SNDDFD(*YES | *NO)

TEXTFILE(*YES | *NO)

EORCHAR(xxxx) CCSID(nnnnn)

CODEPAGE(from code set, to Unicode set)

XTRAN (table-name)

[XTRANLSO (so-code) | XTRANLSI (si-code) | XTRANLDATA (MIXED | DBCS)]"

specifies system operation parameters on the Sterling Connect:Direct for i5/OS COPY statement. The maximum number of characters for SYSOPTS is 256. This parameter is required.

Enclose all SYSOPTS parameter values in parentheses. Enclose the entire SYSOPTS string in double quotation marks. Separate subparameters with blanks. For example:

```
SYSOPTS="TYPE(FILE) PRECMPR(*YES) XTRAN(EBCXKSC) XTRANLDATA(MIXED)"
```

TYPE(FILE) specifies that the file being copied is a physical database file or an IFS file. **File** is the default.

PRECMPR(*YES | *NO) specifies whether the file being sent has previously been compressed using the CDCOMP command. To send a file that has been compressed, you must specify the **PRECMPR(*YES)** parameter with the CDSND command. The default is **PRECMPR(*NO)**.

EXITCMD(valid i5/OS command) specifies a command to be executed only if the copy process is successful. This parameter is only valid when the sender is running Sterling Connect:Direct for i5/OS Version 3.3 or later.

FAILCMD(valid i5/OS command) specifies a command to be executed only if the copy process is not successful. This parameter is only valid when the sender is running Sterling Connect:Direct for i5/OS Version 3.3 or later.

SNDDFD(*YES | *NO) specifies whether the sending node will transfer file field descriptions. You cannot use this parameter with the integrated file system. ***NO** is the default.

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 8100, you cannot transfer the file field descriptions.

$$(24 \times \text{number of keys}) + (92 \times \text{number of fields}) + 256 = \text{bytes required}$$

TEXTFILE(*YES | *NO) specifies whether the file being sent is a text file. Specify TEXTFILE(YES) if you need to add or remove end of record characters, such as CRLF. This keyword is for the i5/OS only. **NO** is the default.

EORCHAR(xxxx) is the hex value of the end of record character. Specify this parameter if the EOR is not CRLF, for example, 0D or 0D25

CCSID(nnnnn) specifies the value for the character code set if the IFS file has a specific CCS that is not the system/job default, for example, CCSID(1252). Must be used for text files.

CODEPAGE(from code set, to Unicode set) invokes code set conversion utilities, for example, from ASCII to EBCDIC would be CODEPAGE(1252,37).

from code set is the name of the set of the original data set and is required.

to Unicode set is the name of the code set on the local node that will be used as the intermediate conversion format. The code set name is required and can be UTF-8 or UCS-2, or their equivalent on other operating systems. For example, 1208 is the UTF-8 equivalent on the i5/OS system.

The code set specifications are only validated for basic syntax. An invalid code set specification will produce an error message on the node attempting conversion.

A code set value of LOCALE specifies the default code set for the node performing conversion.

Note: The EORCHAR, CCSID, and CODEPAGE parameters are valid when using Sterling Connect:Direct for i5/OS Version 3.5 or later.

XTRAN(table-name) specifies the extended 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 COPY step fails.

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

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

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

XTRANLDATA (MIXED | DBCS) specifies extended translate local data format.

- **MIXED** indicates that the data may 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.

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)

When sending a file from the i5/OS, you are required to specify a binary transfer on the receiving node. See the COPY statement for the appropriate receiving node for instructions on specifying a binary transfer.

(FROM) SYSOPTS = "TYPE(MBR)
PRECMPR (*YES | *NO)
EXITCMD(valid i5/OS command)
FAILCMD(valid i5/OS command)
SNDDFD(*YES | *NO)
TEXTFILE(*YES | *NO)
CODEPAGE(from code set, to Unicode set)
XTRAN (table-name)
[XTRANLSO (so-code) | XTRANLSI (si-code) | XTRANLDATA (MIXED |
DBCS)]

specifies system operation parameters on the Sterling Connect:Direct for i5/OS COPY statement. The maximum number of characters for SYSOPTS is 256. This parameter is required.

Enclose all SYSOPTS parameter values in parentheses. Enclose the entire SYSOPTS string in double quotation marks. Separate subparameters with blanks. For example:

```
SYSOPTS="TYPE(FILE) PRECMPR(*YES) XTRAN(EBCXKSC) XTRANLDATA(MIXED)"
```

TYPE(MBR) specifies that the data being copied is a member of a physical database file.

PRECMPR(*YES | *NO) specifies whether the file being sent has previously been compressed using the CDCOMP command. To send a file that has been compressed, you must specify the PRECMPR(*YES) parameter with the CDSND command. The default is PRECMPR(*NO).

EXITCMD(valid i5/OS command) specifies a command to be executed only if the copy process is successful. This parameter is only valid when the sender is running Sterling Connect:Direct for i5/OS Version 3.3 or later.

FAILCMD(valid i5/OS command) specifies a command to be executed only if the copy process is not successful. This parameter is only valid when the sender is running Sterling Connect:Direct for i5/OS Version 3.3 or later.

SNDDFD(*YES | *NO) specifies whether the sending node will transfer file field descriptions. You cannot use this parameter with the integrated file system. **NO** is the default.

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 8100, you cannot transfer the file field descriptions.

```
(24 x number of keys) + (92 x number of fields) + 256 = bytes required
```

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

CODEPAGE(from code set, to Unicode set) invokes code set conversion utilities, for example, from ASCII to EBCDIC would be **CODEPAGE(1252,37)**.

from code set is the name of the set of the original data set and is required.

to Unicode set is the name of the code set on the local node that will be used as the intermediate conversion format. The code set name is required and can be UTF-8 or UCS-2, or their equivalent on other operating systems. For example, 1208 is the UTF-8 equivalent on the i5/OS system.

The code set specifications are only validated for basic syntax. An invalid code set specification will produce an error message on the node attempting conversion.

A code set value of **LOCALE** specifies the default code set for the node performing conversion.

Note: The **CODEPAGE** parameter is valid when using Sterling Connect:Direct for i5/OS Version 3.5 or later.

XTRAN(table-name) specifies the extended 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 **COPY** step fails.

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

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

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

XTRANLDATA (MIXED | DBCS) specifies extended translate local data format.

- **MIXED** indicates that the data may 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.

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 **PRECMR(*YES)** or **DECMR(*NO)**

When sending a member from the i5/OS, you are required to specify a binary transfer on the receiving node. See the **COPY** statement for the appropriate receiving node for instructions on specifying a binary transfer.

(FROM) SYSOPTS = "TYPE(OBJ)"
EXITCMD(valid i5/OS command)

FAILCMD(valid i5/OS command)

specifies system operation parameters on the Sterling Connect:Direct for i5/OS COPY statement. The maximum number of characters permitted for SYSOPTS is 256. This parameter is required.

Enclose all SYSOPTS parameter values in parentheses. Enclose the entire SYSOPTS string in double quotation marks. Separate subparameters with blanks. For example:

```
SYSOPTS="TYPE(OBJ) EXITCMD(command) FAILCMD(command)"
```

TYPE(OBJ) specifies that the object being copied is to be transferred in save file format. This parameter is required.

EXITCMD(valid i5/OS command) specifies a command to be executed only if the copy process is successful. This parameter is only valid when the sender is running Sterling Connect:Direct for i5/OS Version 3.3 or later.

FAILCMD(valid i5/OS command) specifies a command to be executed only if the copy process is not successful. This parameter is only valid when the sender is running Sterling Connect:Direct for i5/OS Version 3.3 or later.

Label

Sterling Connect:Direct statements are identified by user-defined labels. A label is any character or character string beginning in column one. The label consists of a 1-256 character alphanumeric string. Statement names and keywords are reserved and cannot be used as labels.

The label, in conjunction with other commands, may be used to change the flow of instructions within a Process. A label is not required on the RUN JOB statement.

PGM = AS400

is used to satisfy syntax checking. This parameter is required.

RUN JOB

identifies the RUN JOB statement.

RUN TASK

identifies the RUN TASK statement.

SELECT = (member | generic | (*) | (member, [newname] ,[NR | R]) | (generic,, [NR | R]) (start-range/stop-range,,[NR | R]) | list)

specifies selection criteria by which file members are to be copied. The SELECT parameter can be specified only with the FROM parameter.

Various specifications can be combined in a list after the SELECT keyword.

If SELECT is specified and EXCLUDE is not specified, all selected members are copied. If SELECT is not specified and EXCLUDE is specified, all members not excluded are copied.

When a generic is specified in the SELECT parameter, its selection can be overridden with any type of specification in the EXCLUDE parameter. When using a generic and specifying **NR** or **R**, the second positional parameter (**NEWNAME**) must be null.

generic specifies a generic member name. If CD0* is specified as either a parameter or as a subparameter, all member names beginning with CD0 are selected for copying.

(*) represents a global generic. A global generic indicates that all members of the file are to be included. A global generic is valid only with the SELECT keyword.

member specifies an individual member name. Note that specifying only one member name is the same as specifying TYPE(MBR) in the SYSOPTS parameter of the COPY statement.

The only way to override a selection by member name is to specify that member name in the EXCLUDE parameter.

newname specifies a new name for a member. The **NEWNAME** parameter must be null if a generic name or range is used in the first subparameter position.

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

When used with **NEWNAME**, **NR** applies to the **NEWNAME** and not to the original member name. When used with a generic name or with a range, NR applies to all members selected for that criteria.

Note: **NOREPLACE** applies to an entire file as opposed to **NR**, which applies to members within a file.

R specifies that a member replaces an existing member of the same name at the receiving file. **R** overrides the **NOREPLACE** parameter.

When used with **NEWNAME**, **R** applies to the **NEWNAME** and not to the original member name. When used with a generic name or with a range, **R** applies to all members selected for that criteria.

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 (*). A slash (/) separates the first (start-range) and last (stop-range) member names. When used with the SELECT statement, the first and last members specified in the range, as well as all members between, are copied.

stop-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 (*). A slash (/) separates the first (start-range) and last (stop-range) member names. When used with the SELECT statement, the first and last members specified in the range, as well as all members between, are copied.

When a range in the SELECT parameter is specified, its selection can be overridden with any type of specification in the EXCLUDE parameter.

The second positional parameter (**NEWNAME**) of SELECT must be null when using a range and specifying **NR** or **R**.

list specifies a list of selected members.

SNODE

On a Copy statement, specifies the secondary node. The Sterling Connect:Direct for i5/OS node is always the SNODE. The SNODE is the default and is included in the Process as documentation only.

On a Run Job or Run Task statement, specifies that the commands are executed on the SNODE.

SYSOPTS = "cmd(CL command)"

specifies system-specific submission information. For a remote i5/OS system, this parameter specifies a string 'cmd(any valid batch CL command)'. This CL command will be submitted on the remote i5/OS system through a SBMJOB command. This parameter is required.

SYSOPTS = "string"

allows you to specify batch-capable i5/OS CL commands and parameters in the statement. The maximum number of permitted characters is 256. This parameter is required.

A CMD(CL command) specifies that a CL command is to be executed by the Process. An arbitrary number of CMD() parameters can be specified. Any batch-capable CL command the user is authorized to issue may be specified.

TO

specifies that the subsequent parameters and subparameters define the destination file characteristics. This parameter is required.

(TO) DISP = ([NEW | OLD | MOD | RPL | SHR])

specifies the status of the data on the receiving node. Subparameters are as follows:

NEW specifies that the Process step will create the destination member. The file can be an existing file, but the member cannot already exist. NEW is the default. The file is created if it does not exist. The copy fails if the file exists.

OLD specifies that the destination file already exists. The Process will have exclusive control of the member. The copy fails if the member does not exist.

MOD specifies that the Process step will modify the file by adding data to the end of the file or if none exists will allocate a new file. The file is created if it does not exist.

RPL specifies that the destination file will replace any existing member or if none exists will allocate a new member. The file will be created if it does not exist.

SHR specifies that the destination file already exists. The file can be read simultaneously by another job or Process. If the destination file does not exist, the copy fails.

TO

specifies that the subsequent parameters and subparameters define the destination file characteristics. This parameter is required.

(TO) DSN='library-name/file-name' | 'directory/file-name' | '/QLANSrv/file-name' | '/QDLS/folder-name' | '/QOpenSys/file-name'

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 quotation marks. This parameter is required.

'**library-name/file-name**' specifies the library and file name to be copied. The name of the source file is used for the file name in the destination unless the SELECT parameter is specified otherwise.

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

Directories like /QOpenSys and /root are case-sensitive.

(TO) DSN = 'library-name/file-name' | 'library-name/file-name(member-name)' | '/QSYS.LIB/library-name.LIB/file-name.FILE/member-name.MBR'

specifies the destination object name. Object names are verified based on the i5/OS standard file name conventions. The entire DSN must be in single quotation marks. This parameter is required.

'**library-name/file-name**' specifies the library and file name of the member to be copied using the native file system. The file name is used as the member name.

'**library-name/file-name(member-name)**' specifies the library, file, and member names of the member to be copied using the native file system. The member name is only required if it is different from the file name.

'/**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.

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

(TO) DSN = library-name/save-file-name'

specifies the destination save file name. This parameter is required.

library-name/object-name specifies the library and name of the destination save file.

(TO) DSN = spooled-file-name

specifies the destination spooled output file name. This parameter is required.

spooled-file-name is the name of the destination spooled output file. The name can be up to 10 characters long. Enclose the name in single quotation marks if it contains special characters.

**(TO) SYSOPTS = "TYPE(FILE)
DECMPR (*YES | *NO)
EXITCMD(valid i5/OS command)
FAILCMD(valid i5/OS command)
TEXTFILE(*YES | *NO)
EORCHAR(xxxx)
CCSID(nnnnn)
CODEPAGE(from Unicode set, to code set)
RCDLEN(record-length)
FILETYPE(*SRC | *DATA) TEXT('text-description')
EXPDATE(expiration-date)
MAXMBRS(number | *NOMAX)**

SIZE(#-of-recs incr-value #-of-incrs | *NOMAX)
AUT(*CHANGE | *ALL | *USE | *EXCLUDE)
IGCDTA(*YES | *NO)"

specifies system operation parameters on the Sterling Connect:Direct for i5/OS COPY statement. The maximum number of characters permitted for SYSOPTS is 256. This parameter is required.

Enclose the entire SYSOPTS string in double quotation marks. Enclose each subparameter string in parentheses. Separate the subparameters by blanks. For example:

```
SYSOPTS="TYPE(FILE) DECMPR(*YES)"
```

TYPE(FILE) specifies that the data is to be copied to the Sterling Connect:Direct for i5/OS node as a physical database file or an IFS file. This parameter is required.

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

EXITCMD(valid i5/OS command) specifies a command to be executed only if the copy process is successful. This parameter is only valid when the sender is running Sterling Connect:Direct for i5/OS Version 3.3 or later.

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

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

EORCHAR(xxxx) is the hex value of the end of record character. Specify this parameter if the EOR is not CRLF, for example, 0D or 0D25

CCSID(nnnnn) specifies the value for the character code set if the IFS file has a specific CCS that is not the system/job default, for example, CCSID(1252). Must be used for text files.

CODEPAGE(from Unicode set, to code set) invokes code set conversion utilities, for example, from ASCII to EBCDIC would be CODEPAGE(1252,37).

- **from Unicode set** is the name of the Unicode set of the encoded data sent to the receiving node. The code set name is required and can be UTF-8 or UCS-2, or their equivalent on other operating systems. For example, 1208 is the UTF-8 equivalent on the i5/OS system.
- **to code set** is the name of the final code set that will be used on the remote node. You can use LOCALE to indicate the default code page set relevant to the receiving node.

The code set specifications are only validated for basic syntax. An invalid code set specification will produce an error message on the node attempting conversion.

A code set value of LOCALE specifies the default code set for the node performing conversion.

Note: The EORCHAR, CCSID, and CODEPAGE parameters are valid when using Sterling Connect:Direct for i5/OS Version 3.5 or later.

RCDLEN(record-length) specifies the data length for each record in the file. If FILETYPE(*SRC), valid values range from 1-32754; if FILETYPE(*DATA), valid values range from 1-32766. This parameter is used if a physical database file is created to hold the data received.

When transmitting stream data in text mode, always specify this parameter to avoid possible space allocation problems. If this is a new file and RCDLEN has not been specified, the attributes of the source data are used to determine an acceptable record length.

Note: If the Sterling Connect:Direct system creates a physical source file, it uses a record length 12 bytes longer than the value specified for RCDLEN. These 12 bytes allow for the 6-byte sequence number field and 6-byte data field that precede the data in each record of the member.

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

- ***SRC** indicates that a physical source database file is to be created. ***SRC** is the default.
- ***DATA** indicates that a physical database file is 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 quotation marks.

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. The format you must use is dependent upon the system value QDATFMT. For example, if QDATFMT=MDY, you must input the expiration date in MMDDYY form. To display the system value QDATFMT, type 'DSPSYSVAL QDATFMT' on the i5/OS command line.

MAXMBRS(number | *NOMAX) specifies the maximum number of members a physical file can contain. This parameter is used when a file is being created with this COPY statement. If *NOMAX is specified, then the system maximum of 32,767 members per file is used. The default is ***NOMAX**.

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

- **#-of-recs** indicates the initial number of records for a member. Valid values range from 1-16777215. The default is 10000.
- **incr-value** indicates the number of records in each increment to be added to a member size if the initial space allocated is depleted. Valid values range from 1-32767, the default is 1000. If 0 is specified, the member is not allowed extensions.
- **#-of-incrs** indicates the number of times the increment is automatically applied. Valid values range from 0-32767. The default is 10.
- ***NOMAX** indicates the number of records for a member is limited by the system, not the user.

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.

- ***CHANGE** is the default. It grants a user object operational and all data authorities. ***CHANGE** is the default.

- ***ALL** grants a user object operational, object management, and object existence authorities and all data authorities.
- ***USE** grants a user object operational and read data authority.
- ***EXCLUDE** prevents any user (other than the owner) from accessing the file.

For more information on i5/OS security, refer to the IBM i5/OS Data Management Guide and Security Concepts and Planning manuals.

IGCDTA(*YES | *NO) specifies that double-byte character set (DBCS) support is installed on the destination i5/OS system and the file being sent contains DBCS data. This parameter is only valid if the destination i5/OS system is configured for DBCS support. Including this parameter in a Process that sends a file to an i5/OS system without DBCS support will cause an error and terminate the Process.

**(TO) SYSOPTS = "TYPE(MBR)
 DECMPR (*YES | *NO)
 EXITCMD(valid i5/OS command)
 FAILCMD(valid i5/OS command)
 TEXTFILE(*YES | *NO)
 RCDLEN(record-length)
 FILETYPE(*SRC | *DATA)
 TEXT('text-description')
 CODEPAGE(from Unicode set, to code set)
 EXPDATE(expiration-date)
 MAXMBRS(number | *NOMAX)
 SIZE(#-of-recs incr-value #-of-incrs | *NOMAX)
 AUT(*CHANGE | *ALL | *USE | *EXCLUDE)
 IGCDTA(*YES | *NO)"**

specifies system operation parameters on the Sterling Connect:Direct for i5/OS COPY statement. The maximum number of characters permitted for SYSOPTS is 256. This parameter is required.

Enclose the entire SYSOPTS string in double quotation marks. Enclose each subparameter string in parentheses. Separate the subparameters by blanks. For example:

```
SYSOPTS="TYPE(MBR) DECMPR(*YES)"
```

TYPE(MBR) specifies that the data is to be copied to the Sterling Connect:Direct for i5/OS node as a member of a physical database file. This parameter is required.

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.

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

EXITCMD(valid i5/OS command) specifies a command to be executed only if the copy process is successful. This parameter is only valid when the sender is running Sterling Connect:Direct for i5/OS Version 3.3 or later.

FAILCMD(valid i5/OS command) specifies a command to be executed only if the copy process is not successful. This parameter is only valid when the sender is running Sterling Connect:Direct for i5/OS Version 3.3 or later.

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

CODEPAGE(from Unicode set, to code set) invokes code set conversion utilities, for example, from ASCII to EBCDIC would be CODEPAGE(1252,37).

from Unicode set is the name of the Unicode set of the encoded data sent to the receiving node. The code set name is required and can be UTF-8 or UCS-2, or their equivalent on other operating systems. For example, 1208 is the UTF-8 equivalent on the i5/OS system.

to code set is the name of the final code set that will be used on the remote node. You can use LOCALE to indicate the default code page set relevant to the receiving node.

The code set specifications are only validated for basic syntax. An invalid code set specification will produce an error message on the node attempting conversion.

A code set value of LOCALE specifies the default code set for the node performing conversion.

Note: The CODEPAGE parameter is valid when using Sterling Connect:Direct for i5/OS Version 3.5 or later.

RCDLEN(record-length) specifies the data length for each record in the file. If FILETYPE(*SRC), valid values range from 1-32754; if FILETYPE(*DATA), valid values range from 1-32766. This parameter is used if a physical database file is created to hold the data received. RCDLEN is required for VSAM files.

When transmitting stream data in text mode, always specify this parameter to avoid possible space allocation problems. If this is a new file and RCDLEN has not been specified, the attributes of the source data are used to determine an acceptable record length.

Note: If Sterling Connect:Direct creates a physical source file, it uses a record length 12 bytes longer than the value specified for RCDLEN. For example, a 2,000 byte record creates a physical source file with a 2,012 byte record length. These 12 bytes allow for the 6-byte sequence number field and 6-byte data field that precede the data in each record of the member.

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

- ***SRC** indicates that a physical source database file is to be created. *SRC is the default.
- ***DATA** indicates that a physical database file is 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 quotation marks.

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. The format you must use is dependent upon the system value QDATFMT. For example, if QDATFMT=MDY, you must input the expiration date in MMDDYY form. To display the system value QDATFMT, type 'DSPSYSVAL QDATFMT' on the i5/OS command line.

MAXMBRS(*number* | ***NOMAX**) specifies the maximum number of members a physical file can contain. This parameter is used when a file is being created with this COPY statement. If ***NOMAX** is specified, then the system maximum of 32,767 members per file is used. The default is 1.

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

- **#-of-recs** indicates the initial number of records for a member. Valid values range from 1-16777215. The default is 10000.
- **incr-value** indicates the number of records in each increment to be added to a member size if the initial space allocated is depleted. Valid values range from 1-32767, the default is 1000. If 0 is specified, the member is not allowed extensions.
- **#-of-incrs** indicates the number of times the increment is automatically applied. Valid values range from 0-32767. The default is 10.
- ***NOMAX** indicates the number of records for a member is limited by the system, not the user.

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.

- ***CHANGE** is the default. It grants a user object operational and all data authorities. ***CHANGE** is the default.
- ***ALL** grants a user object operational, object management, and object existence authorities and all data authorities.
- ***USE** grants a user object operational and read data authority.
- ***EXCLUDE** prevents any user (other than the owner) from accessing the file.

For more information on i5/OS security, refer to the IBM i5/OS Data Management Guide and Security Concepts and Planning manuals.

IGCDTA(***YES** | ***NO**) specifies that double-byte character set (DBCS) support is installed on the destination i5/OS system and the file being sent contains DBCS data. This parameter is only valid if the destination i5/OS system is configured for DBCS support. Including this parameter in a Process that sends a file to an i5/OS system without DBCS support will cause an error and terminate the Process.

(TO) SYSOPTS = "TYPE(OBJ)
EXITCMD(valid i5/OS command)
FAILCMD(valid i5/OS command)
MAXRCDS(number | *NOMAX),
ASP(auxiliary-storage-pool),
TEXT('text description'),
AUT(*EXCLUDE | *CHANGE | *ALL | *USE)"

specifies system operation parameters on the Sterling Connect:Direct i5/OS COPY statement. The maximum number of characters permitted for SYSOPTS is 256. This parameter is required.

Enclose the entire SYSOPTS string in double quotation marks. Enclose each subparameter string in parentheses. Separate subparameters by blanks. For example:

```
SYSOPTS="TYPE(OBJ) MAXRCD(*NOMAX) AUT(EXCLUDE)"
```

TYPE(OBJ) specifies that the object is to be copied to the Sterling Connect:Direct i5/OS node and is assumed to be in save file format. This parameter is required.

EXITCMD(valid i5/OS command) specifies a command to be executed only if the copy process is successful. This parameter is only valid when the sender is running Sterling Connect:Direct i5/OS Version 3.3 or later.

FAILCMD(valid i5/OS command) specifies a command to be executed only if the copy process is not successful. This parameter is only valid when the sender is running Sterling Connect:Direct i5/OS Version 3.3 or later.

MAXRCDS(number | *NOMAX) specifies the maximum number of records the save file, which was created to hold the data received, can reach. If the number of records received exceeds this value, the COPY step ends in error. Valid values for this parameter range from 1-3997574. If MAXRCDS is not specified, the system limits the size of the save file.

Note: Two thousand 512-byte records require approximately 1 megabyte of space. To ensure that the save file will not exceed approximately 20 megabytes, specify 40000 (20x2000) for MAXRCDS.

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 quotation marks.

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.

- ***EXCLUDE** is the default. It prevents a user from accessing the file.
- ***CHANGE** grants a user object operational and all data authorities.
- ***ALL** grants a user object operational, object management, and object existence authorities and all data authorities.
- ***USE** grants a user object operational and read data authority.

For more information on i5/OS security, refer to the *IBM i5/OS Data Management Guide* and *Security Concepts and Planning* manuals.

(TO) SYSOPTS = "TYPE(SPLF)
EXITCMD(valid i5/OS command)
FAILCMD(valid i5/OS command)
DEV(*JOB | *SYSVAL | device-name)
DEVTYPE(*IPDS | *SCS)
PAGESIZE(page-length page-width, LPI(3 | 4 | 6 | 7.5 | 8 | 9) CPI(5 | 10 | 12 | 13.3 | 15 | 16.7 | 18 | 20)
OVRFLW(overflow-line-number)
FOLD(*NO | *YES)
RPLUNPRT(*YES 'replacement-character' | *NO)
ALIGN(*NO | *YES)
CTLCHAR(*NONE | *FCFC)
CHLVAL(*NORMAL |
(channel#1 line#1)
(channel#2 line#2)
(channel#3 line#3)

(channel#4 line#4)
 (channel#5 line#5)
 (channel#6 line#6)
 (channel#7 line#7)
 (channel#8 line#8)
 (channel#9 line#9)
 (channel#10 line#10)
 (channel#11 line#11)
 (channel#12 line#12)
 FORMFEED(*DEVD | *CONT | *CUT | *AUTOCUT,
 PRTQTTY(*STD | *DRAFT | *DEVD | *NLQ)
 DRAWER(1 | 2 | 3 | *E1)
 FONT(*CPI | *DEVD | font-identifier)
 CHRID(*DEVD | *SYSVAL | graphic-character-set code-page)
 PAGRTT(*DEVD | *COR | 0 | 90 | 180 | 270)
 PRRTXT('print-text')
 JUSTIFY(0 | 50 | 100)
 DUPLEX(*NO | *YES | *TUMBLE)
 SPOOL(*YES | *NO)
 OUTQ(*JOB | *DEV | library-name/output-queue-name)
 FORMTYPE(form-type)
 COPIES(number-of-copies)
 MAXRCDS(maximum-records)
 FILESEP(number-of-file-separators)
 HOLD(*YES | *NO)
 SAVE(*YES | *NO)
 OUTPTY(*JOB | output-priority) USRDTA(user-data)"

specifies system option parameters on the Sterling Connect:Direct i5/OS COPY statement. The name of the Sterling Connect:Direct printer device file is NDMPRINT. This file is created by the installation process. The defaults used by Sterling Connect:Direct for the SYSOPTS subparameters are taken from this file. The SYSOPTS subparameters are used to override the defaults. The maximum number of characters permitted for SYSOPTS is 256.

Enclose the entire SYSOPTS string in double quotation marks. Enclose each subparameter string in parentheses. Separate subparameters by blanks. For example:

```
SYSOPTS="TYPE(SPLF) FORMFEED(*AUTOCUT) JUSTIFY(50)"
```

Note: If you regularly override the printer or spooled file attributes with SYSOPTS, you may want to modify the NDMPRINT printer device file with the i5/OS CL command CHGPRTF (Change Printer File) to use the options.

TYPE(SPLF) specifies that the data is copied to an i5/OS spooled output file. This parameter is required.

EXITCMD(valid i5/OS command) specifies a command to be executed only if the copy process is successful. This parameter is only valid when the sender is running Sterling Connect:Direct i5/OS Version 3.3 or later.

FAILCMD(valid i5/OS command) specifies a command to be executed only if the copy process is not successful. This parameter is only valid when the sender is running Sterling Connect:Direct i5/OS Version 3.3 or later.

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

- ***JOB** indicates the printer used by the Sterling Connect:Direct job is to be used as the printer device.
- ***SYSVAL** indicates that the value in the i5/OS system value QPRTDEV is to be used as the printer device.
- **device-name** identifies the printer device used for nonspooled output with the printer device to produce the printed output. For spooled output, if OUTQ(*DEVQ), the default output queue for the specified printer is used for the spooled output data.

DEVTYPE(*IPDS | *SCS) specifies the type of data stream created for a printer file from the data received. This parameter indicates whether the resulting data stream is an Intelligent Printer Data Stream (IPDS) or an SNA Character Stream (SCS).

- ***IPDS** indicates an IPDS is to be created.
- ***SCS** indicates an SCS is to be created.

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

- **page-length** is in lines per page.
- **page-width** is in characters per line.

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.

For the printers that support fonts, the value specified for font implies the CPI. If FONT(*CPI) is specified, the font used is based on the CPI value. The following table shows fonts based on CPI value.

CPI	Corresponding Font
5.0	245
10.0	011
12.0	087
13.3	204
15.0	222
16.7	400
18.0	252
20.0	281

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. If DEVTYPE(*IPDS), then this parameter is ignored and records are truncated.

- ***NO** indicates that records are truncated if they exceed the form width.
- ***YES** indicates records wrap to the next line or lines until the entire record is printed.

RPLUNPR(*YES 'replacement-character' | *NO) specifies whether unprintable characters are replaced with printable characters when printed. The replacement character is specified as well, separated by the *YES and a single blank. Any printable EBCDIC character can be specified as a 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.

- *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 subparameter should be used when the source z/OS file is RECFM=xxA, which indicates it contains ANSI carriage control.

CHLVAL(*NORMAL | (channel#1 line#1) (channel#2 line#2) (channel#3 line#3) (channel#4 line#4) (channel#5 line#5) (channel#6 line#6) (channel#7 line#7) (channel#8 line#8) (channel#9 line#9) (channel#10 line#10) (channel#11 line#11) (channel#12 line#12)) specifies the list of channel numbers with their assigned line numbers. CTLCHAR(*FCFC) must be specified as part of the SYSOPTS parameter for this to be valid.

- *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) Any combination of channel numbers, 1 through 12, may be 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. Each channel and line number may be specified once.

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

- *DEV D indicates that forms are fed according to the printer device description.
- *CONT indicates that continuous forms are used by the printer.
- *CUT indicates that single-cut sheets are used by the printer.
- *AUTOCUT indicates that single-cut sheets are fed semi-automatically into the printer. The sheet-feed attachment must be on the printer.

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

- *STD indicates standard quality.
- *DRAFT indicates draft quality.
- *DEV D indicates the print quality is set on the printer by the user, not in the data stream.
- *NLQ indicates near letter quality.

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 part of SYSOPTS for this to be valid.

- 1 | 2 | 3 indicate drawer number 1, 2, or 3 on the sheet-feeder paper handler.

- ***E1** indicates that envelopes are to be fed from the envelope drawer on the sheet-feeder paper handler.

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

- ***CPI** indicates that the value specified in the CPI parameter is to be used to determine the font.
- ***DEV D** indicates that the font specified in the device description for the printer is to be used.
- **font-identifier** indicates that a user-specified font identifier has been supplied. Any valid 3- or 4-digit font identifier is allowed.

CHRID(*DEV D | *SYSVAL | graphic-character-set code-page) specifies the character identifier to use for the spooled output file. This parameter allows you to print data that is in different character identifier coding. The value specified is used to command the printer device to interpret the hexadecimal byte stream by printing the same characters intended when the text was created.

- ***DEV D** indicates that the CHRID value the device is designed to handle is used.
- ***SYSVAL** indicates that the CHRID specified for the system on which Sterling Connect:Direct is running is used.
- **graphic-character-set code-page** indicates that the user is supplying the graphic-character-set and code-page. Any value ranging from 1-32767 may be specified for both.

PAGR TT(*DEV D | *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.

- ***DEV D** indicates that forms are rotated according to the hardware switches on the printer.
- ***COR** indicates that computer output reduction is done when the output is printed.
- **0 | 90 | 180 | 270** indicates the specific angle of rotation.

PRTXT('print-text') specifies a line of text to be printed at the bottom of each page printed. Up to 30 characters enclosed in single quotation marks may 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.

- **0** indicates that no justification occurs.
- **50** indicates that blanks between words are padded to obtain a more closely aligned right margin (not flush).
- **100** indicates that the text is padded with spaces to obtain an even right margin.

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

- ***NO** indicates that the file prints on one side of the paper.
- ***YES** indicates that the file prints on both sides of the paper, with the top of each printed page at the same end of the paper.
- ***TUMBLE** indicates that the file prints on both sides of the paper, with the top of each page printed at opposite ends of the paper.

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

- ***YES** indicates the file is sent to a spooled file for processing by a print-writer.
- ***NO** indicates that the file is not spooled but sent directly to the device specified for print.

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

- ***JOB** indicates that the output queue specified for Sterling Connect:Direct is to be used.
- ***DEV** indicates that the output queue associated with the device specified by the DEV parameter is to be used.
- **library-name/output-queue-name** allows the user to specify a qualified name for 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. A form-type identifier is user-defined and is no longer than 10 characters.

If FORMTYPE *STD is specified, the standard form for a particular computer system is used when the spooled output file is printed.

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

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

If MAXRCDS is not specified, then the number of records that can be placed on the output queue is limited to 100,000.

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. This parameter is only valid 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 only valid if SPOOL(*YES).

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

- ***JOB** indicates that the priority is to be determined by the output priority associated with the Sterling Connect:Direct job.
- **output-priority** indicates a user-defined priority of 1 (high) to 9 (low).

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

(TO) UNIT = (unit-identifier)

specifies the unit identifier of the auxiliary storage unit on which the storage space for the file, and file members, is to be allocated.

unit-identifier can be any value from 1-255. If not specified, storage space is allocated on any available auxiliary storage unit.

Chapter 3. Microsoft Windows Statements and Parameters

Sterling Connect:Direct for Microsoft Windows Process Statement

The Process statement defines the attributes of a Sterling Connect:Direct Process and must be the first statement in a Process.

The following is the Sterling Connect:Direct for Microsoft Windows process statement format. Refer to Sterling Connect:Direct for Microsoft Windows Process Parameters for more information.

Label	Statement	Parameters
process name	PROcEss	class=n
		execprty=nn
		hold=yes no call
		localacct="pnode node accounting data"
		pnodeid=(id [,pswd])
		notify=username
		prty=nn
		snode=[nodename] [hostname IPaddress;portnumber servicename]
		remoteacct="snode accounting data"
		snodeid=(id [,pswd[,newpswd]])
		retain=yes no initial
		startt=(date day)[,time [am pm]]
		&symbolic name1=variable string 1 &symbolic name2=variable string 2 . . . &symbolic namen=variable string n

Sterling Connect:Direct for Microsoft Windows Copy Statement

The copy statement copies text or binary files with a remote Sterling Connect:Direct nodes.

The copy statement contains a from clause that specifies the source file name and a to clause that specifies the destination file name. You can specify additional parameters to customize the file transfer operation.

To copy from one Sterling Connect:Direct platform to another, refer to the appropriate Copy Statement chapters for the platforms.

The copy statement produces a return code that can be used in conditional statements.

The following is the Sterling Connect:Direct for Microsoft Windows copy statement format. Refer to Sterling Connect:Direct for Microsoft Windows Process Parameters for more information.

Label	Statement	Parameters
stepname	copy	from (
		file=filename dsn=filename
		file=businessprocess mailbox
		pnode snode
		sysopts="datatype(text binary) user_data xlate(no yes) xlate.tbl(pathname/filename) strip.blanks(yes no i) strip.oneable(yes no) codepage=(source codepage, destination codepage)"
)
		to (
		file=filename dsn=filename
		file=businessprocess mailbox
		pnode snode
		sysopts="datatype(text binary) user_data xlate(no yes) xlate.tbl(pathname/filename) strip.blanks(yes no) strip.oneable(yes no) codepage=(source codepage, destination codepage) acl(operation,rightslist,accountname [;operation,rightslist,accountname [operation,rightslist,accountname [...]]) attributes(physattr)"
		disp=[(] new mod rpl [)]
)
		ckpt=no nnnnnnnnk nnnnnnnnm

Label	Statement	Parameters
		compress [[primechar = x'xx' x'20' c'c'] extended] Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

Sterling Connect:Direct for Microsoft Windows Run Job Statement

The run job statement calls external programs that run on the same system as Sterling Connect:Direct for Microsoft Windows.

The called program runs as a separate Microsoft Windows process. Process statements that follow the run job statement do not wait for the submitted job to complete.

Sterling Connect:Direct does not verify the validity of the submitted job statements or commands. A Sterling Connect:Direct return code indicates the success or failure of the run job statement, not the success or failure of the submitted job.

The following is the Sterling Connect:Direct for Microsoft Windows run job statement format. Refer to Sterling Connect:Direct for Microsoft Windows Process Parameters for more information.

Label	Statement	Parameters
step name	run job	pnode snode
		dsn=Windows
		sysopts="pgm(filespec) cmd(command parms) args(arguments) desktop(yes no)"

Sterling Connect:Direct for Microsoft Windows Run Task Statement

The Sterling Connect:Direct for Microsoft Windows run task statement calls external programs that run on the same system as Sterling Connect:Direct for Microsoft Windows.

The new program runs as a separate Microsoft Windows process. The Sterling Connect:Direct Process waits for the completion of the command or program specified before continuing.

Note: Do not specify programs in the run task statement that cannot complete without user intervention. Unless you explicitly allow Sterling Connect:Direct to interact with the desktop through the Control Panel's Services applet, you cannot provide input to the program and it will not complete execution.

The run task execution results in a return code which is the exit code for the program executed using run task.

Note: When using an external program executed by the Sterling Connect:Direct run task statement, do not use a return code of 16 in the external program or the Sterling Connect:Direct Process will fail.

The following is the Sterling Connect:Direct for Microsoft Windows run task statement format. Refer to Sterling Connect:Direct for Microsoft Windows Process Parameters for more information.

Label	Statement	Parameters
stepname	run task	pnode snode
		pgm=Windows
		sysopts="pgm(filespec) cmd(command parms) args(arguments) desktop(yes no)"
		restart(yes) restart (no)

Sterling Connect:Direct for Microsoft Windows Submit Statement

The submit statement submits a Sterling Connect:Direct Process from within an executing Sterling Connect:Direct Process.

The Process to be submitted must reside on the node where the submit statement executes. This node is referred to as the subnode.

Any parameter values in the submit statement override the parameter values contained in a process statement.

The submit statement produces a return code. The return code indicates the success of the submit statement, not the success of the submitted Process.

The SUBMIT statement is not the same as the SUBMIT command.

The following is the Sterling Connect:Direct for Microsoft Windows submit statement format. Refer to Sterling Connect:Direct for Microsoft Windows Process Parameters for more information.

Label	Statement	Parameters
stepname	submit	file=filename
		<i>business process name</i>
		class=n
		execpty=nn
		hold=yes no call
		localacct="pnode node accounting data"
		pnodeid=(id[, pswd])
		newname=new process name
		notify=username
		prty=nn

Label	Statement	Parameters
		snode=nodename
		remoteacct="snode accounting data"
		snodeid=(id [,pswd[,newpswd]])
		retain=yes no initial
		startt=([date day][,time [am pm]])
		subnode=pnode snode
		&symbolic name1=variable string 1 &symbolic name2=variable string 2 . . . &symbolic namen=variable string n

Sterling Connect:Direct for Microsoft Windows Conditional Statements

Conditional statements alter the sequence of Sterling Connect:Direct Process execution based on the completion of the previous step in the Process. For example, if a file copy fails, the Process may call an external program to generate a console message and stop the Process. If the file copy succeeds, the Process continues with the next step.

The following is the Sterling Connect:Direct for Microsoft Windows Conditional statement format. Refer to Sterling Connect:Direct for Microsoft Windows Process Parameters for more information.

Label	Statement	Parameters
optional	if	(label condition nn) then
		(process steps executed if condition is true)
	else	
		(process steps executed if condition is false)
	eif	
optional	goto	label
		exit

Sterling Connect:Direct for Microsoft Windows Pend Statement

The optional pend statement indicates the end of an Sterling Connect:Direct for Microsoft Windows Process. There are no parameters for the pend statement.

Sterling Connect:Direct for Microsoft Windows Process Parameters

class = n

determines the node-to-node session on which a Process executes. A Process can execute in the class specified or any higher session class up to the maximum allowed for a snode (**sess.pnode.max**). The default class is specified as the **sess.default** parameter in the initialization parameters. The **class** default in the initialization parameters is **1**.

ckpt=no | nnnnnnnnk | nnnnnnnnm

specifies the byte interval for checkpoint support. Checkpoint support allows restart of interrupted transmissions at the last valid checkpoint, reducing the time necessary to retransmit the file. If the **ckpt** parameter and value are not specified, the default is the value specified by the **ckpt.interval** parameter in the initialization parameters.

no specifies no checkpointing.

nnnnnnnk specifies the number of kilobytes.

nnnnnnnm specifies the number of megabytes.

codepage=(source codepage, destination codepage)

determines which codepage is used to translate a file.

Note: If you do not identify two parameters (source codepage, destination codepage) in the from statement or in the to statement, the codepage listed as the source is converted to UTF-8, sent, and then converted to the codepage identified in the to statement at the destination location. When this occurs, the file can be translated incorrectly.

Three methods can be used to translate files:

- **sysopts=codepage(source codepage, destination codepage)**

This definition can be used either in the from or to statement and identifies the codepages used for translating a file either before it is transferred (from) or after it is received at the destination location (to).

- **from sysopts=codepage=source codepage to sysopts=codepage=destination codepage**

This definition translates the file using the source codepage defined in the from statement to UTF-8 format, transfers the file, and then translates it at the destination from UTF-8 to the codepage defined in the to statement. See the preceding note.

- **from sysopts=codepage(source codepage, transitional codepage) to sysopts=codepage(transitional codepage, destination codepage)**

This definition translates the file using the source codepage defined in the from statement to the transitional codepage, transfers the file, and then translates it at the destination location from the transitional codepage to the destination codepage defined in the to statement. If UTF-8 is used as the transitional codepage, then this translation method performs the same as the second translation method described above.

Codepage translation supports the translation of text or binary files. When translating text files, codepage translates one line at a time. The trailing line feed character is removed from the text line. If the **strip.blanks** parameter is set to **yes**, trailing blanks are removed from the file and a line feed is appended to the line of text.

compress [[primechar = x'xx' | x'20' | c'c']| extended]

specifies that the data is compressed to reduce the amount of data transmitted as the file is copied from one node to another. The file is

automatically decompressed at the destination. Use prime-character compression for text data or single-character repetitive data. Use **compress extended** for all other types of data.

Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

primechar specifies the primary compression character. This character is specified as a hexadecimal constant (**x'xx'**) or a character constant (**c'c'**). The default value for primechar is **x'20'**.

Sterling Connect:Direct for Microsoft Windows reduces the amount of data transmitted according to 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.

extended searches for repetitive strings of characters in data and compresses them to codes that are transmitted and converted back to the original string during decompression. This method is advantageous when line transmission speeds are limited and data is repetitive.

condition

specifies the type of comparison that will be performed. This condition checking can be based on such comparisons as equal to, greater than, or less than. The valid conditions are as follows:

== **|=** **|eq** specifies that the return code must be equal to the value **nn** for the condition to be satisfied.

<> **|!=** **|ne** specifies that the return code must not equal the value **nn** for the condition to be satisfied.

>= **|=>** **|ge** specifies that the return code must be greater than or equal to the value **nn** for the condition to be satisfied.

> **|gt** specifies that the return code must be greater than the value **nn** for the condition to be satisfied.

<= **|=<** **|le** specifies that the return code must be less than or equal to the value **nn** for the condition to be satisfied.

< **|lt** specifies that the return code must be less than the value **nn** for the condition to be satisfied.

disp = [(| new | mod | rpl |)]

defines the state that the target file should be in when it is opened. The **disp** parameter also determines how the file should be opened, either **new**, **mod**, or **rpl**.

new indicates the file must not already exist.

mod indicates that if the file already exists, data will be appended to the end of the file. If the file does not exist, then **mod** behaves as if **new** is specified.

rpl indicates that **copy to** will act as if **disp=new** was specified if the file does not already exist. If the file exists, then it will be overwritten. The default is **rpl**.

dsn=Windows

specifies the job as either a Microsoft Windows program or command. This field is required.

eof

is required for specifying the end of the **if then** or **if then else** block of statements. No parameters exist.

else

designates a block of Sterling Connect:Direct statements that execute when the **if/then** condition is not satisfied. No parameters exist.

execpty = nn

specifies the operating system priority to be assigned to the Process. The **execpty** keyword determines how Microsoft Windows schedules the Session Manager, which runs the Process, for execution relative to other tasks in the system. A Process with a higher priority receives more opportunities for execution from the operating system than a Process with a lower priority. Values range from 1-15. If **execpty** is not specified, the default is 7.

Scheduling Processes to run with a high priority may have an adverse effect on the execution of other applications in the system.

exit

is used to bypass all remaining steps within a Process. No parameters exist.

file=filename | dsn=filename

specifies the 1-256 character file name on the **copy** statement. This parameter is required for both the from and to parameters. A path specification and file server name are optional. If a remote file server name is specified as part of the file name, the remote server must be a Microsoft Windows version 3.51 or later system.

Sterling Connect:Direct for Microsoft Windows supports the string (*) and character (?) wildcards, allowing you to copy multiple files from a source directory to a target directory with a single copy statement.

Specify the UNC form of the filename if the file is not on a drive directly connected to the Microsoft Windows server where Sterling Connect:Direct resides. The UNC name format is as follows:

<code>\servername\share point name\filename</code>
--

Replace the **servername** with the name of the Microsoft Windows server where data resides. The **share point name** represents the name under which the remote Microsoft Windows server shares the directory you want to access. The **filename** specifies the name of the file and includes any subdirectories, if appropriate.

If the file is on the Microsoft Windows server where Sterling Connect:Direct is installed, you can specify the drive letter.

Enclose the file name in double quotation marks if you use a statement name, parameter name, or subparameter name for the file name.

file = filename

specifies the 1-256 character file name of the file containing the Process in the **submit** statement. The **file** parameter can include a pathname indicating the location of the Process. If the **file** parameter does not include a pathname indicating the location of the Process, the directory specified in the **process.dir** initialization parameter is searched.

If you specify the **file** parameter, it must be specified before any other parameter. If you do not specify the **file** parameter, the text of the Process must follow the **submit** command.

Enclose the file name in double quotation marks if you use a statement name, parameter name, or subparameter name for the file name.

This field is required.

from

specifies the parameters and subparameters that define the source file characteristics. This field is required.

goto

moves to a specific step within a Process. See the following Field Descriptions section for details.

hold = yes | no | call

specifies that a Process is held from executing until released.

yes indicates that the Process is held until it is explicitly released by a **change process** command. When both **hold=yes** and **startt** values are specified, the **hold** specification takes precedence. So, a Process submitted with **hold=yes** is placed in the Hold queue even if a start time is specified.

no indicates that the Process is not held and is executed as soon as resources are available. This is the default value.

call specifies that the Process is held until the snode connects to the pnode. At that time, the Process is released for execution. The Process is also released when another Process on the pnode connects to the snode.

When a Process is submitted with **retain=yes** and **hold=no** or **hold=call**, the **hold** parameter is ignored.

if then

specifies that Sterling Connect:Direct executes a block of Sterling Connect:Direct statements based on the completion code of a Process step. An **if** statement must be used in conjunction with an **if/then** statement. See the following Field Descriptions section for details.

Label

Sterling Connect:Direct statements are identified by user-defined 1-8 character alphanumeric labels. The label must begin in position one.

Statement names and keywords are reserved and cannot be used as labels.

Labels are required on the Process statement. The Process statement must be on the same line as the label.

In a conditional statement, the **label** parameter specifies the step to which the condition applies. This parameter is required in a conditional statement.

localacct = "pnode node accounting data"

specifies accounting data for the pnode. The maximum length of the string is 256 characters. The string must be enclosed in double quotation marks.

newname = new process name

specifies the new name to be given to the Process. This value overrides the label on the process statement. The maximum length for the newname parameter is eight characters. The default is the label on the process statement.

nn

specifies the numeric value used for return code checking of the step named in the **label**. If specified as **x'nn'**, it is a hexadecimal value. Any other specification indicates it is decimal. Standard return codes are as follows:

- 0 indicates successful completion.
- 4 indicates warning.
- 8 indicates error.
- 16 indicates catastrophic error.

notify = username

specifies the user name to receive Process completion messages.

pend

The **pend** statement marks the end of the Sterling Connect:Direct for Microsoft Windows Process. No parameters are associated with the **pend** statement.

pgm=Windows

specifies the task as either a Microsoft Windows program or command. This field is required.

pnode | snode

On a **copy** statement, this parameter specifies whether the file is sent from the pnode or the snode. as shown on the following table:

Value	From Parameter	To Parameter
pnode	File to be copied is sent from the pnode. This is the default for the from parameter	File to be copied is sent from the snode
snode	File to be copied is sent from the snode	File to be copied is sent to the snode. This is the default for the to parameter/

For a run task or run job statement, this value specifies the Sterling Connect:Direct node where the statement executes. The default is **pnode**.

pnodeid = (id [, pswd])

specifies security user IDs and passwords for the pnode. Each parameter value can be 1-20 alphanumeric characters long.

id specifies the user ID to be used as a security ID on the pnode. This must be the name of an existing user account. It is not case-sensitive.

pswd specifies a user password on the pnode. It is case-sensitive.

If **pswd** is specified, **id** must be specified also. These values must be specified in the order shown.

When copying to a file server other than the one containing Sterling Connect:Direct, **pnodeid** is required.

Process name

The Process name is a user-defined 1-8 character alphanumeric string. It must begin in position one. You cannot use a statement name, parameter name, or subparameter name as the Process name. This field is required on the Process statement. The **process** keyword must be on the same line as the Process name.

prty = nn

specifies the selection priority of the Process in the Transmission Control Queue (TCQ). A Process with a higher priority is selected for execution before a Process with a lower priority. This value does not affect the priority during execution.

Values range from 0-15. The highest priority is 15. If **prty** is not specified, the value from **proc.prio.default** in the initialization parameters is used. If no value is specified in the initialization parameters, the default is 10.

remoteacct = "snode accounting data"

specifies accounting data for the snode. The maximum length of the string is 256 characters. The string must be enclosed in double quotation marks.

The **remoteacct** parameter on the copy statement overrides the accounting data specified on the process statement.

restart(yes) | restart(no)

specifies whether a program runs again after a session failure. This value overrides the value set in the initialization parameter.

retain = yes | no | initial

specifies whether the Process is retained in the TCQ after execution.

yes specifies that the Process is retained in HR status after execution. A Process submitted with **retain=yes** remains in the TCQ after execution until:

- it is explicitly released through the **change process** command)
- Until the time specified in the **startt** parameter is reached
- Until the Process is deleted through the **delete process** command

Processes submitted with both **retain=yes** and **startt** are cloned. If **startt** specifies both day of the week and a time, the cloned Process runs every week on that day and at that time. If **startt** specifies day only, the cloned Process runs every week on that day at 12:00 a.m. If **startt** specifies time only, the cloned Process runs every day at that time.

no specifies that the Process is deleted immediately after execution. This is the default value.

initial specifies that the Process is retained in the Hold queue and automatically executes each time the Sterling Connect:Direct for Microsoft Windows server initializes.

Processes submitted with **retain=initial** are only searched for when the server initially starts. At that time, they are cloned, and the clone executes immediately.

Note the following:

- The Submit command fails if you specify both the **startt** parameter and the **retain=initial** parameter.
- When a Process is submitted with **retain=yes** and **hold=no** or **hold=call**, the **hold** parameter is ignored.

snode = [nodename] | [hostname | IPaddress;portnumber | servicename]

is a 1-16 alphanumeric character string that specifies the Sterling Connect:Direct snode name. This parameter is required on either the submit command or the process statement.

nodename is the node name of the Sterling Connect:Direct snode. The snode name corresponds to a Sterling Connect:Direct **remote.node** object in the network map.

hostname is the name of the host machine where the Sterling Connect:Direct snode is running. This is applicable only for TCP/IP.

IPaddress is the IP address of the Sterling Connect:Direct snode. The IP format is nnn.nnn.nnn.nnn. Each **nnn** is a decimal number from 0-255, inclusive. This is applicable only for TCP/IP.

portnumber | servicename identifies the communications port for the Sterling Connect:Direct software. The **portnumber** is a decimal number from 1024-65535. This is applicable only for TCP/IP.

The snode parameter on the copy statement overrides the value specified in the process statement.

snodeid = (id [,pswd[,newpswd]])

specifies security user IDs and security passwords for the Process on the snode. Each **snodeid** parameter value can be 1-20 alphanumeric characters. When copying to a file server other than the one containing Sterling Connect:Direct, **snodeid** is required.

id specifies the user ID used as a security ID on the snode.

pswd specifies the user password on the snode.

newpswd specifies a new password value. The user password is changed to the new value on the snode if the user ID and old password are correct and the snode supports this optional parameter. The **newpswd** parameter is not valid if the snode is a Sterling Connect:Direct for Microsoft Windows node.

If **snodeid** is specified, **id** must be specified also. If **newpswd** is specified, **pswd** must be specified also. Specify these values in the order of **id**, **pswd**, and **newpswd**.

For Sterling Connect:Direct HP NonStop nodes, **snodeid** specifies the HP NonStop group number and user number. The valid range for these numbers is 0-255

startt = ([date | day] [,time [am | pm]])

specifies that the Process executes at a specific date and time. The Process is placed in the Timer queue in WS status. The **date**, **day**, and **time** values are positional subparameters. If you do not specify **date** or **day**, precede time with a comma.

CAUTION:

Do not specify the `startt` parameter and the `retain=initial` parameter. This will cause the `submit` command to fail.

date specifies that the Process will execute on a specific date. The current date is the default. Specify the **date** subparameter in the format **mm/dd/yyyy** or **mm-dd-yyyy**, where:

- **mm** indicates month and can be a one- or two-digit number
- **dd** indicates day and can be a one- or two-digit number
- **yyyy** indicates year and can be a two- or four-digit number

day specifies the day of the week that the Process will execute. Values are **today**, **tomorrow**, **monday**, **tuesday**, **wednesday**, **thursday**, **friday**, **saturday**, and **sunday**.

time specifies the time the Process will start. The format is **hh:mm:ss [am|pm]** where (**hh**) specifies the hour, (**mm**) the minute, and (**ss**) the second the Process will start. Hour may be specified in either 12- or 24-hour format. If the 12-hour format is used, then **am** or **pm** must be specified. Seconds (**ss**) are optional. A space is required before **am** or **pm**. The default is 24-hour format. The default value is 00:00:00, which indicates midnight.

If only **day** or **date** is specified, **time** defaults to 00:00:00 (midnight). For example, if a Process is submitted on Monday, with **monday** as the only **startt** parameter, the Process does not run until the following Monday at midnight.

When both **hold=yes** and a **startt** value are specified, the hold specification takes precedence. A Process submitted with **hold=yes** is placed in the Hold queue even if a start time is specified.

subnode = pnode | snode

specifies whether the Process should be submitted to the pnode, the node where the Process currently executing was submitted, or to the snode, the current executing session partner of the Process.

pnode specifies that the Process is submitted on the node that has Process control. The default value is **pnode**.

snode specifies that the Process is submitted on the node participating in, but not controlling, Process execution.

&symbolic name1 = variable string 1

&symbolic name2 = variable string 2

.

.

.

&symbolic namen = variable string n

is a symbolic parameter assigned a value. The value is substituted within the Process when the symbolic parameter is encountered. You can override this value when you submit the Process.

The following built-in variables can be used for the symbolic variable values; they must be enclosed in double quotation marks:

Value	Description
%JDATE	Specifies the date the Process was submitted in Julian format. The variable is resolved as the submission date of the Process in the format yyyyddd. Among other uses, the value returned is suitable for constructing a file name on the node receiving the file. The value of the variable is resolved at Process submit time. The value will correspond to the date on which the Process was submitted, regardless of when or how many times the Process is actually executed.
%NUM1	Specifies the submission time of the Process in minutes, seconds, and fraction of seconds in the format mmssth.
%NUM2	Specifies the submitted time of a Process as the low order 4 bits of the milliseconds of the time expressed as 1 hex digit (a value from 0 through 15 expressed as 0 through F).
%PNODE	PNODE name where the submit occurs
%PRAND	Pseudo-random number (6 hex digits)
%SUBDATE	Specifies the date the Process was submitted in Gregorian format. The variable is resolved as the submission date of the Process in the format cyymmdd where c is the century indicator and is set to 0 for year 19yy or 1 for year 20yy. The value returned can be used to create a file name on the node receiving the file.
%SUBDATE1	Use this parameter to substitute the submitted date in the yyyyymmdd date format.
%SUBDATE2	Use this parameter to substitute the submitted date in the yyyyddmm date format.
%SUBDATE3	Use this parameter to substitute the submitted date in the mmdyyy date format.
%SUBDATE4	Use this parameter to substitute the submitted date in the ddmmyyyy date format.
%SUBTIME	Specifies the time the process was submitted. The variable is resolved as the submission time of the process in the format hhmmss. The return value can be used to create a file name on the node receiving the file. The value of the variable is resolved at Process submit time. The value will correspond to the time at which the Process was submitted, regardless of when or how many times the Process is actually executed.
%USER	Specifies a variable that resolves to the user submitting the Process

Do not use statement names, parameter names, and subparameter names as symbol names.

Enclose symbolic parameter value in double quotation marks if it is a parameter, subparameter, or statement name or if it contains special characters. It can be set to a single ampersand symbolic parameter that was resolved during a previous Process submission. Do not use identical symbolic names.

sysopts=*fld1(val1) fld2(val2) ...fldn(valn)*

specifies system-specific parameters on the copy statement. The parameters are a series of field names and values **f1dn(valn)**, each of which is delimited by a space. The entire string is enclosed in double quotes. For example:

```
"xlate(yes) xlate.tbl(tbl1)"
```

The **sysopts** subparameters are:

datatype(text|binary) specifies the type of data contained within the file.

- **text** indicates it is a text file and that trailing blanks will be stripped unless you specify **strip.blanks(no)**. Translation of the data is performed unless you also specify **xlate(no)**. The default is **text** for all nodes, except Microsoft Windows nodes. The following list shows the default source file attributes assigned for Microsoft Windows text files, which are used if necessary by the remote Sterling Connect:Direct node:
 - dsorg=ps (physical sequential organization)
 - recfm=vb (variable-length records, blocked if the destination operating system supports it)
 - lrecl=23036 (maximum record length of 23036)
 - blksize=23040 (maximum block size of 23040, if the destination operating system supports record blocking)
- **binary** indicates the file contains binary data. The default is **binary** for Microsoft Windows nodes. The following shows the default source file attributes assigned for Microsoft Windows binary files, which are used if necessary by the remote Sterling Connect:Direct node:
 - dsorg=ps (physical sequential organization)
 - recfm=u (undefined record format)
 - lrecl=0 (undefined record length)
 - blksize=23040 (maximum block size and record size of 23040)

user_data specifies any user-defined data to be passed to the open exit dynamic link library (DLL) specified by the user, when the file is opened. The value defined for **user_data** is limited to a maximum of 511 characters and cannot contain a closing parenthesis ')' character.

Note: The file open exit DLL is defined in the Sterling Connect:Direct initialization parameters.

strip.blanks(yes | no) determines whether trailing blank characters at the end of each record are removed from a line of text before it is written to the Microsoft Windows text file.

Note: The **strip.blanks** parameter is ignored when **datatype(binary)** is specified.

- **yes** removes trailing blank characters. The default is **yes** for UNIX, Microsoft Windows, z/OS, VM, VSE, and i5/OS nodes.
- **no** does not remove trailing blank characters. The default is **no** for all nodes except UNIX, Microsoft Windows, z/OS, VM, VSE, and i5/OS.

strip.oneable(yes | no) strips ^Z from the end of old DOS files. If this character is not stripped from old DOS files, Sterling Connect:Direct for Microsoft Windows translates ^Z into 3F when files are sent to the snode.

- **yes** removes ^Z from the end of old DOS files.
- **no** does not remove ^Z from the end of old DOS files. This is the default value.

Because this parameter applies to text file transfers only, be sure to specify **datatype(text)** and **strip.oneable(yes)** in **sysopts** to strip the character from the end of the DOS file.

xlate(no | yes) indicates whether character translation should be performed using the default or user-supplied translation table. Typically, this translation is between ASCII and EBCDIC.

- **no** specifies the translation should not be performed. The default for Microsoft Windows and all other nodes with the exception of z/OS, VM, VSE, and i5/OS is **no**.
- **yes** specifies the translation should be performed. The default for z/OS, VM, VSE, and i5/OS nodes is **yes**.

xlate.tbl(pathname/filename) specifies that a different translation table from the default table used by Sterling Connect:Direct is used.

pathname/filename should identify a translation table created using the translation table editor of the Sterling Connect:Direct Requester for Microsoft Windows. The path specification is optional. If the path is not provided, the path specified by the **xlate.dir** initialization parameter is assumed for the filename specified.

codepage=(source codepage, destination codepage)

The sysopts subparameters valid only in the **to** clause are:

acl(operation, rightslist, accountname [;operation, rightslist, accountname [;...]]) specifies the users or groups allowed or denied access to a file being created by the **copy** operation. This subparameter is ignored if specified for a file that already exists.

operation specifies whether the rights are allowed or denied. Valid values are:

- allow
- deny

rightslist specifies the type of rights allowed or denied. Valid values are:

- read
- write
- execute
- delete
- all

The rights values can be combined by linking them with the + sign.

accountname specifies the name of the user or group to which access is allowed or denied. Multiple-user rights may be specified with each group enclosed in parentheses and delimited by a comma.

attributes(physattr) specifies the physical attributes of the file when it is created.

physattr can include the following attributes (case sensitive):

- **A** (Archive Needed)
- **H** (Hidden)
- **R** (Read Only)
- **S** (System)

sysopts="pgm(filespec) cmd(command | parms) args(arguments) | desktop (yes | no)"

specifies the parameters for the operation being performed by the **run job** statement. This field is required.

Possible values are:

pgm(filespec) specifies which .EXE or .BAT file will be run.

Note: You must use either the **pgm** or **cmd** parameter. Do not specify both.

cmd(command | parms) specifies a system command and any arguments that this command requires.

args(arguments) specifies the arguments passed to the program when it is started. These arguments are in the same format as they would be specified from the command prompt. This optional parameter is only valid when you specify **pgm**.

desktop(yes | no) specifies whether you want to interact with the desktop. The default for the **desktop** parameter is **no** when used with the **run job** statement. This optional parameter is only valid when specified with **pgm** or **cmd**.

to

specifies the parameters and subparameters that define the destination file characteristics. This field is required.

Chapter 4. OpenVMS Statements and Parameters

Sterling Connect:Direct for OpenVMS Process Statement

The Process statement defines the attributes of a Process and is always the first statement in a Process.

The following is the Sterling Connect:Direct for OpenVMS Process statement format. Refer to Sterling Connect:Direct for OpenVMS Process Parameters for more information.

Label	Statement	Parameters
process name	PROCCess	SNODE = secondary-node-name
		SACCT = 'snode-accounting-data'
		PNODE = primary-node-name
		PNODEID = (id [,pswd] [,newpswd])
		SNODEID = (id [,pswd] [,newpswd])
		PACCT = 'pnode-accounting-data'
		CLASS = n
		DEFCONN.MODE=(first scan name)
		HOLD = Yes No Call
		PRTY = n
		RETAIN = Yes No Initial
		STARTT = ([date day][,hh:mm:ssXM])
		&symbolic_name_1 = variable-string-1 &symbolic_name_2 = variable-string-2 . . . &symbolic_name_n = variable-string-n

Sterling Connect:Direct for OpenVMS Copy Statement

The COPY statement copies files from one node to another.

The COPY statement contains a FROM parameter that specifies the source file name and a TO parameter that specifies the destination file name. You can specify other parameters to customize the file transfer operation.

To copy from one Sterling Connect:Direct platform to another, refer to the appropriate COPY FROM and TO pages for those platforms. For example, if the source file is located on a Sterling Connect:Direct for OpenVMS node, refer to the OpenVMS COPY FROM information. If the destination for the file is a Sterling Connect:Direct for z/OS node, refer to the z/OS TO information.

For information about copying from OpenVMS to a z/OS node, refer to "Copying from an OpenVMS Node to a z/OS Node" on page 83.

The following is the Sterling Connect:Direct for OpenVMS COPY statement format. Refer to Sterling Connect:Direct for OpenVMS Process Parameters for more information.

Label	Statement	Parameters
stepname	COPY	FROM (
		DSN=filename FILE=filename
		PNODE SNODE
		DISP=([OLD SHR]
		SYSOPTS="[MOUNT='string'] [DISMOUNT NODISMOUNT] [TYPE='string'] [LIBRARY='string'] [REPLACE NOREPLACE] [BINARY NOBINARY] [STREAM NOSTREAM] [PROTECTION='string'] [DIROWN NODIROWN] [DISSETPROT NODISSETPROT] [XLATE='string']"
		SELECT=(name *)
		DATAEXIT=((exit-name-1 [, C 'p1', C 'p2',..., C 'pn'] . . . (exit-name-n [, C 'p1', C 'p2',..., C 'pn'])
)
		TO (
		DSN=filename FILE=filename
		PNODE SNODE
		TYPE=typekey
		DISP=[RPL NEW OLD SHR MOD]
		DCB=([DSORG=PS PO KSDS RRDS] [,KEYLEN=number-of-bytes] [,LRECL=number-of-bytes] [,RECFM=V F VB FB])
		SYSOPTS="[MOUNT='string'] [DISMOUNT NODISMOUNT] [TYPE='string'] [LIBRARY='string'] [REPLACE NOREPLACE] [BINARY NOBINARY] [PROTECTION='string'] [DIROWN NODIROWN] [DISSETPROT NODISSETPROT] [XLATE='string']"

Label	Statement	Parameters
		DATAEXIT=((exit-name-1 [, C 'p1', C 'p2',..., C 'pn']) . . . (exit-name-n [, C 'p1', C 'p2',..., C 'pn']))
)
		COMPRESS [PRIMEchar= X'xx' X'20' C'c']
		CKPT=[nK nM]

Copying from an OpenVMS Node to a z/OS Node

Note the following if you are copying a library from a Sterling Connect:Direct for OpenVMS node to a PDS at a Sterling Connect:Direct for z/OS node:

Sterling Connect:Direct for OpenVMS transmits modules in alphabetical order.

OpenVMS allows module names to be 39 characters. z/OS restricts module names to only eight characters. When a library is copied from OpenVMS to z/OS, z/OS truncates the module name to eight characters. As a result, you should limit OpenVMS module names to unique eight character names.

For example, if the OpenVMS module names for two files are modulenamea and modulenameb, both module names are truncated to modulena and transferred in alphabetical order. Neither file exists on the z/OS node.

If REPLACE is in effect, the OpenVMS module modulenamea is sent to the Sterling Connect:Direct for z/OS node and renamed modulena. Next, the OpenVMS module modulenameb is sent and replaces the module previously sent (as modulenamea) to the Sterling Connect:Direct for z/OS node.

If NOREPLACE is in effect, the OpenVMS module modulenamea is sent to the Sterling Connect:Direct for z/OS node and renamed modulena. Next, the OpenVMS module modulenameb is sent to z/OS. z/OS truncates the module name to modulena. Because NO REPLACE is in effect, and both modules are identical to eight characters, modulenameb does not replace the module previously sent to the Sterling Connect:Direct for z/OS node. modulenameb is not reflected in the library as a new member.

Sterling Connect:Direct for OpenVMS Run Job Statement

The RUN JOB statement submits a job at the z/OS, VM, VSE, or OpenVMS nodes. The jobs must reside on the node executing the RUN JOB statement.

Sterling Connect:Direct does not verify the job statements. Check Sterling Connect:Direct statistics records to determine the completion status of a RUN JOB statement.

The following is the Sterling Connect:Direct for OpenVMS Run Job statement format. Refer to Sterling Connect:Direct for OpenVMS Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN JOB	(DSN=`file-specification')
		SYSOPTS="[KEEP NOKEEP] [LOG[=`file-specification'] NOLOG] [Pn=`string'] [PRINT NOPRINT] [QUEUE=`queue-name[:]'] [WAIT]"
		PNODE SNODE

Sterling Connect:Direct for OpenVMS Run Task Statement

The RUN TASK statement creates a detached OpenVMS process that executes one or more DCL commands or command procedures. The SYSOPTS parameter of the Sterling Connect:Direct for OpenVMS RUN TASK statement identifies the operations that the operating system should perform.

When a Sterling Connect:Direct Process issues a RUN TASK statement, the Sterling Connect:Direct Process waits until the OpenVMS process finishes before executing the next Sterling Connect:Direct Process step.

You can submit a Sterling Connect:Direct Process with a RUN TASK statement from either node.

The following is the Sterling Connect:Direct for OpenVMS Run Task statement format. Refer to Sterling Connect:Direct for OpenVMS Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN TASK	(PGM=VMS)
		PNODE SNODE
		SYSOPTS="[OUTPUT=`file specification']
		[CMD=`DCL command']

Sterling Connect:Direct for OpenVMS Submit Statement

The SUBMIT statement submits another Sterling Connect:Direct Process from within an executing Process. The Process can be submitted to either the PNODE or the SNODE.

The submitted Process must reside on the node where the SUBMIT statement executes. This node is referred to as the SUBNODE.

The following is the Sterling Connect:Direct for OpenVMS Submit statement format. Refer to Sterling Connect:Direct for OpenVMS Process Parameters for more information.

Label	Statement	Parameters
stepname	SUBMIT	DSN=filename FILE=filename
		CLASS=n
		NEWNAME=new-name

Label	Statement	Parameters
		SUBNODE=PNODE SNODE
		SNODE=secondary-node-name
		SNODEID=(id [,pswd] [,newpswd])
		SACCT='snode-accounting-data'
		PNODEID=(id [,pswd] [,newpswd])
		PACCT='pnode-accounting-data'
		HOLD=Yes No Call
		PRTY=n
		RETAIN=Yes No Initial
		STARTT=([date day] [,hh:mm:ssXM])
		&symbolic_name_1=variable-string-1 &symbolic_name_2=variable-string-2 . . . &symbolic_name_n=variable-string-n

Sterling Connect:Direct for OpenVMS Conditional Statements

Conditional statements alter the sequence of Sterling Connect:Direct Process execution based on the completion of the previous step in the Process. For example, if a file copy fails, the Process may call an external program to generate a console message and stop the Process. If the file copy succeeds, the Process continues with the next step.

The following is the Sterling Connect:Direct for OpenVMS Conditional statement format. Refer to Sterling Connect:Direct for OpenVMS Process Parameters for more information.

Label	Statement	Parameters
optional	IF	(label condition nn) THEN
		(process steps)
	ELSE	
		(alternative process steps)
	EIF	
optional	GOTO	label
	EXIT	

Sterling Connect:Direct for OpenVMS Symbol Statement

The SYMBOL statement creates symbolic substitution values.

The following is the Sterling Connect:Direct for OpenVMS Symbol statement format. Refer to Sterling Connect:Direct for OpenVMS Process Parameters for more information.

Label	Statement	Parameters
optional	SYMBOL	&symbolic_name=variable-string

Sterling Connect:Direct for OpenVMS Process Parameters

CLASS = n

determines the node-to-node session on which a Process can execute. If CLASS is not specified in the Process, it defaults to the class value specified for PARSESS in the network map.

CKPT = [nK | nM]

specifies the byte interval for checkpoint support. Checkpointing enables restart of interrupted transmissions at the last transmission checkpoint, avoiding the need to restart a transmission from the beginning.

Only sequential disk files can be checkpointed.

Sterling Connect:Direct converts the specified value to a block boundary, and a data transmission checkpoint is taken at that position.

Checkpointing is the responsibility of the node receiving the files. Sterling Connect:Direct for OpenVMS can only checkpoint a Sterling Connect:Direct for z/OSfile if Sterling Connect:Direct z/OS initialization parameters are set as CKPT.MODE=(Record Record...). See the Sterling Connect:Direct for z/OS documentation for more information.

Specify a checkpoint value of zero in the Process to disable automatic checkpointing. To override automatic checkpointing, use K to denote thousands; M for millions.

COMPRESS [PRIMEchar = X'xx' | X'20' | C'c']

specifies to compress the data, which reduces the amount of data transmitted during a copy and decreases transfer time. The file is automatically decompressed at the destination.

If you specify compression, 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 1 byte.
- Repetitive occurrences (ranging from 3-63) of any other character are compressed to 2 bytes.

Compression is CPU-intensive, and its effectiveness is data dependent. It should only be used if its benefits are known.

PRIMEchar specifies the primary compression character. The default value for PRIMEchar is a blank (X'20'). However, for variable byte files, use a character other than blank as a compression character.

condition

specifies the type of comparison to be performed. Valid symbols, alternate symbols, and conditions are:

- = **or EQ** specifies that the completion code must be equal to the value nn to satisfy the condition
- <> **or != or NE** specifies that the completion code must not equal the value nn to satisfy the condition

- **>= or -< or GE** specifies that the completion code must be greater than or equal to the value nn to satisfy the condition
- **> or GT** specifies that the completion code must be greater than the value nn to satisfy the condition
- **<= or -> or LE** specifies that the completion code must be less than or equal to the value nn to satisfy the condition
- **< or LT** specifies that the completion code must be less than the value nn to satisfy the condition

The completion code from the RUN JOB statement is from the job submission only and is not the completion code of the submitted job.

COPY

identifies the COPY statement. you can specify this statement with either the FROM or TO parameter.

DATAEXIT = ((**exit-name-1** [, C 'p1', C 'p2', ... , C 'pn']) . . . (**exit-name-n** [, C 'p1', C 'p2', ... , C 'pn'])

calls a user-written program to examine or modify the data for the associated copy. You can specify multiple exit names.

exit-name specifies the name of the user-written program called to examine or modify the data.

parameter specifies a parameter passed to the specified exit. Each parameter must be enclosed in single quotation marks and prefaced by C.

The DATAEXIT parameter is supported on VAX platform only.

The following is an example of the DATAEXIT format:

```
DATAEXIT=((USER.EXIT1,C'PARM1',C'PARM2'))
```

DCB = ([**DSORG** = PS | **PO** | **KSDS** | **RRDS**]
[,**KEYLEN** = **number-of-bytes**]
[,**LRECL** = **number-of-bytes**]
[,**RECFM** = **V** | **F** | **VB** | **FB**])

specifies attributes for allocating destination files. These parameters override the source file DCB information.

For SAM-to-SAM copies where the destination file is new and the DCB parameter is not specified with the TO parameter, DSORG is taken from either:

- the source file
- the TYPE defaults file if the TYPE keyword has been specified

The following are the subparameters:

DSORG specifies the file organization. File organizations supported are:

- Physical Sequential (PS), the default
- library files (PO)
- keyed files (KSDS)
- relative files (RRDS)

Sterling Connect:Direct for OpenVMS does not support copying a VSAM KSDS file from z/OS to a keyed file under OpenVMS.

KEYLEN specifies the length of the key in bytes used in the file.

LRECL specifies the record length.

RECFM specifies the record format. Valid record formats are:

- V (variable-length files)
- F (fixed files)
- VB (variable block files), the default
- FB (fixed block files)

STREAM overrides RECFM if it is specified.

DEFCONN.MODE = (first | scan | name)

specifies the default method of selecting a communications path used to establish a session for Process execution.

first specifies that Sterling Connect:Direct for OpenVMS will only use the first COMM.PATH specification in making a connection.

scan specifies that Sterling Connect:Direct for OpenVMS will use each COMM.PATH specification in turn, until a connection is successfully made.

name represents an actual COMM.PATH name that Sterling Connect:Direct for OpenVMS should use when making connections.

DSN = 'file-specification'

specifies the file specification of the DCL command procedure. This parameter is required.

Enclose the DSN in single quotation marks.

If you do not specify the OpenVMS device or directory, the login default device or directory is used for the OpenVMS user name. The user name is derived from the Sterling Connect:Direct SUBMITTER (node ID, user ID) or specified in the PNODEID or SNODEID.

DSN = filename | FILE = filename

specifies the name of the file that contains the Process. This parameter is required.

EIF

specifies the end of the IF THEN or IF THEN ELSE block of statements. It is required.

ELSE

designates a block of Sterling Connect:Direct statements that execute when the IF THEN condition is not satisfied.

EXIT

bypasses all remaining steps within a Process.

FROM

specifies the source file characteristics. This parameter is required.

(FROM) DISP = [OLD | SHR]

specifies the status of data on the source node.

OLD requests exclusive access to a file.

SHR requests shared access to a file. This is the default.

(FROM) DSN | FILE

specifies the source file specification. This parameter is required.

If the source file is a OpenVMS file with a maximum record size of 0 and a longest record size of 0, then DCB LRECL and BLKSIZE information must be specified for the destination file. Use the DCL command ANALYZE/RMS to determine if the maximum record size and longest record size of a OpenVMS file are both 0. This is common with STREAM_LF files.

If you are copying a file from an IBM node, enclose the file specification in single quotation marks if it uses spaces or other special characters.

If the OpenVMS file specification is not complete, the login default device and directory information is used to complete the file specification.

If the SUBMITTER qualifier is specified in the Sterling Connect:Direct for OpenVMS SUBMIT command string and PNODEID and SNODEID are not specified, the user ID defaults from the SUBMITTER subparameters are used for the file specification. If either PNODEID or SNODEID is provided, the user ID defaults in the PNODEID or SNODEID subparameters are used to complete the file specification.

Use of PNODEID and SNODEID is dependent on the direction of the transfer.

GOTO

moves to a specific step, defined by the label, within a Process.

HOLD = Yes | No | Call

specifies whether the Process is placed in the Hold queue at submission.

Yes submits the Process to the Hold queue where it remains until the operator explicitly releases the Process.

No executes the Process as soon as possible. This is the default.

Call places the Process in the Hold queue until a session is established with the specified SNODE. This session could be established by either another Process running on the PNODE or the SNODE contacting the PNODE. For example, a Process submitted with HOLD=NO establishes a session and causes execution of any Processes for this node that are designated HOLD=CALL.

IF THEN

specifies that Sterling Connect:Direct execute a block of statements based on the completion code of a Process step. You use an EIF statement with an IF THEN statement. A return code with the high order bit on is evaluated as a negative return code.

label

For the IF THEN statement, the label specifies the name of a previous step whose completion code is used for comparison.

For the GOTO statement, the label specifies the name of a subsequent step in a Process. The GOTO statement requires a label. The label name cannot be the label of a preceding step nor the label of the GOTO statement of which it is a part.

Labels must begin in column one. The label consists of a 1-8 character alphanumeric string, with the first letter alphabetic only.

NEWNAME = new-name

specifies the new name to be given to the Process. The default value is the label on the PROCESS statement.

nn

specifies the numeric value used for completion code checking. If specified as X'nn', it is a hexadecimal value. Any other specification indicates a decimal.

Typically, if a completion code less than 4 is returned, the Process completed successfully. In most cases, a return code greater than 4 indicates the Process ended in error. A return code equaling 4 indicates a warning.

PACCT = 'pnode-accounting-data'

specifies the accounting data for the primary node (PNODE). The maximum length of the accounting data is 256 characters. Enclose the string in single quotation marks if special characters are part of the accounting data.

PGM = VMS

indicates that the RUN TASK executes on a Sterling Connect:Direct for OpenVMS node. This field is required.

PNODE

For a Copy statement, specifies that the file to be copied resides on the primary node.

PNODE is the default in the COPY FROM statement. If the file specification is incomplete and the PNODEID is specified, the default user ID from the PNODEID is used to complete the file specification. Otherwise the defaults of the submitter user ID are used.

For a Run Task statement, specifies that the task is executed on the primary node, which is the default.

For a Run Job statement, specifies that the job is submitted on the primary node, which is the default.

PNODE = primary-node-name

specifies the primary node to be used in the Process.

primary-node-name is a 1-16 character alphanumeric name that is defined in the network map. The name can be expressed in alphanumerics or nationals (@ # \$), with embedded periods.

Note: The node to which the Process is submitted is always the PNODE. This parameter defaults to the name of the node submitting the Process and need not be specified. It is used for documentation purposes only.

PNODEID = (id [,pswd] [,newpswd])

specifies security user IDs and passwords at the primary node (PNODE). This parameter should be used only to validate security with an ID different from the one you used to sign on to Sterling Connect:Direct.

id specifies the 1-64 character security ID passed to the security system at the PNODE.

pswd specifies the current 1-64 character security password for the specified ID. This parameter can be used by the security system at the PNODE to validate the current security password. The password is optional unless the user has security set to require a password.

newpswd specifies the new 1-64 character security password. It can be used by the security system to change the current security password to the new security password.

PROCCess

identifies the PROCESS statement.

process name

specifies the 1-8 character name of the Process. The first character must be alphabetic. The Process name must start in column one. The PROCESS keyword must be on the same line as the Process name.

This label identifies the Process in messages or statistics.

PRTY = n

specifies the Process priority in the Transmission Control Queue (TCQ). This priority is used for Process selection and does not affect OpenVMS priority.

The default priority is defined during installation of Sterling Connect:Direct for OpenVMS. The range is from 0-15. See the *IBM Sterling Connect:Direct for OpenVMS Installation and Administration Guide* for more information.

RETAIN = Yes | No | Initial

keeps a copy of the Process in the Hold queue after the Process executes.

Yes keeps the Process in the Hold queue after initial execution. You must then do one of the following:

- Manually release the Process through the CHANGE PROCESS command to execute it
- Delete the Process through the DELETE PROCESS command
- Specify the STARTT parameter to release the Process again at a specified interval. Using RETAIN=YES with STARTT will run a Process repeatedly at a given interval. However, a date is invalid as a STARTT subparameter when used in conjunction with RETAIN.

When a Process is submitted with RETAIN=YES and HOLD=NO or CALL, the HOLD parameter is ignored.

No specifies that the system deletes the Process after execution. This is the default value.

Initial specifies that the Process executes every time Sterling Connect:Direct is initialized. The Process will not execute when initially submitted. Do not specify STARTT with RETAIN=INITIAL.

RUN JOB

identifies the RUN JOB statement.

RUN TASK

identifies the RUN TASK statement.

SACCT = 'snode-accounting-data'

specifies the accounting data for the SNODE. 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 ignored when the SNODE is a Sterling Connect:Direct for i5/OS node.

SELECT = (name | *)

specifies criteria for selecting PDS members for a copy. The SELECT parameter can be specified only with the FROM parameter.

name specifies an individual member name.

***** represents a global generic, which indicates that all members of the file are to be copied.

SNODE

For a Copy statement, specifies that the file to be copied resides on the secondary node. SNODE is the default in the COPY TO statement. If the file specification is incomplete and the SNODEID is specified, the default user ID from the SNODEID is used to complete the file specification. Otherwise the defaults of the submitter user ID are used.

For a Run Task statement, specifies that the task is executed on the secondary node.

For a Run Job statement, specifies that the job is submitted on the secondary node.

SNODE = secondary-node-name

is a 1-16 character alphanumeric name that specifies the secondary node (SNODE) to be used in this Process. The name can be expressed in alphanumerics or nationals (@ # \$), with embedded periods. This parameter is required, unless it is specified on the SUBMIT command.

This is the logical node name that has been defined as the adjacent node in the network map.

When specified on the SUBMIT statement, this parameter overrides the value specified in the PROCESS statement. The PNODE and SNODE can specify the same symbolic node name.

SNODEID = (id [,pswd] [,newpswd])

specifies security user IDs and passwords at the secondary node (SNODE).

id specifies the 1-8 character security ID passed to the security system on the SNODE.

For Sterling Connect:Direct for HP NonStop, this subparameter specifies the HP NonStop group number and user number. These numbers can range from 0-255.

For Sterling Connect:Direct for i5/OS, this subparameter specifies the i5/OS user profile used for authorization checks during Process execution. It is limited to 8 characters.

pswd specifies the current 1-8 character security password and can be used by the security system on the SNODE to validate the current security password. This is optional unless the user's security requires a password.

newpswd specifies the new 1-8 character security password. It can be used by the security system to change the current security password to the new security password.

For Sterling Connect:Direct for HP NonStop, SAFEGUARD must be running on HP NonStop.

STARTT = ([date | day],[hh:mm:ssXM])

specifies that the Process will be executed at a selected date or time. The date, day, and time are positional parameters. If the date or day is not specified, a comma must precede the time.

Do not specify STARTT with RETAIN=INITIAL.

If you specify both HOLD=YES and a STARTT value in a Process, the HOLD specification takes precedence, and the Process is placed in the Hold queue.

date specifies that the Process is to be held until the desired date. The day (dd), month (mm), and year (yy) can be specified in one of the following formats:

yymmdd	mm/dd/yy
yy/mm/dd	mm.dd.yy
yy.mm.dd	yyddd (Julian date)
mmddy	yy/ddd (Julian date)

If only date is specified, the time defaults to 00:00.

You cannot specify a date in the STARTT parameter if RETAIN=YES.

day specifies the day of the week to release the Process for execution. Valid names include MOnday, TUEsday, WEDnesday, THursday, FRiday, SATurday, and SUNday. You can abbreviate the day value to the first two characters.

If the day of the week is specified with RETAIN=YES, the Process executes the same day every week. If only day is specified, the time defaults to 00:00. Therefore, if a Process is submitted on Monday, with Monday as the only STARTT parameter, the Process does not run until the following Monday.

You can also specify TODAY, which releases the Process for execution the day and time of Process submission (unless the time of day is specified), or TOMORROW, which releases the Process for execution the next day.

You can also specify NOON, which releases the Process for execution at noon, or MIDNIGHT to release the Process for execution at midnight.

hh:mm:ssXM indicates the time of day the Process will be released in hours (hh), minutes (mm), and seconds (ss). XM can be set to AM or PM.

You can specify the time of day using the 24-hour clock or the 12-hour clock. If you use the 24-hour clock, valid times are from 00:00:00 to 24:00:00. If you do not use AM and PM, the 24-hour clock is assumed.

If you use the 12-hour clock, 01:00:00 hours can be expressed as 1:00AM, and 13:00 hours can be expressed as 1:00PM.

If you specify hh:mm:ssXM with RETAIN=YES, the Process executes at the same time every day. You do not need to specify minutes and seconds.

You can also specify NOON, which releases the Process for execution at noon, or MIDNIGHT to release the Process for execution at midnight.

stepname

specifies the user-defined name of the Copy, Run Job, Run Task, or Submit step.

Stepnames must begin in column one. Stepnames are 1-8 character alphanumeric strings. The first character must be alphabetic.

SUBMIT

identifies the SUBMIT statement.

SUBNODE = PNODE | SNODE

specifies the node where the Process defined in this SUBMIT statement executes.

PNODE means that the Process is submitted on the primary node. This is the default.

SNODE means that the Process is submitted on the secondary node.

In both cases, the Process must reside on the node on which it is being submitted.

SYMBOL

identifies the SYMBOL statement.

&symbolic_name=variable-string

specifies a 1-17 character string that is substituted into the Process. This parameter is required for the SYMBOL statement. .

When Sterling Connect:Direct encounters a symbolic name, it substitutes the string represented by that name.

Symbols in the string are resolved from previously specified values in a PROCESS, SUBMIT, or SYMBOL statement. With the SYMBOL statement, different pieces of a Sterling Connect:Direct statement string can be concatenated, allowing you to move data in a variety of ways.

Specify a null value by an equal sign immediately followed by a comma (=,). Enclose symbolic parameters containing special characters in single quotation marks.

&symbolic_name_1 = variable-string-1

&symbolic_name_2 = variable-string-2

.

.

.

&symbolic_name_n = variable-string-n

specifies the default value for a symbolic parameter in the Process. The SUBMIT command will override this value.

Specify a null value by =, (an equal sign immediately followed by a comma). Enclose symbolic parameters strings containing special characters in single quotation marks.

When specified on the SUBMIT statement, the symbolic parameter must begin with a single ampersand. This allows the Process that contains the SUBMIT statement to resolve symbolic parameters correctly.

An ampersand symbolic parameter can be set to a single ampersand symbolic parameter that was resolved during the first Process submission.

Do not use identical symbolic names.

```
SYSOPTS = "[KEEP | NOKEEP]
[LOG[='file-specification'] | NOLOG]
[Pn='string']
[PRINT | NOPRINT]
[QUEUE='queue-name[:]']
[WAIT]"
```

specifies system operation parameters. Enclose the string in double quotation marks.

KEEP | NOKEEP specifies log file disposition.

- **KEEP** specifies that the log file is kept.
- **NOKEEP** specifies that the log file is deleted after it is printed. **NOKEEP** is the default unless **NOPRINT** is specified.

LOG[='file-specification'] | NOLOG specifies whether output is saved in a log file.

If a file specification is provided, output is saved in a log file. If the file specification is not provided, the log file name uses the name of the command procedure with an extension of LOG.

NOLOG specifies that a log file is not created.

The default is to keep the log and name it after the first (or only) file in the job.

Pn='string' passes parameters to the command procedure. The range for n is 1-8.

PRINT | NOPRINT specifies whether the log file for the job is queued for printing upon job completion.

NOPRINT specifies that the batch job is not printed.

The default is to submit the log file for printing to the system as a batch job.

The default print queue for the log file is SYS\$PRINT. If **NOPRINT** is specified, **KEEP** and **LOG** are assumed and the log file is not deleted.

QUEUE='queue-name[:]' specifies the name of the batch job queue where the job is entered. SYS\$BATCH is the default when **QUEUE** is not specified.

WAIT specifies that the RUN JOB waits for the command procedure to finish before continuing processing. The default is that the statement does not wait for the OpenVMS command procedure to complete.

```
SYSOPTS="[MOUNT='string']
[DISMOUNT | NODISMOUNT]
[TYPE='string']
[LIBRARY='string']
[REPLACE | NOREPLACE]
[BINARY | NOBINARY]
[PROTECTION='string']
[DIROWN | NODIROWN]
[DISSETPROT | NODISSETPROT]
```

[XLATE='string']"

performs Sterling Connect:Direct for OpenVMS system operations during file transfer.

Enclose the entire SYSOPTS string in double quotation marks. Enclose each subparameter string in single quotation marks. Separate the subparameters by blanks. For example:

```
SYSOPTS="MOUNT='MUA0 TAPELABEL' NODISMOUNT"
```

MOUNT='string' is any valid Digital Command Language (DCL) MOUNT command qualifiers for tape operations. The DCL command MOUNT should not be in the string. There is no default for this subparameter, but it must be defined when you mount tape devices.

Do not specify ASSIST on the MOUNT command unless an attendant is available to perform operator duties.

Allocating the tape drive is not required. The tape must have been previously initialized using the standard OpenVMS INITIALIZE command. If the tape has not been initialized, it does not have a volume label. For normal file access, OpenVMS cannot mount a tape unless it has a volume label; however, if the volume label is unknown, the tape may be mounted with the /OVERRIDE=ID qualifier positioned to modify either the command or the tape label parameter. For example:

```
MOUNT='MUA0 TAPELABEL /OVERRIDE=ID TAPELOGICAL'
```

DISMOUNT | NODISMOUNT specifies whether the tape volume is automatically dismounted once a COPY step is complete. The user should specify DISMOUNT in the SYSOPTS parameter of the last COPY step that references the tape volume. The default is DISMOUNT. A tape may remain mounted across multiple copies within the same Sterling Connect:Direct Process. For example, specify the following in the SYSOPTS parameter of the first COPY step:

```
SYSOPTS="MOUNT='MUA0 TAPELABEL' NODISMOUNT"
```

TYPE='string' contains file attribute information. This SYSOPTS subparameter overrides the TYPE parameter on the COPY statement. String specifies the entry name in the type library (NDM_TYPE.TLB). There is no default for this subparameter, and it is not required. For example:

```
TYPE='IMAGE'
```

The following are included in the type library:

- FIXED
- FORTRAN
- RELATIVE
- IMAGE
- SAVESET
- STREAM
- STREAM_CR
- STREAM_LF

These types provide FDL (file definition language) statements that are required to create the various files.

LIBRARY='string' specifies the library type of a Sterling Connect:Direct for OpenVMS file (whether it is being sent or received). The string can be one of the following: TEXT, HELP, MACRO, <type-number>. The <type-number> is a binary key. TEXT is the default for this subparameter.

REPLACE | NOREPLACE specifies whether to replace library modules. NOREPLACE is the default.

Note: The version number must be included in the OpenVMS library name to ensure that the correct library is used.

BINARY | NOBINARY specifies whether data conversion occurs during a file transfer. BINARY (no text conversion) specifies that Sterling Connect:Direct for OpenVMS files are not converted from ASCII to EBCDIC. NOBINARY is the default.

If the size of the binary file is not an even multiple of the record length of the IBM file, IBM pads the file (that is, enters binary zeros (0) in the last record of the file). Padding may cause the file to be unusable. If padding and data conversion are not desired when moving text files, send the Sterling Connect:Direct for OpenVMS text file to an IBM file of variable-length records and include the BINARY subparameter in the Process.

PROTECTION='string' specifies the protection level desired on files copied to OpenVMS. Specify this subparameter in the format of the DCL SET PROTECTION command. The default is the protection previously defined on the OpenVMS process running Sterling Connect:Direct for OpenVMS. The following is an example of using the PROTECTION subparameter:

```
PROTECTION='S:RWED,O:RWED,G:RE,W:E'
```

DIROWN | NODIROWN specifies file ownership. By default, the file is owned by the owner of the directory where the file was placed. If NODIROWN is specified, then the file will be owned by the submitter of the Sterling Connect:Direct Process. DIROWN is the default. The COPY SYSOPTS="DIROWN" overrides the NDM\$\$DIROWN logical in the server logical table.

If you are using a PROXY account and you are copying a file from an IBM node to a file on a remote DECNET node, SYSOPTS="NODIROWN" may need to be specified if the account which was used in the proxy does not exist in the remote DEC node.

DISSETPROT | DISSETPROT specifies protection/ownership.

If the Sterling Connect:Direct for OpenVMS NDM\$\$DISSETPROT initialization parameter definition is 1, Sterling Connect:Direct for OpenVMS will not attempt to set the protection/ownership on the file after it has been copied.

If the NDM\$\$DISSETPROT definition is not 1, Sterling Connect:Direct for OpenVMS will attempt to set the protection/ownership as it normally does unless overridden by specifying DISSETPROT in the SYSOPTS parameter of the COPY statement. If the NDM\$\$DISSETPROT definition is 1 but NODISSETPROT is specified in the SYSOPTS parameter of the COPY statement, Sterling Connect:Direct for OpenVMS acts as if

NDM\$\$DISSETPROT were not defined to 1 and attempts to set file ownership/protection. **XLATE='string'** specifies ASCII-to-EBCDIC and EBCDIC-to-ASCII translation tables for a COPY operation. These tables are maintained in a OpenVMS text library. The value is a table name in the translate table text library. If no table name is specified, the Sterling Connect:Direct system uses the table named NDM_DEFAULT. The following is an example of the format for XLATE:

```
XLATE='XLT_TABLE1'
```

SYSOPTS= "[OUTPUT='file specification'] [CMD='DCL command']"

specifies DCL commands and parameters on the RUN TASK statement. Enclose the entire SYSOPTS string in double quotation marks. Enclose each subparameter string in single quotation marks. Separate the subparameters with blanks.

OUTPUT='file specification' specifies the SYS\$OUTPUT of the Process. If the file is not included as part of this parameter, the log file name defaults to the command procedure name, with an extension of LOG.

Only use the OUTPUT subparameter when you do not use the Remote Procedure Execution (RPX) Facility. If you use OUTPUT in a RUN TASK statement and RPX is enabled, OUTPUT is ignored.

If you specify OUTPUT='device', the Process output is written to the root directory of the account that issued the command. The output is assigned a type of .LOG. There is no file name.

If you specify OUTPUT='file' (without a directory), the file is written to the root directory on the device assigned to the account that created the Process.

CMD='DCL command' executes a DCL command by the Process. You can specify an arbitrary number of CMD parameters. You can specify any DCL commands that you are authorized to issue, with the exception of commands that require single or double quotation marks.

If a DCL command procedure uses a string parameter containing embedded blanks and normally requiring single or double quotation marks, replace the embedded blanks with underscores, eliminating single or double quotation marks. For example, the DCL command **MAIL/SUBJECT "two words" filename** can be specified in the RUN TASK statement as follows:

```
SYSOPTS="CMD='MAIL/SUBJECT=two_words filename'"
```

THEN

specifies the subsequent processing to perform if the specified condition is met.

TO

specifies the destination file characteristics. This parameter is required.

(TO) DISP = [RPL | NEW | OLD | SHR | MOD]

specifies the status of the data on the destination node.

RPL replaces the contents of the file if the version is specified and that version exists. Otherwise, the Sterling Connect:Direct system creates the file or creates a new version of the file if the file already exists and a version number is not specified.

NEW creates the file if it does not exist. Otherwise, it creates a new version of the file if it already exists. This is the default.

OLD overwrites an existing version with exclusive access to the file. The file must exist.

SHR overwrites an existing version with shared access to the file. The file must exist.

MOD specifies that the Process step modifies the file by adding data to the end of the existing file.

If DISP=MOD is specified on the TO clause of the Sterling Connect:Direct for OpenVMS COPY statement and the destination file is a OpenVMS sequential file, Sterling Connect:Direct for OpenVMS supports checkpoint-restart. Sterling Connect:Direct for z/OS does not support checkpoint-restart when DISP=MOD is specified on the TO clause of the Sterling Connect:Direct for z/OS COPY statement.

(TO) DSN | FILE

specifies the destination file specification. Either the DSN or FILE parameter is valid. This parameter is required.

If you are copying a file to an IBM node, enclose the file specification in single quotation marks if it uses spaces or other special characters.

If the OpenVMS file specification is not complete, the login default device and directory information is used to complete the file specification.

If the SUBMITTER qualifier is specified in the Sterling Connect:Direct for OpenVMS SUBMIT command string and PNODEID and SNODEID are not specified, the user ID defaults from the SUBMITTER subparameters are used for the file specification. If either PNODEID or SNODEID is provided, the user ID defaults in the PNODEID or SNODEID subparameters are used to complete the file specification.

Use of PNODEID and SNODEID is dependent on the direction of the transfer.

TYPE = typekey

specifies the name of the type file that contains the file attributes used to open the destination file. This typekey is specified only when defaults are requested by the user.

The SYSOPTS TYPE subparameter overrides this TYPE parameter on the COPY statement.

For z/OS, VM, or VSE to OpenVMS copies where the typekey exceeds eight characters, enter the typekey into the SYSOPTS parameter on the TO clause of the Sterling Connect:Direct for OpenVMS COPY statement.

On copies from Sterling Connect:Direct for OpenVMS to z/OS, the typekey must not be greater than eight characters.

Chapter 5. UNIX Statements and Parameters

Sterling Connect:Direct for UNIX Process Statement

A process statement defines the attributes of a Sterling Connect:Direct Process and is always the first statement in a Process.

The following is the Sterling Connect:Direct for UNIX Process statement format. Refer to “Sterling Connect:Direct for UNIX Process Parameters” on page 105 for more information.

Label	Statement	Parameters
process name	PROcEss	class=n
		crc= on off
		hold=yes no call
		notify=username@hostname or user@localhost
		pacct="pnode accounting data"
		plexclass=remote_plexclass
		pnodeid=(id [,pswd])
		prty=nn
		retain=yes no initial
		sacct="snode accounting data"
		snode=[nodename] [(hostname nnn.nnn.nnn.nnn);(portnumber portname)]
		snodeid=(id [,pswd[,newpswd]])
		startt=([date day][,hh:mm:ss[am pm]])
		&symbolic name1=variable string 1 & symbolic name2=variable string 2 . . . & symbolic namen=variable string n

Sterling Connect:Direct for UNIX Copy Statement

The copy statement copies a file from one Sterling Connect:Direct node to another.

The copy statement contains a from clause that specifies the source file name and a to clause that specifies the destination file name. You can specify additional parameters to customize the file transfer.

To copy from one Sterling Connect:Direct platform to another, refer to the appropriate Copy Statement chapters for the platforms.

The copy statement produces a return code that can be used in conditional statements.

The following is the Sterling Connect:Direct for UNIX copy statement format. Refer to "Sterling Connect:Direct for UNIX Process Parameters" on page 105 for more information.

Label	Statement	Parameters	
stepname	COPY	from	(
			file=filename dsn=filename
			file=businessprocess mailbox
			pnode snode
			sysopts=":datatype=text binary vb:" " :xlate=no yes:" " :xlate.tbl=<pathname/filename>:" " :strip.blanks=yes no: " " :permis=nnn:" " :pipe=yes no:" " :codepage=(source codepage, destination codepage):" ":=yes no:"
)
			ckpt=no nk nm
			compress [[primechar = x'xx' x'20' c'c'] extended] Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.
		to	(
			file=filename dsn=filename
			file=businessprocess mailbox
			pnode snode
			sysopts=":datatype=text binary vb:" " :xlate=no yes:" " :xlate.tbl=<pathname/filename>:" " :strip.blanks=yes no: " " :permis=nnn:" " :pipe=yes no:" " :codepage=(source codepage, destination codepage):"
			disp=[(] new mod repl [)]
)

Sterling Connect:Direct for UNIX Run Job Statement

The run job statement invokes a UNIX command shell to execute one or more UNIX commands from within a Process. The Process does not wait until the UNIX commands finish running before executing the next step in the Process.

The run job execution produces a return code. The return code does not indicate if the UNIX command successfully executed. The return code only indicates if Sterling Connect:Direct successfully submitted the run job statement.

The following is the Sterling Connect:Direct for UNIX Run Job statement format. Refer to "Sterling Connect:Direct for UNIX Process Parameters" on page 105 for more information.

Label	Statement	Parameters
step name	RUN JOB	dsn=dsn[(member)]
		pnode snode
		sysopts="unix command [;unix command [;unix command...]]"

Sterling Connect:Direct for UNIX Run Task Statement

The run task statement invokes a UNIX command shell to execute one or more UNIX commands within a Process. The Process waits until the UNIX commands finish running before executing the next step in the Process.

Note: Do not specify programs in the run task statement that cannot complete without user intervention, because they will not be completed.

Process statements that follow the run task statement do not execute until the command completes. The run task execution results in a return code which is the exit code for the program executed using run task.

The following is the Sterling Connect:Direct for UNIX Run Task statement format. Refer to "Sterling Connect:Direct for UNIX Process Parameters" on page 105 for more information.

Label	Statement	Parameters
stepname	run task	(pgm=program-name)
		pnode snode
		sysopts="unix command [;unix command [;unix command...]]"

Sterling Connect:Direct for UNIX Submit Statement

The submit statement submits another Sterling Connect:Direct Process from within an executing Process. The Process can be submitted to either the pnode or the snode.

The submitted Process must reside on the node where the submit statement executes. This node is referred to as the subnode.

Any values specified in the submit statement override the values contained in the process statement.

The submit statement execution produces a return code.

The submit statement is not the same as the submit command.

The following is the Sterling Connect:Direct for UNIX Submit statement format. Refer to “Sterling Connect:Direct for UNIX Process Parameters” on page 105 for more information.

Label	Statement	Parameters
stepname	submit	file=filename
		<i>business process name</i>
		class=n
		hold=yes no call
		newname=new process name
		notify=username@hostname or user@localhost
		pacct="pnode accounting data"
		plexclass=remote_plexclass
		pnodeid=(id [,pswd])
		prty=nn
		retain=yes no initial
		sacct="snode accounting data"
		snode=[nodename] [(hostname nnn.nnn.nnn.nnn);(portnumber portname)]
		snodeid=(id [,pswd[,newpswd]])
		startt=([date day][,hh:mm:ss[am pm]])
		subnode=pnode snode
		&symbolic name1=variable string 1 & symbolic name2=variable string 2 . . . & symbolic namen=variable string n

Sterling Connect:Direct for UNIX Conditional Statements

Conditional statements alter Process execution sequence based on the completion of the previous step in the Process.

The following is the Sterling Connect:Direct for UNIX Conditional statements format.

Label	Statement	Parameters
optional	if	(label condition nn) then

Label	Statement	Parameters
		(process steps)
	else	
		(alternative process steps)
	elif	
optional	goto	label
		exit

Sterling Connect:Direct for UNIX Pend Statement

The optional pend statement indicates the end of an Sterling Connect:Direct for UNIX Process. There are no parameters for the pend statement.

Sterling Connect:Direct for UNIX Process Parameters

ckpt = no | n | nK | nM | nG

specifies the byte interval for checkpoint support, which allows restart of interrupted transmissions at the last valid checkpoint point and therefore reduces the time to retransmit the file. If the ckpt parameter and value are not specified, the default is the value specified by the ckpt.interval parameter in the Initialization Parameters file. Specify this parameter between the from and to parameters.

The following table shows the maximum number of digits for each option.

Option	Byte Interval
no	no checkpointing
nnnnnnnnnn	number of bytes
nnnnnnnK	number of kilobytes
nnnnM	specifies a number of megabytes
nG	specifies a number of gigabytes

class = n

determines the node-to-node session on which a Process can execute. A Process may execute on the class specified or any higher session class. The default class is specified as the sess.default parameter in the Initialization Parameters file. The class default is 1.

compress [[primechar = x'xx' | x'20' | c'c'] | extended=[(CMPlevel = 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 WINDsize = 9 | 10 | 11 | 12 | 13 | 14 | 15 MEMlevel = 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9)]]

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 will be automatically decompressed at the destination. The default subparameter for the compress parameter is primechar=x'20'. Use compress for text data or single-character repetitive data. Use compress extended for all other types of data. Specify this parameter between the from and to parameters.

Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

primechar specifies the primary compression character. The default value for primechar is x'20'.

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 will be compressed to one byte.
- Repetitive occurrences (ranging from 3-63) of any other character will be compressed to two bytes.

extended 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 and data is repetitive. Use CMPlevel, WINDOWsize, and MEMlevel to refine the extended compression.

CMPrlevel is the compression level used. Level 1 is the fastest but offers the least degree of compression. Level 9 provides the greatest degree of compression but the slowest rate of compression. The default is 1 unless overridden in the initialization parameters.

WINDOWsize specifies the size of the compression window or history buffer. The greater the window size is, the greater the degree of compression but at the cost of a greater amount of virtual memory that is used. The default is 13. The following table indicates the approximate amount of memory used for each window size.

Window Size	Memory Used
9	2K
10	4K
11	8K
12	16K
13	32K
14	64K
15	128K

MEMlevel specifies how much virtual memory should be allocated to maintain the internal compression state. Memory level 1 uses the least amount of memory, but slows processing and reduces the degree of compression. Memory level 9 provides the fastest speed but uses the most memory. The default is 4. The following table shows approximate memory usage for each memory level setting.

Memory Level	Memory Usage
1	1K
2	2K
3	4K
4	8K
5	16K

Memory Level	Memory Usage
6	32K
7	64K
8	128K
9	256K

condition

The condition parameter specifies the type of comparison that will be performed. This condition checking can be based on such comparisons as equal to, greater than, or less than. The valid conditions are as follows:

== | **=** | **eq** specifies that the return code must be equal to the value *nn* for the condition to be satisfied.

<> | **!=** | **ne** specifies that the return code must not equal the value *nn* for the condition to be satisfied.

>= | **=>** | **ge** specifies that the return code must be greater than or equal to the value *nn* for the condition to be satisfied.

> | **gt** specifies that the return code must be greater than the value *nn* for the condition to be satisfied.

<= | **=<** | **le** specifies that the return code must be less than or equal to the value *nn* for the condition to be satisfied.

< | **lt** specifies that the return code must be less than the value *nn* for the condition to be satisfied.

copy

identifies the copy statement.

crc =on | off

determines if CRC checking is activated for a process. To define this parameter, the user must be given the authority to perform CRC checking in the user authority. You can globally turn on CRC checking using the initialization parameter. CRC checking can only be performed for TCP/IP processes and cannot be used by Processes using Sterling Connect:Direct Secure Plus or SNA. If CRC checking is enabled for a Process on a Sterling Connect:Direct Secure Plus enabled node or on a computer with SNA enabled, CRC checking is ignored.

When CRC checking is performed, the copy termination statistics record contains a message indicating that CRC was performed for a Process.

disp = [(new | **mod** | rpl) D]

defines the state that the target file should be in when it is opened. The *disp* parameter also determines how the file should be opened, either *new*, *mod*, or *rpl*.

new indicates the file must not already exist.

mod indicates that if the file already exists, data will be appended to the end of the file. If the file does not exist, then *mod* behaves as if *new* is specified.

rpl indicates that copy to will act as if *disp=new* was specified if the file does not already exist. If the file exists, then it will be overwritten. The default is *rpl*.

dsn = dsn[(member)]

specifies the name of the data set containing the job to be submitted. If the file is a PDS, the member containing the job must be specified. The data set containing the job must already exist on the node where the job will be submitted. This parameter is required.

eof

is required for specifying the end of the if then or if then else block of statements. No parameters exist.

else

designates a block of Sterling Connect:Direct statements that execute when the if then condition is not satisfied. No parameters exist.

exit

is used to bypass all remaining steps within a Process. No parameters exist.

file = filename

specifies the name of the file that contains the Process. The file name may include a pathname indicating the location of the Process. There is no practical limit on the character length of the file parameter. This parameter is required.

Note: A pathname recognized in cli is relative to the current working directory. An absolute path (starting from root "/") will always work.

Enclose the file name in double quotation marks when using a reserved word (statement name or keyword) for the file name.

file = filename | dsn = filename | file = "unix command [;unix command [;unix command...]]"

The file or dsn parameter specifies the optional path name and required file name. The file name can be enclosed in double quotation marks.

If `sysopts="pipe=yes"`, the file parameter specifies a UNIX command to execute. The command can be a command, program, or shell script including any options and arguments.

When specifying `file = filename`, enclose the file name in double quotation marks when using a reserved word (statement name or keyword) for the file name.

Sterling Connect:Direct for UNIX supports the string (*) and character (?) wildcards, allowing you to copy multiple files from a source directory to a target directory with a single copy command.

You can use a Sterling Connect:Direct for UNIX node to perform a wildcard copy send to any other Sterling Connect:Direct platform. With a Sterling Connect:Direct UNIX node, you can receive a wildcard copy only from a Sterling Connect:Direct for Microsoft Windows node or from another Sterling Connect:Direct for UNIX node.

from

specifies the source file characteristics. This parameter is required.

goto

moves to a specific step within a Process. See the following Field Descriptions section for details.

hold = yes | no | call

specifies how the Process is handled in the Hold queue.

yes specifies that the Process is held in the Hold queue in HI status until it is released by a change process command. When hold=yes and a startt value is specified, the hold parameter takes precedence. A Process submitted with hold=yes is placed in the Hold queue even if a start time is specified.

Note: When a Process is submitted with retain=yes and hold=no or hold=call, the hold parameter is ignored.

no specifies that the Process is not held in the Hold queue. It is executed as soon as resources are available. The default is no.

Setting hold to no value, such as hold or hold=, does not produce an error. It is another way of placing the Process in the Hold queue similar to setting Hold=yes.

call specifies that the Process is held (no prompt returns) until the remote node (snode) connects to the local node (pnode). At that time, the Process is released for execution. The Process is also released when another Process on the local node connects to the snode.

if then

specifies that a block of Sterling Connect:Direct statements execute based on the completion code of a Process step. An eif statement must be used in conjunction with an IF THEN statement.

Label

Sterling Connect:Direct statements are identified by user-defined labels. A label is any character or character string beginning in column one. The label consists of a 1-256 character alphanumeric string.

Statement names and keywords are reserved and cannot be used as labels.

You can use the label to identify the Process in any messages or statistics relating to this Process

Although the Sterling Connect:Direct UNIX label may be up to 256 characters long, labels for many of the Sterling Connect:Direct platforms cannot exceed eight characters.

A label is required for the Process statement to define a Process name. The Process name can be used as the pname parameter value on the change process, delete process, flush process, select process, and select statistics commands for the name of the target Process. The Process statement must be on the same line as the label.

A label is not required on any other Sterling Connect:Direct UNIX statement.

newname = new process name

specifies the new name to be given to the Process. This value overrides the label on the process statement. There is no practical limit on the character length of the newname parameter.

nn

This parameter specifies the numeric value to be used for return code checking. If specified as x'nn', it is a hexadecimal value. Any other specification indicates it is decimal. Standard return codes are as follows:

- 0 indicates successful completion.
- 4 indicates warning.
- 8 indicates error.
- 16 indicates catastrophic error.

notify = username@hostname or user@localhost

specifies the user name to receive Process completion messages. This parameter uses the rmail utility available in the UNIX System V mail facility to deliver the completion messages.

pacct = "pnode accounting data"

specifies accounting data for the pnode. The maximum length of the string is 256 characters. The string must be enclosed in double quotation marks.

pend

The pend statement is optional and marks the end of an Sterling Connect:Direct UNIX Process. There are no parameters associated with the pend statement.

pgm = program-name

specifies the name of the program to be attached as the subtask. The program runs on the node specified and has access to the DD cards allocated on that node only.

plexclass=remote_plexclass

specifies the 1–8 character name of a valid plexclass on the remote server. This parameter gives you control over which Sterling Connect:Direct/Plex Server is selected by the Sterling Connect:Direct/Plex Manager to execute a Process. For example, you can specify plexclass=tape in a Process to direct a Process to a Sterling Connect:Direct/Plex Server that has a tape drive.

pnode

When specified on the **copy from** parameter, the file to be copied resides on the primary node. When specified on the **copy to** parameter, the file is sent to the primary node. Pnode is the default for the from parameter.

On a run job or run task statement, specifies that the job executes on the PNODE.

pnodeid = (id [,pswd])

specifies security information for the Process on the pnode. Each pnodeid parameter value can be 1-64 alphanumeric characters long.

id specifies the user ID to be used as a security ID on the pnode.

pswd specifies a user password on the pnode.

If pswd is specified, id also must be specified. These values must be specified in the order of id and pswd.

prty = nn

specifies the priority of the Process on the Transmission Control Queue (TCQ). The prty parameter is used only for Process selection. A Process with a higher priority is selected for execution before a Process with a

lower priority. The value specified for the `prty` parameter does not affect the priority during transmission. Values range from 1-15. The highest priority is 15. If `prty` is not specified, the default is 10.

retain = yes | no | initial

specifies whether the Process is retained on the TCQ in the Hold queue for re-execution after execution has completed.

yes specifies that the Process is retained on the Hold queue in HR status after execution. The Process must then be released manually through the change process command to cause it to be executed, or explicitly deleted through the delete process command. When a Process is submitted with `retain=yes` and `hold=no` or `hold=call`, the `hold` parameter is ignored.

no specifies that the Process is not retained. The default is `no`.

initial specifies that the Process is retained on the Hold queue in HR status and automatically executed each time the Process Manager initializes. The `startt` parameter should not be specified when `retain=initial` is specified. This causes the SUBMIT command to fail.

run job

identifies the run job statement.

run task

identifies the run task statement.

sacct = "snode accounting data"

specifies accounting data for the snode. The maximum length of the string is 256 characters. The string must be enclosed in double quotation marks.

The `sacct` parameter overrides any accounting data specified on the process statement of the submitted Process.

snode

When specified with the **copy from** parameter, the file to be copied resides on the secondary node. When specified with the **copy to** parameter, the file is sent to the secondary node. `snode` is the default for the `to` parameter.

On a run job or run task statement, specifies that the job executes on the PNODE.

snode = [nodename] | [(hostname | nnn.nnn.nnn.nnn);(port number | portname)]

is a 1-256 alphanumeric character string that specifies the node name of the secondary node. The `snode` default value is the value specified in the process statement. It is required either on the submit command or process statement.

nodename is the node name of the adjacent Sterling Connect:Direct node. The secondary node name corresponds to an entry in the network map file.

hostname is the name of the host machine where the remote Sterling Connect:Direct is running. This is applicable only for TCP/IP.

nnn.nnn.nnn.nnn is the IP address of the remote Sterling Connect:Direct node. Each `nnn` is a decimal number from 0-255, inclusive. This is applicable only for TCP/IP.

portnumber | portname identifies the communications port for the Sterling Connect:Direct software. The portnumber is a decimal number from 1024-65535. The default is 1364. This is applicable only for TCP/IP.

snodeid = (id [,pswd[,newpswd]])

specifies security user IDs and security passwords for the Process on the SNODE. Each snodeid parameter value can be 1-64 alphanumeric characters.

id specifies the user ID to be used as a security ID on the snode.

pswd specifies the user password on the snode.

newpswd specifies the new password value. The user password is changed to the new value on the snode if the user ID and old password are correct. The newpswd parameter is not valid if the snode is a Sterling Connect:Direct UNIX node.

If pswd is specified, id also must be specified. If newpswd is specified, pswd also must be specified. These values must be specified in the order of id, pswd, and newpswd.

startt = ([date | day] [,hh:mm:ss [am | pm]])

specifies that the Process is executed at a specified date and/or time. The Process is placed in the Timer queue in WS status. The date, day, and time values are positional subparameters. If date or day is not specified, a comma must precede time.

The startt parameter should not be specified when retain=initial is specified. This causes the submit command to fail.

date specifies that the Process will execute on a specific date. You can specify the date subparameter in the format mm/dd/yyyy or mm-dd-yyyy, where:

- mm indicates month
- dd indicates day
- yyyy indicates year

If only date is specified, time defaults to 00:00. The current date is the default.

day specifies the day of the week a Process is released for execution. Values are today, tomorrow, monday, tuesday, wednesday, thursday, friday, saturday, and sunday.

If only day is specified, time defaults to 00:00:00. For example, if a Process is submitted on Monday, with monday as the only startt parameter, the Process does not run until the following Monday when the time reaches 00:00:00.

hh:mm:ss [am | pm] specifies the hour (hh), minute (mm), and second (ss) the Process should start. You can specify hour in either 12- or 24-hour format. If you use 12-hour format, you must specify am or pm. A space is required before am or pm. The default is 24-hour format. The default value is 00:00:00.

When both hold=yes and a startt value are specified, the hold specification takes precedence. Therefore, a Process submitted with hold=yes is placed on the Hold queue even if a start time is specified

submit

identifies the submit statement.

subnode = pnode | **snode**

specifies the node on which the Process will be submitted. The Process must reside on the node on which it is being submitted.

pnode specifies that the Process is submitted on the node that has Process control. The default value is pnode.

snode specifies that the Process is submitted on the node participating in, but not controlling, Process execution.

&symbolic name1 = variable string 1

&symbolic name2 = variable string 2

.

.

.

&symbolic namen = variable string n

specifies the value for a symbolic parameter in the Process. This default can be overridden when submitting the Process. The value is substituted within the Process when the symbolic parameter is encountered. Enclose the symbolic parameter value in double quotation marks if it is a keyword or contains special characters. A symbolic name cannot exceed 32 characters.

The symbolic parameter can be set to a single ampersand symbolic parameter that was resolved during the first Process submission. Do not use identical symbolic names.

If a symbolic value is a double quoted string and it is desired to preserve the double quotes when the symbol is resolved in the process, enclose the double quoted string in single quotes. For example: `&filename = 'file name with spaces'`

sysopts=":datatype=text | **binary**:"

":xlate=no | **yes**:"

":xlate.tbl=<pathname/filename>:"

":strip.blanks=yes | no:"

":permss=nnn:"

":pipe=yes | **no**:"

":codepage=(source codepage, destination codepage):" " :=yes | **no**:"

specifies system-specific parameters on the copy statement. The subparameters are specified in the same format as fields within a Sterling Connect:Direct UNIX configuration file. They are a series of field names and values (`fldn=valn`), each of which is delimited by a colon. Enclose the string of subparameters in double quotes; for example:

```
":fld1=val1:fld2=val2:...:fldn=valn:"
```

datatype specifies the type of data contained within the file: **text**, **binary**, or **vb**.

text indicates it is a text file. The default is text. The following shows the default source file attributes assigned for UNIX text files, which are to be used if necessary by the remote Sterling Connect:Direct node:

- dsorg=ps
- recfm=vb
- lrecl=23036

- blksize=23040

binary indicates the file contains binary data. The following shows the default source file attributes assigned for UNIX binary files, which are to be used if necessary by the remote Sterling Connect:Direct node:

- dsorg=ps
- recfm=u
- lrecl=0
- blksize=23040

vb indicates the file is in variable block format. Variable block format is structured as follows:

BDW | RDW | Data . . . | BDW | RDW | Data . . .

- BDW=block descriptor word containing 2 bytes for the length of the block (including 4 bytes of the BDW) and 2 bytes of zeros
- RDW=record descriptor word containing 2 bytes for the length of the block (including 4 bytes of the RDW) and 2 bytes of zeros
- Data=record of user data equal in length to the RDW minus the 4 bytes of the RDW (for example, an RDW of 76 bytes is followed by a record of 72 bytes)

Note: The **vb** feature does not support ASCII/EBCDIC translation. If you specify **":datatype=vb:"**, specify **":xlate=no:"**. The copy will fail if you specify **":xlate=yes:"**.

xlate = no | yes indicates whether character translation should be performed using the default or user-supplied translation table. Typically, this translation is between ASCII and EBCDIC.

- no specifies the translation is not performed. no is the default for binary files.
- yes specifies the translation is performed. yes is the default for text files.

xlate.tbl =<pathname/filename> specifies that a translation table is to be used that is different from the default table used by the Sterling Connect:Direct software.

strip.blanks determines whether trailing blank characters are removed from a line of text before it is written to the UNIX text file.

- yes specifies to remove trailing blank characters. This is the default.
- no specifies trailing blank characters are not removed.

permis=nnn specifies the UNIX file permissions for a file being created by the copy operation. The permis subparameter is ignored if it is specified for a file that already exists.

nnn is a 3-digit octal number that defines privileges for users. Each type of user (owner, group, and others, respectively) can be assigned read, write, and execute privileges.

The following table shows valid octal numbers and associated permissions for each n based on the binary numbering system:

Octal	Binary	Permissions
0	000	No permissions
1	001	Execute permission
2	010	Write permission

Octal	Binary	Permissions
3	011	Write and execute permissions
4	100	Read permissions
5	101	Read and execute permissions
6	110	Read and write permissions
7	111	Read, write, and execute permissions

For example, `perms=634` indicates that the owner has read and write permissions, the group has write and execute permissions, and others have read permissions.

pipe = yes | no specifies whether the pipe I/O function is activated. The pipe I/O function allows commands, programs, or shell scripts including any options and arguments to be copied to the destination file or from the source file.

- **yes** specifies the pipe I/O function is activated.
- **no** specifies the pipe I/O function is not activated.

Note: Checkpoint/restart is not supported for the pipe I/O function.

codepage=(source codepage, destination codepage)=yes | no specifies whether Sterling Connect:Direct will automatically decompress a file that was ressed with the `cdsacomp` utility. See the *IBM Sterling Connect:Direct for UNIX User's Guide* for more information on the `cdsacomp` utility.

- **Yes** indicates that the from data set is ressed and tells Sterling Connect:Direct to decompress the file as part of the Process.
- **No** tells Sterling Connect:Direct that the from file is not compressed, or to send the compressed file in compressed format. ressed files copied with this value can be decompressed offline on another Sterling Connect:Direct for UNIX or Sterling Connect:Direct for z/OS system using the `cdsacomp` utility.

If `sysopts` are not coded or if `sysopts=":=no:"`, a ressed file is sent in compressed format and the receiver must run `cdsacomp` with `"-mode decompress"`. If the from file is not compressed, regular or extended compression may be used in the Copy step. Do not use regular or extended compression in the Copy step if the from file is compressed.

codepage=(source codepage, destination codepage)

determines which codepage is used to translate a file.

Note: If you do not identify two parameters (source codepage, destination codepage) in the **from** statement or in the **to** statement, the codepage listed as the source is converted to UTF-8, sent, and then converted to the codepage identified in the **to** statement at the destination location. When this occurs, the file can be translated incorrectly.

Three methods can be used to translate files:

- `sysopts=":codepage=(source codepage, destination codepage):"`
This definition can be used either in the **from** or **to** statement and identifies the codepages used for translating a file either before it is transferred (**from**) or after it is received at the destination location (**to**).
- `from sysopts=":codepage=source codepage:"` to `sysopts=":codepage=destination codepage:"`

This definition translates the file using the source codepage defined in the **from** statement to UTF-8 format, transfers the file, and then translates it at the destination from UTF-8 to the codepage defined in the **to** statement. See the note above.

- **from** sysopts=":codepage=(*source codepage, transitional codepage*):" to sysopts=":codepage=(*transitional codepage, destination codepage*):"

This definition translates the file using the source codepage defined in the **from** statement to the transitional codepage, transfers the file, and then translates it at the destination location from the transitional codepage to the destination codepage defined in the **to** statement. If UTF-8 is used as the transitional codepage, then this translation method performs the same as the second translation method described above.

Codepage translation supports the translation of text or binary files. When translating text files, codepage translates one line at a time. The trailing line feed character is removed from the text line. If the **strip.blanks** parameter is set to **yes**, trailing blanks are removed from the file and a line feed is appended to the line of text.

sysopts = "unix command [;unix command [;unix command...]]"

specifies a UNIX command to execute under a B shell. The command can be a command, program, or shell script including any options and arguments. Specify the command as if it were being issued at a UNIX terminal. This parameter is required.

The run job statement does not wait until the UNIX command is completed to complete execution. Once started, the UNIX command or commands in a run job statement will be permitted to continue execution. Sterling Connect:Direct for UNIX does not have control over the UNIX commands.

The run task statement waits until the UNIX command has completed execution. The UNIX command or commands executed in a run task step can be terminated by a flush process force or a stop force or stop immediate command.

then

specifies subsequent processing based on the other specified parameters.

to

specifies the destination file characteristics. This parameter is required

Chapter 6. VM/ESA Statements and Parameters

Sterling Connect:Direct for VM/ESA Process Statement

The PROCESS statement defines the attributes of a Process and is always the first statement in a Process.

The following is the Sterling Connect:Direct for VM/ESA Process statement format. Refer to Sterling Connect:Direct for VM/ESA Process Parameters for more information.

Label	Statement	Parameters
process name	PROCCess	SNODE = secondary-node-name
		SACCT = 'snode-accounting-data'
		PNODE = primary-node-name
		PNODEID = (id [,pswd] [,newpswd])
		SNODEID = (id [,pswd] [,newpswd])
		PACCT = 'pnode-accounting-data'
		CLASS = n
		MAXDELAY = [UNLIMITED QUEUED 0 hh:mm:ss]
		HOLD = Yes No Call
		PRTY = n
		NOTIFY = %USER userid
		REQUEUE = Yes No
		RETAIN = Yes No Initial
		STARTT = ([date day][,hh:mm:ssXM])
		&symbolic_name_1 = variable-string-1 &symbolic_name_2 = variable-string-2 . . . &symbolic_name_n = variable-string-n

The maximum storage area allowed for a Process statement is 64K. To accommodate a larger Process, split the Process into two separate Processes. Include a SUBMIT statement in the first Process to run the second Process.

Sterling Connect:Direct for VM/ESA Copy Statement

The COPY statement copies CMS (Conversational Monitor System) files, a set of CMS files, a Group of files, and VSAM files between nodes.

The COPY statement contains a FROM parameter that specifies the source file name and a TO parameter that specifies the destination file name. You can specify additional parameters to customize the file transfer.

To copy from one Sterling Connect:Direct system environment to another, refer to the appropriate COPY FROM and TO sections for those environments. For

example, if the source file is located on Sterling Connect:Direct for HP NonStop, refer to the Sterling Connect:Direct for HP NonStop COPY FROM information. If the destination file is on Sterling Connect:Direct for VM/ESA, refer to the VM/ESA COPY TO information.

The following is the Sterling Connect:Direct for VM/ESA COPY statement format. Refer to Sterling Connect:Direct for VM/ESA Process Parameters for more information.

Label	Statement	Parameters	
stepname	COPY	From	(
			(FROM) DSN = 'filename filetype' GROUP = '* * ... *'
			LINK=(vmid,pwd,accmode,ccuu) LINK = (userid,password,mode,ccuu)
			VSAMCAT = (dsn,vmid,pwd,accmode,ccuu)
			PNODE SNODE
			TYPE = typekey
			DCB =([BLKSIZE=no. bytes, DEN=[0 1 2 3 4], DSORG=[PS VSAM], LRECL=no. bytes, RECFM=record format, TRTCH=[C E T ET] [COMP XF NOCOMP NF]])
			(FROM) DISP = ([OLD SHR])
			LABEL =([file sequence number], [SL NL], [RETPD=nnnn EXPDT=yyddd])
			UNIT=(3480 TAPE) UNIT = (3480 3480X TAPE)
			VOL = (,[volume sequence number], [volume count], SER=volume serial number (list))
			EXCLUDE = [(generic member (startrange/stoprangle) list)]
			REPLACE NOREPLACE
			SELECT = [(member generic (*) (member, [newname], [NR R]) (generic, [NR R]) (startrange/stoprangle, [NR R]) list)]
			SFSDIR=('dirid', [CRE , NOCRE])
)
		TO	(
			(TO) DSN = 'filename filetype' DSN = 'ISPOOL vmid fn ft' GROUP = '%1% ... %N%'
			LINK=(vmid,pwd,accmode,ccuu) LINK = (userid,password,mode,ccuu)
			VSAMCAT = (dsn,vmid,pwd,accmode,ccuu)
			PNODE SNODE
			SFSDIR=('dirid', [CRE , NOCRE])
			TYPE = typekey
			PROTECT = Yes No

Label	Statement	Parameters
		DCB =([BLKSIZE=no. bytes, DEN=[0 1 2 3 4], DSORG=[PS VSAM], LRECL=no. bytes, RECFM=record format, TRTCH=[C E T ET] [COMP XF NOCOMP NF]])
		(TO) DISP = [NEW OLD RPL SHR MOD]
		LABEL =([file sequence number], [SL NL], [RETPD=nnnn EXPDT=yyddd])
		UNIT=(3480 TAPE) UNIT = (3480 3480X TAPE)
		VOL = (, [volume sequence number], [volume count], SER=volume serial number (list))
		SYSOPTS='!SPOOL[CLASS x] [DIST distcode * OFF] [FORM form OFF]'
		CKPT = [nK nM]
		COMPRESS [PRIMEchar=X'40' X'xx' C'c'] [EXTended] Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.
		OLDDATE

Sterling Connect:Direct for VM/ESA Run Job Statement

The RUN JOB statement enables a file to be punched to a RDR of a specified virtual machine. This sends EXEC-type job streams and data to a service machine running a product such as VMBATCH or CMSBATCH in a format that those products can interpret and execute.

Specify the file name to be punched in the DSN keyword. Specify link information for access to the disk that contains the file to be sent, using the syntax rules for the LINK parameter on the VM/ESA COPY statement. Specify the target virtual machine ID name in the BATCHID keyword.

The service machine and the disk file to be punched must be on the same system on the PNODE or SNODE. Otherwise, you must perform a copy prior to the RUN JOB to move the disk file to the system where the service machine is located.

The data to be sent must be in a fixed format, 80-byte record file.

The following is the Sterling Connect:Direct for VM/ESA Run Job statement format. Refer to Sterling Connect:Direct for VM/ESA Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN JOB	(
		DSN='filename filetype'
		LINK=(userid,password,mode,ccuu)
		BATCHID=VM-ID-name
		PNODE SNODE

Label	Statement	Parameters
)

Sterling Connect:Direct for VM/ESA Run Task Statement

The RUN TASK statement attaches user programs, or subtasks, during Process execution. When a Sterling Connect:Direct Process issues a RUN TASK statement, the Sterling Connect:Direct Process waits until the subtask finishes before executing the next Sterling Connect:Direct Process step.

The subtask can be attached at either the PNODE or SNODE.

You can pass a list of user parameters to the subtask from the RUN

TASK statement. The RUN TASK statistics log records the return code of the subtask, program name, parameter list, and dates and times for starting and completing the subtask.

The library containing the program used with the RUN TASK statement must be defined with a Group Control System (GCS) Global Loadlib command.

The following is the Sterling Connect:Direct for VM/ESA Run Task statement format. Refer to Sterling Connect:Direct for VM/ESA Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN TASK	(
		PGM=program-name
		PARM=(parameter [,parameter,...])
)
		PNODE SNODE

Sterling Connect:Direct for VM/ESA Submit Statement

The SUBMIT statement submits another Sterling Connect:Direct Process from within an executing Process. The Process can be submitted to either the PNODE or the SNODE.

The submitted Process must reside on the node where the SUBMIT statement executes. This node is referred to as the SUBNODE.

The SUBMIT statement is not the same as the SUBMIT command. The SUBMIT statement parses special characters differently from the SUBMIT command. Refer to a discussion of special character parsing. See the *IBM Sterling Connect:Direct for VM/ESA User's Guide* for SUBMIT command syntax and parameters.

The following is the Sterling Connect:Direct for VM/ESA Submit statement format. Refer to Sterling Connect:Direct for VM/ESA Process Parameters for more information.

Label	Statement	Parameters
stepname	SUBMIT	DSN=`fn ft [fm]'
		NEWNAME=new-name
		SUBNODE=PNODE SNODE
		SNODE=secondary-node-name
		SNODEID=(id [,pswd] [,newpswd])
		SACCT=`snode-accounting-data'
		PNODEID=(id [,pswd] [,newpswd])
		PACCT=`pnode-accounting-data'
		CLASS=n
		HOLD=Yes No Call
		PRTY=n
		NOTIFY=%USER userid
		REQUEUE=Yes No
		RETAIN=Yes No Initial
		STARTT=([date day][,hh:mm:ssXM])
		&symbolic_name_1=variable-string-1 & symbolic_name_2=variable-string-2 . . . & symbolic_name_n =variable-string-n

Sterling Connect:Direct for VM/ESA Conditional Statements

Conditional statements alter the sequence of Sterling Connect:Direct Process execution based on the completion of the previous step in the Process. For example, if a file copy fails, the Process may call an external program to generate a console message and stop the Process. If the file copy succeeds, the Process continues with the next step.

The following is the Sterling Connect:Direct for VM/ESA Conditional statement format. Refer to Sterling Connect:Direct for VM/ESA Process Parameters for more information.

Label	Statement	Parameters
optional	IF	(label condition nn) THEN
		(process steps)
	ELSE	
		(alternative process steps)
	EIF	
optional	GOTO	label
	EXIT	

Sterling Connect:Direct for VM/ESA Symbol Statement

The SYMBOL statement creates symbolic substitution values.

The following is the Sterling Connect:Direct for VM/ESA Symbol statement format. Refer to Sterling Connect:Direct for VM/ESA Process Parameters for more information.

Label	Statement	Parameters
optional	SYMBOL	&symbolic_name=variable-string

Sterling Connect:Direct for VM/ESA Process Parameters

BATCHID = VM-ID-name

specifies the target virtual machine ID name. This parameter is required.

CLASS = n

determines the node-to-node session on which a Process can execute. If CLASS is not specified, the Process uses the class value specified in the ADJACENT.NODE NETMAP record for the destination node (SNODE). Values range from 1-255.

CKPT = [nK | nM]

specifies the byte interval for checkpoint support. This enables restart of interrupted transmissions at the last valid transmission point and reduces restart time.

K denotes thousands, and M denotes millions. A CKPT value of zero (0) stops automatic processing.

Sterling Connect:Direct converts the value to a block boundary, and a data transmission checkpoint is taken at that position. Sequential files can be checkpointed.

COMPRESS [PRIMEchar=X'40' | X'xx' | C'c'] | [EXTended]

specifies to compress the file data, reducing the amount of data transmitted during a file copy. The file is automatically decompressed at the destination.

Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

PRIMEchar specifies the primary compression character. The default value for PRIMEchar is a blank (X'40').

If compression is specified, Sterling Connect:Direct reduces the amount of data transmitted based on the following rules:

- Repetitive occurrences (ranging from 2-64) of the primary compression character are compressed to one byte.
- Repetitive occurrences (ranging from 3-64) of any other character are compressed to two bytes.

EXTended searches for repetitive strings of characters in data and compresses them to codes that are transmitted and converted back to the original string during decompression. It is useful to specify this parameter when line transmission speeds are limited, CPU is available, and data is repetitive.

The following are valid options for EXTended:

- **CMPr1eve1** determines the compression level. The valid value range is 1-9. Level 1 is the fastest compression, but it offers the lowest degree of

compression. A higher compression level produces a higher quality of compression, but the higher level has the slowest rate of compression. The default is 1.

- **WINDsize** determines the size of the compression window or history buffer. This memory is above the line. The valid values are 8-15. Higher window size specifications increase the degree of compression and use more virtual memory. Size **8** uses **1** KB of memory where Size 15 requires 128 KB of memory. The default is 13.
- **MEMlevel** identifies how much virtual memory is allocated to maintain the internal compression state. This memory is above the line memory. The valid value range is 1-9. Level **1** requires the least memory (1K), but it reduces the degree of compression. Level **9** provides the fastest speed, but it uses the most memory (256K). The default is **4**.

The following example shows one way to specify the various EXTended options in a COPY statement:

```
COMPRESS EXT = ( CMP=4
                 WIN=12
                 MEM=8
                 )
```

condition

specifies the type of comparison to be performed. Valid symbols, alternate symbols, and conditions are:

- **= or EQ** specifies that the completion code must be equal to the value nn for the condition to be satisfied.
- **<> or ^= or NE** specifies that the completion code must not equal the value nn for the condition to be satisfied.
- **>= or >= or GE** specifies that the completion code must be greater than or equal to the value nn for the condition to be satisfied.
- **> or GT** specifies that the completion code must be greater than the value nn for the condition to be satisfied.
- **<= or <= or LE** specifies that the completion code must be less than or equal to the value nn for the condition to be satisfied.
- **< or LT** specifies that the completion code must be less than the value nn for the condition to be satisfied.

The completion code from the RUN JOB statement is from the job submission only and is not the completion code of the submitted job.

COPY

identifies the COPY statement. This statement identifier is specified with either the FROM or TO parameter.

```
DCB =( [BLKSIZE=no. bytes, DEN=[0|1|2|3|4], DSORG=[PS|VSAM],
        LRECL=no. bytes, RECFM=record format, TRTCH=[C|E|T|ET] [COMP | XF |
        NOCOMP | NF])
```

specifies source and destination file allocation attributes.

For destination files, these parameters override the DCB information provided in the source file at open time.

For SAM-to-SAM copies where the destination file is new and the DCB parameter is not specified with the TO parameter, the DCB BLKSIZE,

DEN, DSORG, LRECL, RECFM, and TRTCH are taken from the source file or from the TYPE defaults file if the TYPE keyword is specified.

BLKSIZE specifies the length in bytes of the block. The range is 18 bytes to 32,760 bytes. For BLKSIZE greater than 32760 bytes, you must use the DMGIOX64 exit described in the Using Sterling Connect:Direct Exits chapter of the *IBM Sterling Connect:Direct for VM/ESA Administration Guide*.

DEN specifies the magnetic tape mode setting. The following table shows values for the DEN parameter for 7- and 9-track tape. Specifying the DEN and TRTCH values together selects a tape device for allocation by Sterling Connect:Direct for VM/ESA.

DEN	7-Track Tape	9-Track Tape
0	200 bpi	-
1	556 bpi	-
2	800 bpi	800 bpi (NRZI) NRZI is Non-Return-to-Zero Inverted recording mode
3	-	1600 bpi (PE) PE is Phase Encoded recording mode
4	-	6250 bpi (GCR) GCR is Group Coded recording mode

DSORG specifies file organization. Supported file organizations are Physical Sequential (PS) and VSAM.

LRECL specifies the length in bytes of the record.

When RECFM=V or RECFM=VB type files are used, the LRECL value must be at least the size of the largest record in the file plus 4 bytes.

If RECFM=V, the BLKSIZE value must be at least the LRECL value plus another 4 bytes. The BLKSIZE value does not need to be an even multiple of LRECL.

RECFM specifies the format of the records in the file. Valid values are F (Fixed), FB, V (Variable), or VB.

TRTCH specifies the magnetic tape mode setting. Specifying the TRTCH and DEN values together selects a tape device for allocation by Sterling Connect:Direct for VM/ESA. 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 | XF** specifies the tape to create in compressed format.
- **NOCOMP | NF** specifies the tape to create without compression.

DSN = 'filename filetype'

specifies the destination filename and file type. Enclose the filename in single quotation marks. This parameter is required.

DSN = 'fn ft [fm]'

specifies the filename (fn), file type (ft), and optional file mode (fm). This parameter is required.

The optional file mode is the mode of a minidisk accessed by the Sterling Connect:Direct Data Transmission Facility (DTF), not by the CMS user.

If a new Process is created that will be submitted from an existing Process, and if the existing Process is submitted immediately, you must specify the file mode of the new Process.

If the Process has been edited, the DTF machine must re-access the disk where the Process resides.

EIF

is required for specifying the end of the IF THEN or IF THEN ELSE block of statements. There are no parameters.

ELSE

designates a block of Sterling Connect:Direct statements that execute when the IF THEN condition is not satisfied. There are no parameters.

EXCLUDE = [(| generic | member | (startrange/stoprange) | list)]

excludes specific CMS files from a copy.

generic specifies a generic filename. For example, if CDV* is specified, all filenames beginning with CDV and having the specified file type are excluded from a copy.

You can override an excluded generic filename by specifying an individual filename in the SELECT parameter.

member excludes an individual filename. Its exclusion cannot be overridden.

startrange specifies the first name in an alphanumeric range of files to exclude.

stoprange specifies the last name in an alphanumeric range of files to exclude.

Separate the startrange and stoprange parameters with a slash (/). Do not specify generic filenames (*) as startrange or stoprange values. The first and last files specified in the range as well as all files between are excluded.

You can override an excluded range by specifying an individual filename in the SELECT parameter.

EXIT

bypasses all remaining steps within a Process. There are no parameters.

FROM

specifies the source file characteristics. This parameter is required.

(FROM) DISP = ([OLD | SHR])

specifies the source file status and what to do with the file during transmission. Values are:

- **OLD** specifies that the source file existed before the Process began executing and the Process is given exclusive control of the file.

- **SHR** specifies that the source file existed before the Process began executing and the file can be used simultaneously by another job or Process. The default is SHR.

(FROM) DSN = 'filename filetype' | GROUP = '* * ... *'

specifies the source filename and file type, or VSAM filename. The filename and file type are verified based on the VM standard filename conventions.

Enclose the filename in single quotation marks if the copy is from a Sterling Connect:Direct for VM/ESA node or if the Sterling Connect:Direct for z/OS PDS member name contains special characters.

This parameter is required.

GOTO

moves to a specific step within a Process.

HOLD = Yes | No | Call

specifies whether the Process is placed in the Hold queue at submission.

Yes specifies that the Process is submitted to the Hold queue and remains there until the operator releases the Process. When both HOLD=YES and a STARTT value are specified, the HOLD specification takes precedence.

No specifies that the Process executes as soon as possible. This is the default.

Call specifies that the Process is placed in the Hold queue until a VTAM session is established with the specified SNODE. This session can be established by either another Process running on the PNODE or by the SNODE contacting the PNODE. For example, a Process submitted HOLD=NO establishes a session and causes execution of any Processes for this node that are designated HOLD=CALL.

IF THEN

specifies that the Sterling Connect:Direct system executes a block of Sterling Connect:Direct statements based on the completion code of a Process step. An EIF statement must be used in conjunction with an IF THEN statement. A return code with the high order bit on is evaluated as a negative return code.

label

For the **IF THEN statement**, the label specifies the name of a previous step whose completion code is used for comparison.

For the **GOTO statement**, the label specifies the name of a subsequent step in a Process (required for GOTO only). The name can neither be the label of a preceding step nor the label of the GOTO statement of which it is a part.

Labels must begin in column 1. The label is a 1-8 character alphanumeric string, with the first letter alphabetic only.

LABEL =([file sequence number], [SL|NL], [RETPD=nnnn|EXPDT=yyddd])

specifies tape label information.

file sequence number specifies the relative file position on the tape.

SL specifies IBM standard labels.

NL specifies no labels.

RETPD specifies the retention period.

EXPDT specifies the expiration date.

LINK = (userid,password,mode,ccuu)

specifies the disk where the CMS file is located. This parameter allows you to access the CMS file. This parameter is required.

You cannot specify the SFSDIR and the LINK parameter for the same file.

userid specifies the 1-8 character owner ID for the CMS minidisk where the file is located.

password specifies the 1-256 character appropriate password for the CMS minidisk where the file is located. The default password is ALL.

mode 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)
- **MW** (primary multiple access; alternate read/write only access).

When used with the TO parameter, the access modes are:

- **W** (primary read/write access)
- **M** (primary multiple access)
- **WR** (primary read/write access; alternate read only access)
- **MR** (primary multiple access; alternate read only access)
- **MW** (primary multiple access; alternate read/write only access).

CAUTION:

MW access to CMS format disks can be destructive. You must guarantee that no other VM user, or Sterling Connect:Direct Process, has MW, M, or W access to the minidisk. If multiple users or Processes get write access to the disk at the same time, there is a high probability that the CMS directory on the disk will be destroyed. The most likely result is a message from Group Control System (GCS) or an equivalent message from CMS. The GCS message will indicate that a CSIFNS420T file system error was detected. When GCS issues the CSIFNS420T message, GCS terminates all processing.

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

MAXDELAY = [UNLIMITED | QUEUED | 0 | hh:mm:ss]

indicates that the submit command waits until the submitted Process completes execution or the specified time interval expires.

unlimited specifies the **submit** command to wait for the Process to complete execution. UNLIMITED is the default if MAXDELAY is specified without any parameters.

queued specifies the **submit** command waits until the process completes or 30 minutes, whichever occurs first.

0 specifies the **submit** command will attempt to start a session for the submitted Process to execute on immediately. The submit command waits until the Process completes or until all timer retries have been exhausted.

hh:mm:ss specifies that the **submit** command waits for an interval no longer than the specified hours, minutes, and seconds or until the Process completes, whichever occurs first.

NEWNAME = new-name

specifies a new name to be given to a Process. The default value is the PROCESS statement label.

NOTIFY = %USER | userid

specifies the user to receive Process completion messages.

%USER specifies that the user who submitted the Process receives the completion messages if the Sterling Connect:Direct user ID is the same as the VM id. If the Sterling Connect:Direct user ID is different from the VM user ID, the user is not notified.

userid specifies the VM user ID to receive Process completion messages.

NOREPLACE

specifies to not replace a set of existing files with the same name at the destination node.

NOREPLACE takes effect only when the FROM and TO files are sets of files. The default is REPLACE.

NOREPLACE applies to an entire set of files as opposed to the NR option of the SELECT parameter, which applies to files within a set of files.

nn

specifies the numeric value used for completion code checking. If specified as X'nn', it is a hexadecimal value. Any other specification indicates a decimal.

Typically, if a completion code less than 4 is returned, the Process completed successfully. In most cases, a return code greater than 4 indicates the Process ended in error. A return code equaling 4 indicates a warning.

OLDDATE

specifies that the creation/last modified date and time of the file being transmitted is used to set the creation date and time of the file received.

If OLDDATE, the current date and time are used for the creation date and time of the received file.

Use the OLDDATE parameter for sequential file transfers between two Sterling Connect:Direct for VM/ESA systems, and transfers between a set of CMS files on Sterling Connect:Direct for VM/ESA to partitioned data sets (PDS) on Sterling Connect:Direct for z/OS systems.

PACCT = 'pnode-accounting-data'

specifies the accounting data for the primary node (PNODE). The maximum length of the accounting data is 256 characters. Enclose the

string in single quotation marks if it contains special characters. This data overrides any accounting data specified on the SIGNON command and can be used by a user-written program or statistics exit.

PARM = (parameter [, parameter,...])

specifies the parameters passed to the subtask when that subtask is attached. These parameters are the actual parameters rather than a list of addresses. Specify null parameters by adjacent commas (,,).

The parameter list format consists of a two-byte field, indicating the length of the parameter, followed by the parameter itself. The valid data types for the PARM parameter follow:

CLn'value' specifies a data type of character with a length of n, where n is the number of bytes. The length is optional. If it is not specified the actual length of the value is used. If the length specified is less than the real value, the data is truncated. If the length specified is longer than the value, the value is padded with blanks on the right. For example, CL44'FILE.NAME'.

XLn'value' specifies a data type of hexadecimal with a length of n, where n is the number of bytes. The length is optional. If it is not specified, the length of the value is used. If the length specified is less than the real value the data is truncated. If the length specified is longer than the value, the value is padded on the left with binary zeros. For example, XL8'FF00'.

H'value' specifies a half-word value. No length is specified. The value can be specified with a plus (+) or minus (-) sign. For example, H'-32'. If no sign is provided, plus is assumed.

F'value' specifies a full-word value. No length is specified. The value can be specified with a plus (+) or minus (-) sign. If no sign is provided, plus is assumed. For example, F'4096'.

PLn'value' specifies a packed value. The length is optional. The length specifies the size of the field in bytes and cannot be longer than 16.

If the length is not specified, the length of the value is used. If the length specified is longer than the value, the value is padded to the left with zeros. The value can be specified with a plus (+) or minus (-) sign. For example, PL10'+512'. If no sign is provided, plus is assumed.

If no data type or length is specified, the parameter is assumed to be character type and the length of the parameter is used. For example, if PARM=('FILE.NAME') is specified, the length used is 9.

The parameter can also be specified as a symbolic value that is resolved when the Process is submitted. If a symbol is used, the parameter must be specified without a data type designation or length. For example, &PARM1.

Enclose strings comprised of symbolic substitution in double quotes. Use the data-type format if an ampersand (&) is passed as part of the parameter. For example, CL8'&PARM1' uses no substitution; CL8"&PARM1" indicates that the value is substituted.

PGM = program-name

specifies the name of the program that is attached as a subtask. This parameter is required.

The program runs on the specified node and has access to the DD statements allocated on that node only.

PNODE

On a COPY statement, specifies the primary node in a file copy. When specified with the FROM parameter, the file to be copied resides on the primary node. When specified with the TO parameter, the file is sent to the primary node. PNODE is the default with the COPY FROM parameter.

On a Run Job statement, specifies that the job is submitted on the primary node, which is the default value.

On a Run Task statement, specifies that the program will be executed on the primary node, which is the default.

PNODE = primary-node-name

specifies a 1-16 character alphanumeric name that declares the primary node (PNODE) to be used in this Process. The name can be expressed in alphanumerics or nationals (@ # \$), with embedded periods.

The Process is always submitted in the PNODE. This parameter defaults to the name of the node submitting the Process and does not have to be specified. It is used for documentation purposes only.

PNODEID = (id [,pswd] [,newpswd])

specifies security user IDs and passwords at the primary node (PNODE). This parameter should only be used to validate security with an ID different from the one used to sign on to Sterling Connect:Direct.

id specifies the security ID passed to the security system at the PNODE (1-8 alphanumeric characters).

pswd specifies the 1-8 alphanumeric character password for the specified ID. This parameter can be validated by the security system at the PNODE. This parameter is optional, unless the user's security requires a password.

newpswd specifies a new 1-8 alphanumeric character password. It can be used by the security system to change the current security password to the new security password.

PROcEss

identifies the PROCESS statement. This statement identifier can be abbreviated to PROC.

process name

specifies the 1-8 character name of the Process. The first character must be alphabetic and must start in column one. The PROCESS keyword must be on the same line as the Process name.

This label identifies the Process in any messages or statistics.

PROTECT = Yes | No

specifies whether an IBM RACF profile will be created for a new file.

Yes specifies that a RACF profile will be created for a newly transferred file.

No specifies that a RACF profile will not be created. No is the default.

The PROTECT parameter is valid only with the TO parameter of the COPY statement.

PRTY = n

specifies the Process priority in the Transmission Control Queue (TCQ). The TCQ holds all Processes submitted to Sterling Connect:Direct. The higher the number, the higher the priority.

This priority is used only for Process selection within class and does not affect VTAM transmission priority. The range is from 0-15. If PRTY is not specified, the default is the priority defined by the PRTYDEF keyword in the Sterling Connect:Direct initialization parameters.

REQUEUE = Yes | No

specifies whether a COPY step should be queued again if an x37 termination occurs during processing. This parameter is valid only if used when checkpointing.

Yes places the Process in the Hold queue with a status of HELD IN ERROR (HE). You can then take corrective action and restart the Process at the failing step. Checkpointing resumes at the last successful checkpoint. The Process must be explicitly released from the Hold queue when the status is HELD IN ERROR (HE).

No enables the Process to run to completion, executing subsequent steps when a COPY step fails with an abnormal termination. The default is NO.

REPLACE

specifies that the set of files replaces files of the same name on the destination node.

RETAIN = Yes | No | Initial

keeps a copy of the Process in the Hold queue after the Process executes.

Yes keeps the Process in the Hold queue after initial execution. You must then do one of the following:

- Manually release the Process through the CHANGE PROCESS command to execute it
- Delete the Process through the DELETE PROCESS command
- Specify the STARTT parameter to release the Process again at a specified interval. Using RETAIN=YES with STARTT will run a Process repeatedly at a given interval. However, a date is invalid as a STARTT subparameter when used in conjunction with RETAIN.

When a Process is submitted with RETAIN=YES and HOLD=NO or CALL, the HOLD parameter is ignored.

No specifies that the system deletes the Process after execution. This is the default value.

Initial specifies that the Process executes every time Sterling Connect:Direct is initialized. The Process will not execute when initially submitted. Do not specify STARTT with RETAIN=INITIAL.

RUN JOB

identifies the RUN JOB statement.

RUN TASK

identifies the RUN TASK statement.

SACCT = 'snode-accounting-data'

specifies the accounting data for the SNODE. The maximum length of the accounting data is 256 characters. Enclose the string in single quotation marks if it contains special characters. This data overrides any accounting data specified on the SIGNON command and can be used by a user-written program or statistics exit.

This parameter is ignored when the SNODE is a Sterling Connect:Direct for i5/OSnode.

SELECT = [(**member** | **generic** | (*) | (**member**, [**newname**], [**NR** | **R**]) | (**generic**, [**NR** | **R**]) (**startrange**/**stoprange**, [**NR** | **R**]) | **list** []]

selects files in a set of CMS files for copying.

generic specifies a generic filename. For example, if CDV* is specified, all filenames beginning with CDV and with the specified file type are selected to be copied.

(*) represents a global generic. A global generic indicates that all files in the set of files are included in the copy.

You can override a generic selection with the EXCLUDE parameter.

If you use a generic and specify **NR** or **R** as the third positional parameter, the second positional parameter must be null. For example, **SELECT = (CDV*, ,R)**.

member specifies an individual filename. This is the same as specifying a filename in the DSN.

You can override a filename selection with the EXCLUDE parameter.

newname specifies a new name for a file. If you use a generic name or range is used as the first positional parameter, the newname parameter must be null.

NR specifies that a file will not replace an existing file with the same name at the destination. **NR** overrides the REPLACE parameter.

When used with the newname parameter, NR only applies to the newname and not to the original filename. When used with a generic name or with a range, **NR** applies to all selected files. **NR** applies to files within a set of files, as opposed to NOREPLACE, which applies to the set of files as a whole.

R specifies that a file will replace an existing file of the same name at the destination. **R** overrides the NOREPLACE option. **R** is the default.

When used with the newname parameter, **R** only applies to the newname and not to the original filename. When used with a generic name or with a range, **R** applies to all files selected for that criterion.

startrange specifies the first name in an alphanumeric range of files to select.

stoprange specifies the last name in an alphanumeric range of files to select.

Separate the startrange and stoprange parameters with a slash (/). Do not specify generic filenames (*) or startrange or stoprange values. The first and last files specified in the range as well as all files between are selected.

You can override a selected range by specifying an individual filename in the EXCLUDE parameter.

If you specify a file range, with the NR or R option, you must leave the second positional parameter as null. For example, **SELECT = (file1/file99,,R)**.

SFSDIR=(‘dirid’, [CRE , NOCRE])

specifies the location of the Shared File System (SFS) managed file.

dirid specifies the directory name where the SFS file resides. The maximum length is 153 characters. The minimum specification for dirid is ‘poolid:userid.’

CRE creates a new or extend an existing subdirectory, if the user has creation authority. This is the default.

NOCRE neither creates a new subdirectory nor extends an existing subdirectory.

You cannot specify the SFSDIR and the LINK parameters for the same file.

SNODE

On a Copy statement, specifies the secondary node. When SNODE is specified with the FROM parameter, the file to be copied resides on the secondary node. When SNODE is specified with the TO parameter, the file is sent to the secondary node.

On a Run Job statement, specifies that the job is submitted on the secondary node.

On a Run Task statement, specifies that the subtask will be attached on the secondary node.

SNODE = secondary-node-name

is a 1-16 character alphanumeric name that specifies the secondary node (SNODE) used in the Process. The name can be alphanumeric or nationals (@ # \$) with embedded periods. This parameter is required for the PROCESS statement, unless it is specified in the SUBMIT statement.

This is the logical node name that has been defined in the ADJACENT.NODE entry for that node in the network map. The PNODE and SNODE can specify the same symbolic node name.

When used in the SUBMIT statement, this parameter overrides the value specified in the PROCESS statement. The default value for SNODE is the value specified in the PROCESS statement.

SNODEID = (id [,pswd] [,newpswd])

specifies security user IDs and passwords at the SNODE.

For Sterling Connect:Direct for i5/OS, if the Process submitter’s SNODEID and password is not specified in the PROCESS statement, the Process submitter’s user ID and password is used for the Sterling Connect:Direct for i5/OS security ID and password check.

id specifies the 1-8 character security ID passed to the security system on the SNODE.

For Sterling Connect:Direct for HP NonStop, this subparameter specifies the HP NonStop group number and user number. These numbers can range from 0-255. Use a period as a separator between the group number and the user number.

For Sterling Connect:Direct for i5/OS, this subparameter specifies the i5/OS user profile used for authorization checks during Process execution. It is limited to 8 characters even though i5/OS user profiles may be 10 characters long.

pswd specifies the current 1-8 character security password and can be used by the SNODE security system to validate the security password. This is optional unless the user's security requires a password.

For Sterling Connect:Direct for HP NonStop, the VM node only recognizes passwords specified in uppercase alphanumeric characters. A Process cannot be successfully initiated from Sterling Connect:Direct for VM/ESA with Sterling Connect:Direct for HP NonStop unless the Sterling Connect:Direct for HP NonStop SNODEID password only contains uppercase alphanumeric characters (no control characters).

newpswd specifies the new 1-8 alphanumeric security password and can be used by the security system to change the current password to a new password.

For Sterling Connect:Direct for HP NonStop, SAFEGUARD must be running on HP NonStop.

For Sterling Connect:Direct for i5/OS, this subparameter is ignored.

STARTT = ([date | day][,hh:mm:ssXM])

specifies that the Process will be executed at a selected date or time. The date, day, and time are positional parameters. If the date or day is not specified, a comma must precede the time.

Do not specify STARTT with RETAIN=INITIAL.

If you specify both HOLD=YES and a STARTT value in a Process, the HOLD specification takes precedence, and the Process is placed in the Hold queue.

date specifies that the Process starts on a specific date. Depending on the value of the DATEFORM initialization parameter, you can specify the date in one of the following formats:

DATEFORM Value	Formats			
DATEFORM=MDY (default)	mm/dd/yy	mm/dd/yyyy	mm.dd.yy	mm.dd.yyyy
DATEFORM=DMY	dd/mm/yy	dd/mm/yyyy	dd.mm.yy	dd.mm.yyyy
DATEFORM=YMD	yy/mm/dd	yyyy/mm/dd	yy.mm.dd	yyyy.mm.dd
DATEFORM=YDM	yy/dd/mm	yyyy/dd/mm	yy.dd.mm	yyyy.dd.mm

You can use periods or slashes (/) to separate the components of a date value. You can omit the period or slash separators for transfers between mainframe nodes.

If you only specify a date, the time defaults to 00:00.

If you specify RETAIN=YES, you cannot specify a date in the STARTT parameter.

Valid Julian date formats are yyddd, yyyyddd, yy/ddd, yyyy/ddd, yy.ddd, or yyyy.ddd.

day specifies the day of the week to release the Process for execution. Valid names include MOnDay, TUEsday, WEDnesday, THursday, FRiday, SATurday, and SUNday. You can abbreviate the day value to the first two characters.

If the day of the week is specified with RETAIN=YES, the Process executes the same day every week. If only day is specified, the time defaults to 00:00. Therefore, if a Process is submitted on Monday, with Monday as the only STARTT parameter, the Process does not run until the following Monday.

You can also specify TODAY, which releases the Process for execution the day and time of Process submission (unless the time of day is specified), or TOMORROW, which releases the Process for execution the next day.

hh:mm:ssXM indicates the time of day the Process will be released in hours (hh), minutes (mm), and seconds (ss). XM can be set to AM or PM.

You can specify the time of day using the 24-hour clock or the 12-hour clock. If you use the 24-hour clock, valid times are from 00:00:00 to 24:00:00. If you do not use AM and PM, the 24-hour clock is assumed.

If you use the 12-hour clock, 01:00:00 hours can be expressed as 1:00AM, and 13:00 hours can be expressed as 1:00PM.

If you specify hh:mm:ssXM with RETAIN=YES, the Process executes at the same time every day. You do not need to specify minutes and seconds.

You can also specify NOON, which releases the Process for execution at noon, or MIDNIGHT to release the Process for execution at midnight.

stepname

specifies the user-defined name of the Copy, Run Job, Run Task, or Submit step.

Stepnames must begin in column one. Stepnames are 1-8 character alphanumeric strings. The first character must be alphabetic.

SUBMIT

identifies the SUBMIT statement.

SUBNODE = PNODE | SNODE

specifies the node where the Process defined in a SUBMIT statement will execute. PNODE indicates that the Process is submitted on the node that has Process control. SNODE indicates that the Process is submitted on the node participating in, but not controlling, Process execution. In both cases, the Process must reside on the node on which it is being submitted. The default is PNODE.

SYMBOL

identifies the SYMBOL statement.

&symbolic_name=variable-string

specifies a string that is substituted into the Process.

When Sterling Connect:Direct encounters an ampersand (&) followed by 1-17 alphanumeric characters, Sterling Connect:Direct substitutes a string represented by that ampersand and the alphanumeric characters.

Symbols in the string are resolved from previously specified values in a PROCESS, SUBMIT, or SYMBOL statement. With the SYMBOL statement,

different pieces of a Sterling Connect:Direct statement string can be concatenated, enabling you to move data in a variety of ways.

Specify a null value by an equal sign (=) immediately followed by a comma. Enclose a symbolic parameter containing special characters in single quotation marks.

&symbolic_name_1 = variable-string-1

&symbolic_name_2 = variable-string-2

.
. .
.

&symbolic_name_n = variable-string-n

specifies the default value for a symbolic parameter in the Process. You can override this value in the SUBMIT command.

Enclose a symbolic parameter containing special characters in single quotation marks. Specify a null value by the equal sign (=) immediately followed by a comma.

The symbolic parameter for the SUBMIT statement must begin with a single ampersand. This allows correct symbolic parameters resolution.

An ampersand symbolic parameter can be set to a single ampersand symbolic parameter that was resolved during the first Process submission.

Do not use identical symbolic names.

SYSOPTS='!SPOOL[CLASS x] [DIST distcode | * | OFF] [FORM form | OFF]'

specifies CLASS, FORM and DISTCODE values for !SPOOL output. You can specify one, two, or all three subparameters. Enclose the !SPOOL string in single or double quotes.

The following is an example:

```
COPY FROM (DSN='SUPPORT.VM1500.TEXT' SNODE ) -
TO (DSN='!SPOOL MAINT * TEXT' -
    SYSOPTS='!SPOOL CLASS B DIST VM1500' -
    ) COMPRESS PRIMECHAR=X'00'
```

THEN

specifies the subsequent processing to perform if the specified condition is met.

TO

specifies the destination file characteristics. This parameter is required.

(TO) DISP = [NEW | OLD | RPL | SHR | MOD]

specifies the destination file disposition. Values are:

NEW specifies that the Process step will create the destination file. NEW applies to SAM files only. NEW is the default.

OLD specifies that the destination file existed before the Process began executing. If DISP=OLD, the destination file can be a VSAM file or a SAM file.

RPL specifies that the destination file will replace any existing file or allocate a new file. DISP=RPL can be specified for SAM files only.

SHR specifies that the destination file existed before the Process began executing and that the file can be used simultaneously by another job or Process.

MOD specifies that the Process step will modify the SAM file by appending data at the end of an existing file. If a file does not exist, a new file is allocated

Only OLD and RPL apply to VSAM files.

(TO) DSN = 'filename filetype' | DSN = '!SPOOL vmid fn ft' | GROUP = '%1% ... %N%'

specifies the destination filename and file type, or VSAM filename.

If copying the file to a Sterling Connect:Direct for VM/ESA node, enclose the filename in single quotation marks.

This parameter is required.

Sterling Connect:Direct for VM/ESA can be used to spool files to a specific virtual reader. This is useful for downloading files, because Sterling Connect:Direct cannot gain write access to a primary user minidisk. The spooled data is in Netdata format (the same as files sent with the CMS SENDFILE command).

To send a file to the virtual reader, use the following format, where vmid is the machine ID of the virtual reader at the destination, and fn and ft are the filename and file type of the spooled file:

```
DSN='!SPOOL vmid fn ft'
```

To spool a set of files on a minidisk with the same file type, enter the following, where vmid is the machine ID of the virtual reader at the destination, and ft is the file type of the file(s) to be spooled:

```
DSN='!SPOOL vmid * ft'
```

If you are using !SPOOL and your keyboard does not interpret ! as X'5A', use the key that translates to 5A.

TYPE = typekey

specifies the member name of the type defaults file. This file contains the file attribute defaults used to open the destination file.

UNIT = (3480 | 3480X | TAPE)

specifies the device type. Acceptable values are 3480, 3480X and TAPE.

3480X specifies that the unit type is an IDRC-compatible drive.

VOL = (, [volume sequence number], [volume count], SER=volume serial number | (list))

specifies the volume serial numbers containing the file. If VOL is not specified with the FROM parameter, the file must be cataloged.

volume sequence number (for tape files) is a number ranging from 1-255 and is used to begin processing. The default is **1**.

volume count (for tape files) specifies the maximum number of volumes needed for an output type file. The default is **5**.

ser specifies by serial number the volumes where the file resides or will reside. A volume serial number is 1-6 alphanumeric characters.

VSAMCAT = (dsn, vmid, pwd, accmode, ccuu)

specifies the catalog for the VSAM file to be copied. This parameter is required only if you use 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 8 characters.

pwd specifies the appropriate password for the VSAM minidisk where the file is located. The maximum length is 8 characters.

accmode specifies the link access mode. Valid access modes are:

- **NULL**
- **W** (primary read/write access)
- **M** (primary multiple access)
- **MW** (primary multiple access; alternate read/write only access).

CAUTION:

MW access to CMS format disks can be destructive. You must guarantee that no other VM user, or Sterling Connect:Direct Process, has MW, M, or W access to the minidisk. If multiple users or Processes get write access to the disk at the same time, there is a high probability that the CMS directory on the disk will be destroyed. The most likely result is a message from Group Control System (GCS) or an equivalent message from CMS. The GCS message will indicate that a CSIFNS420T file system error was detected. When GCS issues the CSIFNS420T message, GCS terminates all processing.

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

Chapter 7. VSE/ESA Statements and Parameters

Sterling Connect:Direct for VSE Process Statement

The PROCESS statement defines the attributes of a Process and is always the first statement in a Process.

The following is the Sterling Connect:Direct for VSEProcess statement format. Refer to Sterling Connect for VSE/ESA Process Parameters for more information.

Label	Statement	Parameters
process name	PROcEss	SNODE=secondary-node-name
		SACCT=(snode-accounting-data)
		PNODE=primary-node-name TCPNAME=primary-node-name
		PNODEID=(id [,pswd] [,newpswd])
		SNODEID=(id [,pswd] [,newpswd])
		%NUM1=process-submit-time
		PACCT=(pnode-accounting-data)
		CLASS=n
		HOLD=Yes No Call
		PRTY=n
		RETAIN=Yes No Initial
		STARTT=([date day][,hh:mm:ssXM])
		&symbolic_name_1=variable-string-1 &symbolic_name_2=variable-string-2 . . . &symbolic_name_n=variable-string-n

The maximum storage area allowed for a Process statement is 64K. To accommodate a larger Process, split the Process into two separate Processes. Include a SUBMIT statement in the first Process to run the second Process.

Sterling Connect:Direct for VSE Copy Statement

The COPY statement copies files from one node to another. The Sterling Connect:Direct for VSE COPY statement copies the following types of files:

- Sequential Access Method (SAM)
- Virtual Storage Access Method (VSAM)
- ISAM
- VSAM-managed SAM
- VSE/POWER LST and PUN Entries
- VSE/POWER XMT Entries (creation only)
- VSE/POWER RDR Entries (creation only)

- VSE Librarian Members (all types)
- CA-DYNAM or CA-EPIC Controlled Data Sets

Both disk and tape transfers are supported.

The COPY statement contains a FROM parameter that specifies the source file name and a TO parameter that specifies the destination file name. You can specify additional parameters to further the file transfer operation.

The length of the entire COPY statement cannot exceed 2040 bytes.

To copy from one Sterling Connect:Direct platform to another, refer to the appropriate COPY FROM and TO descriptions for those platforms. For example, if the source file is on a Sterling Connect:Direct for HP NonStop node, refer to the COPY FROM description for Sterling Connect:Direct for HP NonStop. If the file destination is a Sterling Connect:Direct for VSE node, refer to the Sterling Connect:Direct for VSE COPY TO description.

The following is the Sterling Connect:Direct for VSE COPY statement format. Refer to Sterling Connect for VSE/ESA Process Parameters for more information.

Label	Statement	Parameters
stepname	COPY	From (
		DSN=data-set-name /password
		PNODE SNODE
		DCB=([model-file-name] [BLKSIZE=no.-bytes] [DEN=0 1 2 3 4] [DSORG=PS VSAM MSAM] [LRECL=no.-bytes] [OPTCD=W Q Z] [RECFM=record-format] [TRTCH=C E T ET COMP NOCOMP])
		DISP=([OLD SHR],KEEP DELETE)
		LABEL=([file-sequence-number] [SL AL BLP LTM NL] [PASSWORD NOPWREAD] [IN OUT] [RETPD=nnnn EXPDT=yyddd yyyy/ddd])

Label	Statement	Parameters
		LIBR=([EXCLMEM=(generic mem start-range/stop-range list)] [EXCLSLIB=(generic sublib start-range/stop-range list)] [EXCLTYPE=(generic type start-range/stop-range list)] [REPLACE=YES NO] [SELMEM=member generic * (member, [new-name], [NR R]) (generic,,[NR R]) (start-range/stop-range,, [NR R]) (list)] [SELSLIB=sublibrary generic * (sublibrary, [new-name], [NR R]) (generic,,[NR R]) (start-range/stop-range,,[NR R]) (list)] [SELTYPE=type generic * (type, new-name) (start-range/stop-range) (list)] [*])LIBR=([EXCLMEM=(generic mem start-range/stop-range list)] [EXCLSLIB=(generic sublib start-range/stop-range list)] [EXCLTYPE=(generic type start-range/stop-range list)] [REPLACE=YES NO] [SELMEM=member generic * (member, [new-name], [NR R]) (generic,,[NR R]) (start-range/stop-range,, [NR R]) (list)] [SELSLIB=sublibrary generic * (sublibrary, [new-name], [NR R]) (generic,,[NR R]) (start-range/stop-range,,[NR R]) (list)] [SELTYPE=type generic * (type, new-name) (start-range/stop-range) (list)] [*])
		LST=([CLASS=class] [DISP=D K H L] [PWD=password])
		PUN=([CLASS=class] [DISP=D K H L] [PWD=password])
		SPACE=(strt-trk strt-blk,(prim))
		UNIT=([group name device-type unit address DLBONLY TNOASGN])
		UNIT=([group name device-type unit address DLBONLY TNOASGN])
		VOL=([PRIVATE], [volume-count] , [SER=(serial-no [,serial-no,...])]) ([SER=(serial-no , [serial-no,...])])
		BUFND=number
		VSAMCAT=(dsn, mode, userid, pswd, cuu)
		IOEXIT=exit-name (exit-name [,parameter,...])

Label	Statement	Parameters
		SYSOPTS="(table-name,so,si,PAD PAD=pc)"
)
	TO	(
		DSN=data-set-name /password
		PNODE SNODE
		TYPE=typekey
		DCB=(model-file-name) [,BLKSIZE=no.-bytes] [,DEN=0 1 2 3 4] [,DSORG=PS VSAM MSAM] [,LRECL=no.-bytes] [,OPTCD=W Q Z] [,RECFM=record-format] [,TRTCH=C E T ET COMP NOCOMP])
		DISP=(NEW OLD RPL SHR), [KEEP CATLG])
		LABEL=(file-sequence-number) [,SL AL BLP LTM NL] [,PASSWORD NOPWREAD], [IN OUT] [,RETPD = nnnn EXPDT = yyddd yyyy/ddd])
		LIBR=([DATA=NO YES] [LOCKID=lockid] [MSHP=NO YES OVERRIDE] [REPLACE=YES NO] [RESETLOCK=NO YES] [REUSE=AUTOMATIC IMMEDIATE] [SLIBDISP=SHR OLD NEW RPL] [SUBLIB=sublibrary] [TYPE=type] [*])

Label	Statement	Parameters
		LST=([BANNER=(literal1=name1, literal2=name2,...)] [BLDG=building] [BURST=YES NO] [CC=M ASA (NOCC,[TOF=1 char x'xx'], [LINECT=55 nn])]] [CHARS=(tablename, tablename)] [CICSDATA=CICS-data] [CKPTLINE=nnnnn] [CKPTPAGE=nnnnn] [CKPTSEC=nnnnn] [CLASS=class] [COMPACT=compaction-table-name] [CONTROL=program single double triple] [COPIES=nnn] [COPY=nnn] [DEFAULT=YES NO] [DEPT=`department-identification'] [DEST=nodename(nodename, userid)] [DFLT=YES NO] [DISP=D K H L] [DIST=distribution] [FCB=fcb-name] [FLASH=(overlay-name,count)] [FORMDEF=membername] [FORMS=form-name] [FNO=form-name] [HOLD=YES NO] [JSEP=nnnnn] [MODIFY=module-name] [PAGEDEF=membername] [PRI=n] [PRMODE=process-mode] [PROGR=`programmer-name'] [PRTY=n] [PWD=password] [ROOM=`room-identification'] [SUBNAME=submitter's-name] [SYSID=n] [THRESHLD=nnnnnnnn] [TRC=YES NO] [UCS=character-set-name (character-set-name,FC)] [USER=`user-data-description'] [USERID=userid] [WRITER=writer-name])

Label	Statement	Parameters
		PUN=([BLDG=building] [CC=M ASA (NOCC)] [CICSDATA=CICS-data] [CKPTLINE=nnnnn] [CKPTPAGE=nnnnn] [CKPTSEC=nnnnn] [CLASS=class] [CONTROL=program single double triple] [COPIES=nnn] [COPY=nnn] [DEPT=`department-identification'] [DEST=nodename (nodename, userid)] [DISP=D K H L] [DIST=distribution] [FORMS=form-name] [FNO=form-name] [HOLD=YES NO] [JSEP=nnnnn] [PRI=n] [PRMODE=process-mode] [PROGR=`programmer-name'] [PRTY=n] [PWD=password] [ROOM=`room-identification'] [SUBNAME=submitter's-name] [SYSID=n] [THRESHLD=nnnnnnnn] [USER=`user-data-description'] [USERID=userid] [WRITER=writer-name])
		SPACE=[(start-track start-block, (allocation))] [(trigger key,(allocation))] [(record size, (primary allocation, secondary allocation))]
		UNIT=([group name device-type unit address DLBONLY TNOASGN)
		VOL=([PRIVATE] [RETAIN] , [volume-count], [SER=(serial-number, serial-number,...)]) ([SER=(serial-no , [serial-no,...])
		VSAMCAT=(dsn, mode, userid, pswd, cuu)
		IOEXIT=exit-name (exit-name [,parameter,...])
		SYSOPTS="DBCS=(tablename, so ,si, PAD PAD=pc)" "parameter1 [,parameter2,...]"
		BUFND=number
)
		CKPT=nK nM

Label	Statement	Parameters
		COMPRESS [PRIMEchar=X'40' X'xx' C'c' EXTended] Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

Sterling Connect:Direct for VSE Run Job Statement

The RUN JOB statement submits a job through the VSE virtual reader, which is a facility that transfers jobs to VSE/POWER. The job must reside in a file on the node that executes the RUN JOB statement.

Sterling Connect:Direct does not verify job statements. To determine the completion status of a RUN JOB statement, check the Sterling Connect:Direct statistics records.

The following is the Sterling Connect:Direct for VSE Run Job statement format. Refer to Sterling Connect for VSE/ESA Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN JOB	(DSN = member-type(member) member)
		PNODE SNODE

Sterling Connect:Direct for VSE Run Task Statement

The RUN TASK statement attaches user programs or subtasks during Process execution. When a Sterling Connect:Direct Process issues a RUN TASK statement, the Sterling Connect:Direct Process waits until the subtask finishes before executing the next Sterling Connect:Direct Process step.

You can pass a list of user parameters to the subtask from the RUN TASK statement. The RUN TASK statistics log records the return code of the subtask, program name, parameter list, and dates and times for starting and completing the subtask.

The subtask can be attached at either the PNODE or SNODE. The subtask must reside in a load library that can be accessed by the Sterling Connect:Direct DTF.

The following is the Sterling Connect:Direct for VSE Run Task statement format. Refer to Sterling Connect for VSE/ESA Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN TASK	(
		PGM=program-name
		PARM=(parameter [,parameter,...])
)
		PNODE SNODE

Sterling Connect:Direct for VSE Submit Statement

The SUBMIT statement submits another Sterling Connect:Direct Process from within an executing Process. The Process can be submitted to either the PNODE or the SNODE.

The submitted Process must reside on the node where the SUBMIT statement executes. This node is referred to as the SUBNODE.

The SUBMIT statement is not the same as the SUBMIT command. The SUBMIT statement parses special characters differently from the SUBMIT command. Refer to Sterling Connect for VSE/ESA Process Parameters for a discussion of special character parsing. See the *IBM Sterling Connect for VSE/ESA User's Guide* for SUBMIT command syntax and parameters.

The following is the Sterling Connect:Direct for VM/ESA Submit statement format. Refer to Sterling Connect for VSE/ESA Process Parameters for more information.

Label	Statement	Parameters
stepname	SUBMIT	DSN=mt(membername)
		NEWNAME=new-name
		SUBNODE=PNODE SNODE
		SNODE=secondary-node-name
		SACCT=(snode-accounting-data)
		PNODEID=(id [,pswd] [,newpswd])
		SNODEID=(id [,pswd] [,newpswd])
		PACCT=(pnode-accounting-data)
		CASE=Yes No
		CLASS=n
		HOLD=Yes No Call
		PRTY=n
		REQUEUE=Yes No
		RETAIN=Yes No Initial
		STARTT=([date day] [,hh:mm:ssXM])
		&symbolic_name_1=variable-string-1 &symbolic_name_2=variable-string-2 . . . &symbolic_name_n=variable-string-n

Sterling Connect:Direct for VSE/ESA Conditional Statements

Conditional statements alter the sequence of Sterling Connect:Direct Process execution based on the completion of the previous step in the Process. For example, if a file copy fails, the Process may call an external program to generate a console message and stop the Process. If the file copy succeeds, the Process continues with the next step.

The following is the Sterling Connect:Direct for VSE Conditional statement format. Refer to Sterling Connect for VSE/ESA Process Parameters for more information.

Label	Statement	Parameters
optional	IF	(label condition nn) THEN
		(process steps)
	ELSE	
		(alternative process steps)
	EIF	
optional	GOTO	label
	EXIT	

Sterling Connect:Direct for VSE Symbol Statement

The SYMBOL statement creates symbolic substitution values.

The following is the Sterling Connect:Direct for VSE Symbol statement format. Refer to Sterling Connect for VSE/ESA Process Parameters for more information.

Label	Statement	Parameters
optional	SYMBOL	&symbolic_name=variable-string

Sterling Connect:Direct for VSE/ESA Process Parameters

BUFND = number

specifies the number of I/O buffers VSAM will use 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 uses more memory.

CASE = Yes | No

specifies whether parameters associated with accounting data, user ID, password, and data set name are case sensitive. The default is No.

CKPT = nK | nM

specifies the byte interval for checkpoint support. This enables restart of interrupted transmissions at the last valid transmission point and reduces restart time.

K denotes thousands, and M denotes millions. A CKPT value of zero (0) stops automatic processing.

Sterling Connect:Direct converts the value to a block boundary, and a data transmission checkpoint is taken at that position.

Checkpointing is controlled by the SNODE. Sterling Connect:Direct does not support checkpoint/restart of VSAM-managed SAM files.

CLASS = n

determines the node-to-node session on which a Process can execute. If CLASS is not specified, the Process uses the class value specified in the ADJACENT.NODE NETMAP record for the destination node (SNODE). Values range from 1-255.

COMPRESS [PRIMEchar = X'40' | X'xx' | C'c' | EXTended]

specifies to compress data, reducing the amount of data transmitted during a file copy. The file is automatically decompressed at its destination.

CAUTION:

Compression is CPU-intensive, and its effectiveness is data-dependent.

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 1 byte.
- Repetitive occurrences (ranging from 3-63) of any other character are compressed to 2 bytes.

Note: If the SNODE is Sterling B2B Integrator, only COMPRESS EXT is supported.

PRIMEchar specifies the primary compression character. This is the default subparameter. The default value for PRIMEchar is a blank (X'40').

EXTended searches for repetitive strings of characters in data and compresses them to codes that are transmitted and converted back to the original string during decompression. Specify this parameter when line transmission speeds are limited, CPU is available, and data is repetitive.

The following are valid options for EXTended:

- **CMPr1evel** determines the compression level. The valid value range is 1-9. Level 1 is the fastest compression, but it offers the lowest degree of compression. A higher compression level produces a higher quality of compression, but the higher level has the slowest rate of compression. The default is 1.
- **WINDowsize** determines the size of the compression window or history buffer. This memory is above the line. The valid values are 8-15. Higher window size specifications increase the degree of compression and use more virtual memory. Size 8 uses 1 KB of memory where size 15 requires 128 KB of memory. The default is 13.
- **MEM1evel** identifies how much virtual memory to allocate to maintain the internal compression state. This memory is above the line. The valid value range is 1-9. Level 1 requires the least memory (1K), but it reduces the degree of compression. Level 9 provides the fastest speed, but it uses the most memory (256K). The default is 4.

The following example shows one way to specify the various EXTended options in a COPY statement:

```
COMPRESS EXT = (CMP=4 WIN=12 MEM=8)
```

condition

specifies the type of comparison to be performed. Valid symbols, alternate symbols, and conditions are:

- **= or EQ** specifies that the completion code must be equal to the value nn to satisfy the condition
- **<> or ≠ or NE** specifies that the completion code must not equal the value nn to satisfy the condition
- **>= or ≥ or GE** specifies that the completion code must be greater than or equal to the value nn to satisfy the condition
- **> or GT** specifies that the completion code must be greater than the value nn to satisfy the condition
- **<= or ≤ or LE** specifies that the completion code must be less than or equal to the value nn to satisfy the condition
- **< or LT** specifies that the completion code must be less than the value nn to satisfy the condition

The completion code from the RUN JOB statement is from the job submission only and is not the completion code of the submitted job.

COPY

identifies the COPY statement. This statement identifier is specified with either the FROM or TO parameter.

```
DCB =( [model-file-name ]
[,BLKSIZE = no.-bytes ]
[,DEN = 0 | 1 | 2 | 3 | 4]
[,DSORG = PS | VSAM | MSAM]
[,LRECL = no.-bytes]
[,OPTCD = W | Q | Z]
[,RECFM = record-format]
[,TRTCH = C | E | T | ET | COMP | NOCOMP])
```

specifies attributes used when allocating source and destination files.

For existing source and destination files, DCB attributes are determined from the operating system unless otherwise specified. For a new destination file, the source file DCB attributes are used to allocate the destination file, unless DCB information is provided in the Process.

Note: You do not have to specify a DCB parameter when the input data set is VSE/POWER. Sterling Connect:Direct sends this information to the “TO” side of the Process. You can, however, specify different attributes to override the default DCB information.

When you transfer data from a VSE Librarian member, in the DCB parameter, specify the DSORG of PS for BSAM libraries or VSAM for VSAM-managed libraries. Sterling Connect:Direct will propagate this information.

model-file-name 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 values for the DEN parameter for 7- and 9-track tape. When specified together, the DEN and TRTCH values select a tape device for allocation by Sterling Connect:Direct for VSE.

DEN	7-Track Tape	9-Track Tape
0	200 bpi	-
1	556 bpi	-
2	800 bpi	800 bpi (NRZI). NRZI is Non-Return-to-Zero Inverted recording mode.
3	-	1600 bpi (PE). PE is Phase Encoded recording mode.
4	-	6250 bpi (GCR). GCR is Group Coded recording mode.

DSORG specifies the file organization. File organizations supported are PS, VSAM, and MSAM (VSAM-managed SAM).

When copying to a VSAM-managed SAM file, in addition to including the DCB=(DSORG=MSAM) parameter, space must be allocated with the SPACE parameter.

LRECL specifies the record length in bytes.

When RECFM=V or RECFM=VB type files are used, the LRECL value must be at least the size of the largest record in the file plus 4 bytes. If RECFM=V is used, the BLKSIZE value must be at least the LRECL value plus another 4 bytes. If RECFM=V is used, the BLKSIZE value does not need to be an even multiple of LRECL.

An entry-sequenced file coming from HP NonStop to an IBM PS/VB must be specified with an LRECL 4 bytes larger than the HP NonStop file. This is specified on the TO clause of the COPY statement to account for a 4-byte-length area required on the IBM file, but not required on HP NonStop.

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 COPY operation. Valid options include the following:

- **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. Any valid record format, such as F (Fixed), FB (Fixed Block), U (Undefined), V (Variable), VB (Variable Block), VS (Variable Spanned), and VBS (Variable Block Spanned), can be specified.

An OpenVMS file with a record format of undefined (U) cannot be copied to VSE.

TRTCH specifies the magnetic tape mode setting. When specified together, the TRTCH and DEN values select a tape device for allocation by Sterling Connect:Direct for VSE. Valid options are as follows:

- **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. COMP 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.

DSN = member-type(member) | member

specifies the name of a member in the LIBDEF source chain that contains the job to be submitted. This parameter is required.

If the member-type is not specified, this job must be catalogued with a member type of J.

All POWER JECL and JCL statements should begin in column one.

DSN = mt (membername)

specifies the member type and member of the Process that resides in the Process library specified by the LIBDEF statement in the Sterling Connect:Direct JCL. This parameter is required.

Specify **mt** as a single character A-Z, 0-9, \$, #, or @.

membername is the name of the member in the Process library.

DSN = 'DLBLNAME = filename'

allocates the COPY FROM dataset by using the VSE DTF (Define The File) name rather than the data set name.

DLBLNAME is a required keyword.

filename is the 1-7 character VSE DTF name. The first and last character must be alphabetic, @, # or \$ of a previously allocated file.

Enclose the parameter string in single quotes ('DLBLNAME = filename').

Sterling Connect:Direct allocates the file-id (data set name) associated with the DLBLNAME (filename) information obtained in the VSE partition standard label area.

This parameter provides the greatest benefit for Processes submitted through DMBATCH where partition/processor independent data set names are generated using CA-DYNAM/D, CA-EPIC or BIM-EPIC.

The filename associated with the 'DLBLNAME =filename' parameter must reside in the same partition standard label area as the other Sterling Connect:Direct DLBL statements. Prior to Process submission, the file-id (dataset name) must have been opened and allocated in a previous job or step. The file-id in the partition standard label area must contain a fully-qualified data set name (all symbolic or substitution characters in the file-id must be resolved).

EIF

specifies the end of the IF THEN or IF THEN ELSE block of statements. It is required.

ELSE

designates a block of Sterling Connect:Direct statements that execute when the IF THEN condition is not satisfied.

EXIT

bypasses all remaining steps within a Process.

FROM

specifies the source file characteristics. This parameter is required.

(FROM) DISP = ([OLD | SHR] , [KEEP | DELETE])

specifies the status of the file and what to do with the file after successful transmission. Subparameters are:

First Subparameter specifies the status of the file prior to execution of the Process. This subparameter applies to all files. Options for this subparameter are as follows:

- **OLD** specifies that the source file existed before the Process began executing and the Process is given exclusive control of the file.
- **SHR** specifies that the source file existed before the Process began executing and that the file can be used simultaneously by another job or Process. The default is SHR.

Second Subparameter specifies the disposition of a non-VSAM file following a normal Process step termination resulting in a zero completion code. Valid dispositions are as follows:

- **KEEP** specifies that the system keeps the file after the Process step completes.
- **DELETE** specifies that the system deletes the file after the Process step completes successfully.

(FROM) DSN =

specifies the source data set name. This parameter is required. (DSN is optional when used with the IOEXIT parameter.)

Data set names are verified according to standard VSE data set name conventions. If the data set name does not follow VSE naming conventions, enclose the data set name in single quotation marks.

GDG data sets (controlled by Epic or DYNAM) can be copied by either the relative generation number or the absolute generation number.

Sterling Connect:Direct for VSE does not support multi-extent source data sets.

If the data set being copied from requires a password for read or the data set being copied to requires a password for write, specify the password in the COPY statement in the format **datasetname/password** (separate the data set name and password with a slash). For example:

```
COPY FROM DSN=datasetname/password...
```

The password is used at data set allocation. If the password is not correct, VSE issues a WTOR requesting the password when Sterling Connect:Direct for VSE software opens the data set.

GOTO

moves to a specific step, defined by the label, within a Process.

HOLD = Yes | No | Call

specifies whether the Process is placed in the Hold queue at submission.

Yes specifies that the Process is submitted to the Hold queue and remains there until the operator releases the Process. When both HOLD=YES and a STARTT value are specified, the HOLD specification takes precedence.

No specifies that the Process executes as soon as possible. This is the default.

Call specifies that the Process is placed in the Hold queue until a VTAM session is established with the specified SNODE. This session can be established by either another Process running on the PNODE or by the SNODE contacting the PNODE. For example, a Process submitted HOLD=NO establishes a session and causes execution of any Processes for this node that are designated HOLD=CALL.

IF THEN

specifies that Sterling Connect:Direct execute a block of statements based on the completion code of a Process step. You use an EIF statement with an IF THEN statement. A return code with the high order bit on is evaluated as a negative return code.

IOEXIT = exit-name | (exit-name[,parameter,...])

calls a user-written program to perform I/O requests for the associated data.

exit-name specifies the name of the user-written program to call.

parameter specifies a parameter, or list of parameters, to pass to the specified exit. See the RUN TASK parameters for the appropriate platform for parameter formats.

label

For the IF THEN statement, the label specifies the name of a previous step whose completion code is used for comparison.

For the GOTO statement, the label specifies the name of a subsequent step in a Process. The GOTO statement requires a label. The label name cannot be the label of a preceding step nor the label of the GOTO statement of which it is a part.

Labels must begin in column one. The label consists of a 1-8 character alphanumeric string, with the first letter alphabetic only.

**LABEL = ([file-sequence-number]
,[SL | AL | BLP | LTM | NL]
,[PASSWORD | NOPWREAD]
,[IN | OUT]
,[RETPD = nnnn | EXPDT = yyddd | yyyyddd])**

specifies label information for the tape.

file-sequence-number specifies the relative file position on the tape.

The label type is designated as follows:

- **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.
- **PASSWORD** specifies that a password must be supplied by the operator or user before the data set can be accessed.
- **NOPWREAD** specifies that a password is not required to read the data set.
- **IN** specifies that a BSAM data set opened for INOUT or a BDAM data set opened for UPDAT is to be read only.
- **OUT** specifies that a BSAM data set opened for OUTIN or OUTINX is to be write 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 yyyy/ddd is a valid Julian date.

(FROM) LIBR=(
 [EXCLMEM=(generic | mem | start-range/stop-range | list)]
 [EXCLSLIB=(generic | sublib | start-range/stop-range | list)]
 [EXCLTYPE=(generic | type | start-range/stop-range | list)]
 [REPLACE=YES | NO]
 [SELMEM=member | generic | * | (member, [new-name], [NR | R]) | (generic,, [NR | R]) | (start-range/stop-range,, [NR | R]) | (list)]
 [SELSLIB=sublibrary | generic | * | (sublibrary, [new-name], [NR | R]) | (generic,, [NR | R]) | (start-range/stop-range,, [NR | R]) | (list)] [SELTYPE=type | generic | * | (type, new-name) | (start-range/stop-range) | (list) [*])

specifies which members, sublibraries or types are selected or excluded from a copy.

EXCLMEM=(generic | mem | start-range/stop-range | list) excludes specified members from a copy.

EXCLSLIB=(generic | sublib | start-range/stop-range | list) excludes specified sublibraries from a copy.

EXCLTYPE=(generic | type | start-range/stop-range | list) excludes specified types from a copy.

All three exclusions use the following subparameters:

- **generic** excludes a generic member, sublibrary or type name. For example, if you specify EXCLMEM=CDM*, all member names beginning with CDM are excluded. You can override an excluded generic by specifying an individual member, sublibrary or type in the SELMEM, SELSLIB, or SELTYPE parameter.
- **mem | sublib | type** excludes an individual member, sublibrary or type name. You cannot override it.
- **startrange** specifies the first name in an alphanumeric range of members, sublibraries or types to exclude.
- **stoprange** specifies the last name in an alphanumeric range of members, sublibraries or types to exclude.

Separate the startrange and stoprange parameters with a slash (/). Do not specify generic names (*) as startrange or stoprange values. The first and last members, sublibraries or types specified in the range as well as all members, sublibraries or types between are excluded.

You can override an excluded range by specifying an individual member, sublibrary or type name in the SELMEM, SELSLIB, or SELTYPE parameter.

- **list** excludes a list of member, sublibrary or type names.

REPLACE= YES | NO specifies whether to replace the member with the same name in the target library or PDS.

SELMEM=member | generic | * | (member, [new-name], [NR | R]) | (generic,, [NR | R]) | (start-range/stop-range,, [NR | R]) | (list) selects specified members for a copy.

SELSLIB=sublibrary | generic | * | (sublibrary, [new-name], [NR | R]) | (generic,, [NR | R]) | (start-range/stop-range,, [NR | R]) | (list) selects specified sublibraries for a copy.

SELTYPE=type | generic | * | (type, new-name) | (start-range/stop-range) | (list) selects specified types for a copy.

These selections use the following subparameters:

- **generic** selects a generic member, sublibrary or type. For example, if CDM* is specified, all members, sublibraries or types beginning with CDM are selected for copying. You can override a generic selection by specifying an individual member, sublibrary or type in the EXCLMEM, EXCLSLIB, or EXCLTYPE parameter.
- An **asterisk (*)** represents a global generic. A global generic indicates that all members, sublibraries or types of the library are to be included.
- **member | sublibrary | type** specifies an individual member, sublibrary, or type. You can override this selection by specifying the individual member, sublibrary or type in the EXCLMEM, EXCLSLIB, or EXCLTYPE parameter.
- **newname** specifies a new name for the member, sublibrary or type.
- **NR** specifies that the member or sublibrary does not replace an existing member or sublibrary of the same name at the destination VSE Library or PDS. NR overrides the REPLACE and REPLACE=YES parameters. You cannot specify NR on SELTYPE.

Note: NR applies to the member or sublibrary. REPLACE=NO (or NOREPLACE) applies to an entire VSE Library or PDS.

- **R** specifies that the member or sublibrary replace an existing member or sublibrary at the destination VSE Library or PDS. R overrides the REPLACE=NO or NOREPLACE parameter.

You cannot specify R on SELTYPE.

When you use R with the NEWNAME subparameter, the replacement applies to the new file name and not to the original name. When you use R with a generic name or with a range, R applies to all members selected for that criteria.

When you specify a generic and NR or R, the second positional parameter (NEWNAME) must be null.

- **startrange** specifies the first name in an alphanumeric range of members, sublibraries or types to select.
- **stoprange** specifies the last name in an alphanumeric range of members, sublibraries or types to select.

Separate the startrange and stoprange parameters with a slash (/). Do not specify generic names (*) as startrange or stoprange values. The first and last members, sublibraries or types specified in the range as well as all members, sublibraries or types between are selected.

You can override an selected range by specifying an individual member, sublibrary or type name in the EXCLMEM, EXCLSLIB, or SEXCLTYPE parameter.

- **list** specifies a list of selected members.

(TO) LIBR=(
[DATA=NO | YES]
[LOCKID=lockid]
[MSHP=NO | YES | OVERRIDE]
[REPLACE=YES | NO]
[RESETLOCK=NO | YES
] [REUSE=AUTOMATIC | IMMEDIATE]
[SLIBDISP=SHR | OLD | NEW | RPL]
[SUBLIB=sublibrary]v [TYPE=type] [*])

specifies how the copied members are catalogued.

DATA= NO | YES specifies if the DATA=YES flag is set on catalogued members. This flag only applies to type PROC members. Default value is NO.

LOCKID=lockid specifies whether to lock catalogued members with the specified lock ID. If not specified, the members are not locked, unless the source member is also a VSE Library member and it was originally locked.

MSHP NO | YES | OVERRIDE specifies if catalogues members are flagged as under MSHP control. MSHP=OVERRIDE specifies that the members are flagged as under MSHP control and have the MSHP Bypass flag turned on. If the source member is from a VSE Library, the flags on the source member are copied to the new member. Default value is NO.

REPLACE= YES | NO specifies whether the existing member should be replaced in the target VSE Library. Default value is YES.

RESETLOCK= NO | YES specifies to replace an existing VSE Library even if it contains locked members. Default value is NO.

REUSE= AUTOMATIC | IMMEDIATE specifies the space attribute is set when a sublibrary is defined. Default value is AUTOMATIC.

SLIBDISP= SHR | OLD | NEW | RPL | MOD specifies the disposition of the sublibrary for the member being cataloged. Specify SLIBDISP=RPL to define the sublibrary as empty even if it currently exists. Specify SLIBDISP=MOD to define the sublibrary only if it does not currently exist and you do not want the current members deleted if the sublibrary does exist. Default value is SHR.

SUBLIB=sublibrary specifies the target sublibrary for the members being cataloged. This parameter is required when the source is not a VSE Library.

TYPE=type specifies the target member type for the members being cataloged. This parameter is required when the source is not a VSE Library.

* specifies to take the Sterling Connect:Direct for VSE Library defaults from the source VSE Library members. This parameter is only valid when the source is from a VSE Library.

(FROM) LST=([CLASS=class] [DISP=D | K | H | L] [PWD=password])

specifies how the LST queue entry is handled after processing.

CLASS=class specifies the class (A-Z, 0-9) of the LST or PUN queue entry to be accessed. This parameter is required.

DISP=D | K | H | L specifies the disposition when the LST or PUN queue entry is processed.

Specifying **DISP=** overrides the actual disposition of the LST or PUN queue entry. When the copy is complete, the queue entry will be deleted if **DISP=D** is specified. If **DISP=K** is specified, the disposition will be changed to L. Specifying **DISP=H | L** causes the disposition to be set to H | L after the queue entry is processed.

PWD=password specifies the password of the queue entry. If **PWD=** is not specified, Sterling Connect:Direct for VSE uses binary zeros for the password unless overridden at initialization time by the **POWER.MPWD** parameter.

(TO) LST=([BANNER=(literal1=name1, literal2=name2,...)]
[BLDG=building]
[BURST=YES | NO]
[CC=M | ASA | (NOCC,[TOF=1 | char | x'xx'], [LINECT=55 | nn])]
[CHARS=(tablename, tablename)]
[CICSDATA=CICS-data]
[CKPTLINE=nnnnn]
[CKPTPAGE=nnnnn]
[CKPTSEC=nnnnn]
[CLASS=class]
[COMPACT=compaction-table-name]
[CONTROL=program single double triple]
[COPIES=nnn]
[COPY=nnn]
[DEFAULT=YES | NO]
[DEPT='department-identification']
[DEST=nodename (nodename,userid)]
[DFLT=YES | NO]
[DISP=D | K | H | L]
[DIST=distribution]
[FCB=fcb-name]
[FLASH=(overlay-name, count)]
[FORMDEF=membername]
[FORMS=form-name]
[FNO=form-name]
[HOLD=YES | NO]
[JSEP=nnnnn]
[MODIFY=module-name]
[PAGEDEF=membername]
[PRI=n]
[PRMODE=process-mode]
[PROGR='programmer-name']
[PTY=n]
[PWD=password]
[ROOM='room-identification']
[SUBNAME=submitter's-name]
[SYSID=n]
[THRESHLD=nnnnnnnn]
[TRC=YES | NO]
[UCS=character-set-name (character-set-name,FC)]
[USER='user-data-description']
[USERID=userid]
[WRITER=writer-name])

specifies how the LST queue entry is printed.

For more detailed explanation of the following parameters, see the *IBM VSE/POWER Administration and Operation Manual*.

BANNER=(literal1=value1, literal2=value2,...) specifies to print a Sterling Connect:Direct banner page at the beginning of the LST queue entry. Banner lines are specified as *literal=value*. The *literal* is 1-25 characters and the *value* is 1-30 characters. Literals or values that exceed the maximum length are truncated. Both can be either literal or symbolic parameters.

The following example prints a banner page with three lines of user supplied information:

```
BANNER=(PROGRAMMER=&PROGR,JOBNAME=&JOBNM, &SUBMITTER=JDOE1)
```

The banner page generated would look like the following:

```
***** C O N N E C T : D I R E C T *****
***** C O N N E C T : D I R E C T *****
***** C O N N E C T : D I R E C T *****
***** C O N N E C T : D I R E C T *****
****  PROGRAMMER                JOHN DOE                ****
****  JOBNAME                    JOBNAME1                ****
****  SUBMITTER                  JDOE1                    ****
***** C O N N E C T : D I R E C T *****
***** C O N N E C T : D I R E C T *****
***** C O N N E C T : D I R E C T *****
***** C O N N E C T : D I R E C T *****
```

BLDG=building specifies the building identification for this LST or PUN queue entry.

BURST=YES | NO specifies the 3800 specification for the burster/trimmer/stacker for this LST queue entry.

CC= M | ASA | (NOCC[,TOF=1 | char | x'xx'], [LINECT=55 | nn]) specifies the type of control characters provided with the data. If NOCC is specified, the data is placed in the VSE/POWER LST or PUN queue with ASA control characters, specifying the TOF= character every LINECT= lines of data. Default value of CC is M. Default value of TOF is 1. Default value of LINECT is 55.

CHARS=(tablename,tablename) specifies the 3800 character arrangement table names.

CICSDATA=CICS-data specifies the installation CICS data. This is normally used for resource level checking by the Report Controller Feature of CICS/VSE.

CKPTLINE=nnnnn CKPTPAGE=nnnnn CKPTSEC=nnnnn specify the z/OS checkpoint information. VSE/POWER does not use this data, but if the LST or PUN queue entry will be transmitted to JES2 or JES3 via PNET, then you can specify the values to be passed to JES2 or JES3. The values are documented in the z/OS JCL manual.

CLASS=class specifies the class of the LST or PUN queue entry. Valid classes are A-Z, 0-9.

COMPACT=compaction-table-name specifies the name of the compaction table to be used if the LST or PUN queue entry is sent by VSE/POWER RJE to an RJE terminal.

CONTROL=program single double triple specifies the z/OS control information. The specification is not used by VSE/POWER, but can be specified if the LST or PUN queue entry will be transmitted to JES2 or JES3 via PNET. The parameter is documented in the z/OS JCL manual.

COPIES=nnn | COPY=nnn specifies the number of copies to print or punch for the LST or PUN queue entry

DEFAULT=YES | NO specifies whether or not the 3800 default values are used from the installation SETDF.

DEPT='department-identification' specifies the department identification for the LST or PUN queue entry.

DEST=nodename (nodename, userid) specifies the node name and user ID to associated with this LST or PUN queue entry. Specifying the node name places the LST or PUN queue entry in the XMT queue.

DFLT=YES | NO specifies whether or not the 3800 default values will be used from the installation SETDF.

DISP=D | K | H | L specifies the VSE/POWER disposition used for the LST or PUN queue entry.

DIST=distribution specifies distribution code for the LST or PUN queue entry. This information is printed by VSE/POWER on the VSE/POWER separator page. **FCB=fcb-name** specifies the name of the FCB phase used when the LST queue entry is physically printed.

FLASH=(overlay-name, count) specifies the 3800 printer flash overlay name and the number of pages flashed.

FORMDEF=membername specifies the PSF form definition member name for the LST queue entry.

FORMS=form-name | FNO=form-name specifies the forms name for the LST or PUN queue entry.

HOLD=YES | NO specifies the VSE/POWER disposition for the LST or PUN queue entry. This keyword is provided for compatibility with z/OS.

JSEP=nnnnn specifies the number of separator pages/cards that should be produced by VSE/POWER when the LST or PUN queue entry is physically output to the printer or card punch.

MODIFY=module-name specifies the set of predefined data printed on each page for the 3800 LST queue entry.

PAGEDEF=membername specifies the PSF page definition for the LST queue entry.

PRI=n specifies the priority for the LST or PUN queue entry. Valid VSE/POWER priorities are 0-9.

PRMODE=process-mode specifies the printer processing mode. VSE/POWER does not use this value, but it can be specified if the LST queue entry is to be transmitted through PNET to JES2 or JES3.

PROGR='programmer-name' specifies the programmer name for the LST or PUN queue entry.

PRTY=n specifies the priority for the LST or PUN queue entry. Valid VSE/POWER priorities are 0-9.

PWD=password specifies the password associated with the LST or PUN queue entry. If not specified, the master password (or binary zeros) will be used as the password.

ROOM='room-identification' specifies the room identification for the LST or PUN queue entry.

SUBNAME=submitter's-name specifies the submitter's name for the LST or PUN queue entry. If not specified, then 'SCDIRECT' is used as the submitter's name.

SYSID=n specifies the system id for a VSE/POWER Shared Spool environment for this LST or PUN queue entry.

THRESHLD=nnnnnnnn specifies the threshold value. This value is not used by VSE/POWER but can be specified if the LST or PUN queue entry it to be transmitted to JES2 or JES3 via PNET.

TRC=YES | NO specifies whether or not translate reference characters are present in the data. This is for 3800 print output only.

UCS=character-set-name (character-set-name,FC) specifies the name of the UCS buffer and optionally whether FOLD and block data-check should be specified.

USER='user-data-description' specifies up to 16-bytes of user data for the LST or PUN queue entry.

USERID=userid specifies the user ID associated with this LST or PUN queue entry. Specifying the node name places the LST or PUN queue entry in the XMT queue.

WRITER=writer-name specifies the writer name for the LST or PUN queue entry. VSE/POWER does not use the write name, but it can be specified if the LST or PUN queue entry is to be transmitted to JES or JES3 through PNET.

NEWNAME = new-name

specifies a new name for the Process. The default value is the label on the PROCESS statement.

nn

specifies the numeric value used for completion code checking. If specified as X'nn', it is a hexadecimal value. Any other specification indicates a decimal.

Typically, if a completion code less than 4 is returned, the Process completed successfully. In most cases, a return code greater than 4 indicates the Process ended in error. A return code equaling 4 indicates a warning.

%NUM1 = process-submit-time

specifies unique temporary data set names in the DSN parameter of the COPY TO statement. The variable is resolved as the Process submission time in a six-digit numeric-value format (minutes, seconds, fraction of seconds). Precede the %NUM1 value with an alphabetic character.

PACCT = 'pnode-accounting-data'

specifies the accounting data for the primary node (PNODE). The maximum length of the accounting data is 256 characters. Enclose the string in single quotation marks if it contains special characters. This data overrides any accounting data specified on the SIGNON command and can be used by a user-written program or statistics exit.

PARM = (parameter [, parameter,...])

specifies the parameters passed to the subtask when the subtask is attached. These are the actual parameters rather than a list of addresses. Specify null parameters by adjacent commas.

The parameter list format is a 2-byte field, indicating the length of the parameter, followed by the parameter itself. The valid data types for the PARM parameter are:

CLn'value' specifies a character data type with a length of n bytes. The length is optional. If a length is not specified, the actual length of the value is used. If you specify a length less than the actual value length, the data is truncated. If you specify a length longer than the actual value length, the value is padded with blanks on the right.

For example, CL44'FILE.NAME'

XLn'value' specifies a hexadecimal data type with a length of n bytes. The length is optional. If a length is not specified, the actual length of the value is used. If you specify a length less than the actual value length, the data is truncated. If you specify a length longer than the actual value length, the value is padded on the left with binary zeros.

For example, XL8'FF00'

H'value' specifies a half-word value. You cannot specify a length. Specify the value with a plus (+) or minus (-) sign. If no sign is specified, plus is assumed.

For example, H'-32'

F'value' specifies a full-word value. You cannot specify a length. Specify the value with a plus (+) or minus (-) sign. If no sign is given, plus is assumed.

For example, F'4096'

PLn'value' specifies a packed value with a length of n bytes. The length is optional, but cannot be longer than 16 bytes. If the length is not specified, the actual length of the value is used. If the length specified is longer than the actual value length, the value is padded on the left with zeros.

You can specify the value with a plus (+) or minus (-) sign. If no sign is given, plus is assumed.

For example, PL10'+512'

If you do not specify a data type or length, the character data type is assumed and the length of the parameter name is used. For example, if PARM=('FILE.NAME') is specified, the length used is 9.

You can also specify the parameter as a symbolic value that is resolved when the Process is submitted. Do not specify a data type or length if you use a symbol. For example, &PARM1

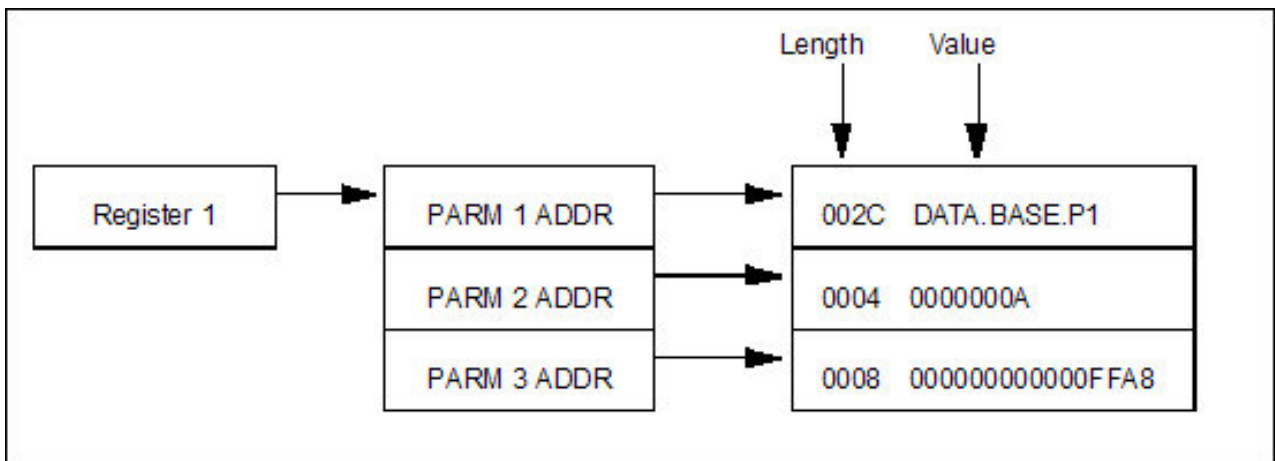
When using strings comprised of symbolic substitution, enclose the strings in double quotes. If an ampersand (&) is passed as part of the parameter,

use the data-type format. For example, CL8'&PARM1' uses no substitution; CL8"&PARM1" indicates that the value is substituted.

The following example shows how parameters are passed. This example runs the program named MYTASK. It attaches to the Process on the SNODE and is passed a list of three parameter addresses.

STEP1	RUN TASK	(PGM=MYTASK	-
		PARM=(CL44'DATA.BASE.P1',	-
		F'0010', XL8'FFA8'))	-
		SNODE	

The following figure shows the parameter passing convention for MYTASK. Register 1 points to a parameter list of three parameters. It would contain 0 if no parameters were specified. Sterling Connect:Direct sets the high-order bit in PARM 3 ADDR to indicate the end of the PARM list.



PGM = program-name

specifies the name of the program to be attached as a subtask. This parameter is required. The program runs on the node specified and has access to the DLBL cards allocated on that node only.

PNODE

On a Copy statement, specifies the primary node. When you specify PNODE with the COPY FROM parameter, a send takes place. When you specify PNODE with the COPY TO parameter, a receive takes place.

PNODE is the default for the FROM parameter.

On the Run Job statement, specifies that the job is to be submitted on the primary node.

On a Run Task, specifies that the program is executed on the PNODE.

PNODE = primary-node-name

specifies a 1-16 character alphanumeric name that declares the primary node (PNODE) to be used in this Process. The name can be expressed in alphanumerics or nationals (@ # \$), with embedded periods.

The Process is always submitted is the PNODE. This parameter defaults to the name of the node submitting the Process and does not have to be specified. It is used for documentation purposes only.

PNODEID = (id [,pswd] [,newpswd])

specifies security user IDs and passwords at the primary node (PNODE). This parameter should only be used to validate security with an ID different from the one used to sign on to Sterling Connect:Direct.

id specifies the security ID passed to the security system at the PNODE (1-8 alphanumeric characters).

pswd specifies the 1-8 alphanumeric character password for the specified ID. This parameter can be validated by the security system at the PNODE. This parameter is optional, unless the user's security requires a password.

newpswd specifies a new 1-8 alphanumeric character password. It can be used by the security system to change the current security password to the new security password.

PROCCess

identifies the PROCESS statement. You can abbreviate the statement identifier to PROC.

process name

specifies the 1-8 character name of the Process. The first character must be alphabetic and must start in column one. The PROCESS keyword must be on the same line as the Process name.

This label identifies the Process in any messages or statistics.

PRTY = n

specifies the Process priority in the Transmission Control Queue (TCQ). The TCQ holds all Processes submitted to Sterling Connect:Direct. The higher the number, the higher the priority.

This priority is used only for Process selection within class and does not affect VTAM transmission priority. The range is from 0-15. If PRTY is not specified, the default is the priority defined by the PRTYDEF keyword in the Sterling Connect:Direct initialization parameters.

**(FROM) PUN=(
[CLASS=class]
[DISP=D | K | H | L]
[PWD=password])**

specifies how the PUN queue entry is handled after processing.

CLASS=class specifies the class (A-Z, 0-9) of the LST or PUN queue entry to be accessed. This parameter is required.

DISP=D | K | H | L specifies how you want the disposition that is to be assumed when the LST or PUN queue entry is processed. Specifying DISP= overrides the actual disposition of the LST or PUN queue entry. When the copy is complete, the queue entry will be deleted if DISP=D is specified. If DISP=K is specified, the disposition will be changed to L. Specifying DISP=H | L causes the disposition to be set to H | L after the queue entry is processed.

PWD=password specifies the password of the queue entry. If PWD= is not specified, Sterling Connect:Direct for VSE uses binary zeros for the password unless overridden at initialization time by the POWER.MPWD parameter.

```
(TO) PUN=(  
[BLDG=building]  
[CC=M | ASA | NOCC]  
[CICSDATA=CICS-data]  
[CKPTLINE=nnnnn]  
[CKPTPAGE=nnnnn]  
[CKPTSEC=nnnnn]  
[CLASS=class]  
[CONTROL=program  
single  
double  
triple]  
[COPIES=nnn]  
[COPY=nnn]  
[DEPT='department-identification']  
[DEST=nodename (nodename,userid) ]  
[DISP=D | K | H | L]  
[DIST=distribution]  
[FORMS=form-name]  
[FNO=form-name]  
[HOLD=YES | NO]  
[JSEP=nnnnn]  
[PRI=n]  
[PROGR='programmer-name']  
[PRMODE=process-mode]  
[PTY=n]  
[PWD=password]  
[ROOM='room-identification']  
[SUBNAME=submitter's-name]  
[SYSID=n]  
[THRESHLD=nnnnnnnn]  
[USER='user-data-description']  
[USERID=userid]  
[WRITER=writer-name]  
)
```

specifies how the PUN queue entry is processed.

For more detailed explanation of the following parameters, see the *IBM VSE/POWER Administration and Operation Manual*.

BLDG=building specifies the building identification for this LST or PUN queue entry.

CC=M | ASA | NOCC specifies the type of control characters provided with the data. If NOCC is specified, the data is placed in the VSE/POWER LST or PUN queue with ASA control characters. Default value of cc is M.

CICSDATA=CICS-data specifies the installation CICS data. This is normally used for resource level checking by the Report Controller Feature of CICS/VSE.

CKPTLINE=nnnnn CKPTPAGE=nnnnn CKPTSEC=nnnnn specifies the z/OS checkpoint information. VSE/POWER does not use this data, but if the

LST or PUN queue entry will be transmitted to JES2 or JES3 via PNET, then you may specify the values to be passed to JES2 or JES3. The values are documented in the z/OS JCL manual.

CLASS=class specifies the class of the LST or PUN queue entry. Valid classes are A-Z, 0-9.

CONTROL=program single double triple specifies the z/OS control information. The specification is not used by VSE/POWER, but can be specified if the LST or PUN queue entry will be transmitted to JES2 or JES3 via PNET. The parameter is documented in the z/OS JCL manual.

COPIES=nnn | COPY=nnn specifies the number of copies to be printed or punched for the LST or PUN queue entry.

DEPT='department-identification' specifies the department identification for the LST or PUN queue entry.

DEST=nodename (nodename,userid) specifies the nodename and/or the user ID to be associated with this LST or PUN queue entry. Specifying the nodename causes the LST or PUN queue entry to be placed in the XMT queue.

DISP=D | K | H | L specifies the VSE/POWER disposition that will be used for the LST or PUN queue entry.

DIST=distribution specifies distribution code for the LST or PUN queue entry. This information is printed by VSE/POWER on the VSE/POWER separator page.

FORMS=form-name FNO=form-name specifies the forms name for the LST or PUN queue entry. .

HOLD=YES | NO specifies the VSE/POWER disposition for the LST or PUN queue entry. This keyword is provided for compatibility with z/OS. See DISP= keyword to specify all VSE/POWER dispositions.

JSEP=nnnnn specifies the number of separator pages/cards that should be produced by VSE/POWER when the LST or PUN queue entry is physically output to the printer or card punch.

PRI=n specifies the priority for the LST or PUN queue entry. Valid VSE/POWER priorities are 0-9.

PRMODE=process-mode specifies the printer processing mode. VSE/POWER does not use this value, but it can be specified if the LST queue entry is to be transmitted via PNET to JES2 or JES3.

PROGR='programmer-name' specifies the programmer name for the LST or PUN queue entry.

PRTY=n specifies the priority for the LST or PUN queue entry. Valid VSE/POWER priorities are 0-9.

PWD=password specifies the password associated with the LST or PUN queue entry. If not specified, the master password (or binary zeros) is used as the password. See the VSE/POWER LST or PUN statement.

ROOM='room-identification' specifies the room identification for the LST or PUN queue entry.

SUBNAME=submitter's-name specifies the submitter's name for the LST or PUN queue entry. If not specified, then 'SCDIRECT' is used as the submitter's name.

SYSID=n specifies the system ID for a VSE/POWER Shared Spool environment for this LST or PUN queue entry.

THRESHLD=nnnnnnnn specifies the threshold value. This value is not used by VSE/POWER but can be specified if the LST or PUN queue entry is to be transmitted to JES2 or JES3 via PNET.

USER='user-data-description' specifies up to 16-bytes of user data for the LST or PUN queue entry.

USERID=userid specifies the user ID associated with this LST or PUN queue entry. .

WRITER=writer-name specifies the writer name for the LST or PUN queue entry. VSE/POWER does not use the write name, but it can be specified if the LST or PUN queue entry is to be transmitted to JES or JES3 via PNET.

REQUEUE = Yes | No

specifies whether a COPY step should requeue if an x37 abend occurs during processing. This parameter is valid only if used when checkpointing.

Yes places the requeued Process in the Hold queue with a status of HELD IN ERROR (HE). After you take corrective action, the Process will restart with the failing step. Checkpointing resumes at the last successful checkpoint. You must explicitly release the Process from the Hold queue when the status is HELD IN ERROR (HE).

No allows a Process to run to completion, even if a COPY step fails with an abend. This is the default.

RETAIN = Yes | No | Initial

keeps a copy of the Process in the Hold queue after the Process executes.

Yes keeps the Process in the Hold queue after initial execution. You must then do one of the following:

- Manually release the Process through the CHANGE PROCESS command to execute it
- Delete the Process through the DELETE PROCESS command
- Specify the STARTT parameter to release the Process again at a specified interval. Using RETAIN=YES with STARTT will run a Process repeatedly at a given interval. However, a date is invalid as a STARTT subparameter when used in conjunction with RETAIN.

When a Process is submitted with RETAIN=YES and HOLD=NO or CALL, the HOLD parameter is ignored.

No specifies that the system deletes the Process after execution. This is the default value.

Initial specifies that the Process executes every time Sterling Connect:Direct is initialized. The Process will not execute when initially submitted. Do not specify STARTT with RETAIN=INITIAL.

RUN JOB

identifies the RUN JOB statement.

RUN TASK

identifies the RUN TASK statement.

SACCT = 'snode-accounting-data'

specifies the accounting data for the SNODE. The maximum length of the accounting data is 256 characters. Enclose the string in single quotation marks if it contains special characters. This data overrides any accounting data specified on the SIGNON command and can be used by a user-written program or statistics exit.

This parameter is ignored when the SNODE is a Sterling Connect:Direct for i5/OS node.

SNODE

On a Copy statement, specifies the secondary node. When you specify SNODE with the COPY FROM parameter, a receive takes place. When you specify SNODE with the COPY TO parameter, a send takes place.

On a Run Job statement, specifies that the job is submitted on the secondary node.

On a Run Task statement, specifies that the subtask is attached on the SNODE. The program must exist as an executable module in the LIBDEF PHASE chain on the specified node.

SNODE = secondary-node

SNODE = TCPNAME = tcpvalue

is a 1-16 character alphanumeric name that specifies the secondary node (SNODE) used in the Process. The name can be alphanumerics or nationals (@ # \$) with embedded periods. This parameter is required for the PROCESS statement, unless it is specified in the SUBMIT statement.

This is the logical node name that has been defined in the ADJACENT.NODE entry for that node in the network map.

When used in the SUBMIT statement, this parameter overrides the value specified in the PROCESS statement. The default value for SNODE is the value specified in the PROCESS statement.

Use **TCPNAME=tcpvalue** to specify TCP/IP connections that are not defined in the Sterling Connect:Direct Network Map. **tcpvalue** specifies the TCP/IP network address, the network name, or an alias for the network name. The tcpvalue can be from 1 to 16 characters with embedded periods. If the network name is longer than 16 characters, you must specify an alias for the network name.

When you use the TCPNAME keyword, the default TCP/IP port number is assumed.

SNODEID = (id [,pswd] [,newpswd])

specifies security user IDs and passwords at the SNODE.

For Sterling Connect:Direct for i5/OS, if the Process submitter's SNODEID and password is not specified in the PROCESS statement, the Process submitter's user ID and password is used for the Sterling Connect:Direct for i5/OS security ID and password check.

id specifies the 1-8 character security ID passed to the security system on the SNODE.

For Sterling Connect:Direct for HP NonStop, this subparameter specifies the HP NonStop group number and user number. These numbers can range from 0-255. Use a period as a separator between the group number and the user number.

For Sterling Connect:Direct for i5/OS, this subparameter specifies the i5/OS user profile used for authorization checks during Process execution. It is limited to 8 characters even though i5/OS user profiles may be 10 characters long.

pswd specifies the current 1-8 character security password and can be used by the SNODE security system to validate the security password. This is optional unless the user's security requires a password.

For Sterling Connect:Direct for HP NonStop, the VM node only recognizes passwords specified in uppercase alphanumeric characters. A Process cannot be successfully initiated from Sterling Connect:Direct for VM/ESA with Sterling Connect:Direct for HP NonStop unless the Sterling Connect:Direct for HP NonStop SNODEID password only contains uppercase alphanumeric characters (no control characters).

newpswd specifies the new 1-8 alphanumeric security password and can be used by the security system to change the current password to a new password.

For Sterling Connect:Direct for HP NonStop, SAFEGUARD must be running on HP NonStop.

For Sterling Connect:Direct for i5/OS, this subparameter is ignored.

**SPACE=[(start-track | start-block | , (allocation))]
[(trigger-key, (allocation))]
[(record-size, (primary-allocation,secondary-allocation))]**

specifies the amount of DASD storage allocated for new files on the destination node. You must specify SPACE for all new non-VSAM (ESDS, KSDS, or RRDS) explicitly defined files, unless you specified a typekey record that includes a SPACE parameter.

The SPACE parameter has different formats for noncontrolled BSAM files, START TRACK-1 controlled BSAM data sets, and VSAM-managed SAM (MSAM) files.

For noncontrolled BSAM files:

- **start-track** designates the file's starting track number on a CKD or ECKD disk device.
- **start-block** designates the file's starting block number when allocating on a FBA disk device.
- **allocation** specifies the primary allocation of storage, either in tracks or blocks.

For CA-DYNAM/D or CA-EPIC controlled files:

- **trigger-key** designates the start-track number trigger that is defined in your system catalog. In most cases this value is 1.
- **allocation** specifies the primary allocation of storage in either tracks or blocks.

When you use a disk management system such as CA-DYNAM/D or CA-EPIC and you specify an allocation trigger value, specify the UNIT=DNOASGN in your Process.

When these parameters are specified, CA-DYNAM/D or CA-EPIC perform both primary and optional secondary data set extent allocation for Sterling Connect:Direct and the output data set.

For VSAM Managed SAM (MSAM) files:

- **record-size** specifies the logical record length of the output data set record.
- **primary-allocation** specifies the initial amount of records that are to be initially allocated to the data set.
- **secondary-allocation** specifies the secondary amount of records to be allocated in extents 2 - 15.

Sterling Connect:Direct for VSE performs this allocation only for VSAM-managed SAM (MSAM) files. VSAM performs this allocation for VSAM-controlled data sets (ESDS, KSDS or RRDS) if the DEFINE CLUSTER specified a secondary extent allocation amount.

CA-DYNAM/D or CA-EPIC will perform this allocation if secondary allocation is specified for that data set in the respective system catalog.

STARTT = ([date | day][,hh:mm:ssXM])

specifies that the Process will be executed at a selected date or time. The date, day, and time are positional parameters. If the date or day is not specified, a comma must precede the time.

Do not specify STARTT with RETAIN=INITIAL.

If you specify both HOLD=YES and a STARTT value in a Process, the HOLD specification takes precedence, and the Process is placed in the Hold queue.

date specifies that the Process starts on a specific date. Depending on the value of the DATEFORM initialization parameter, you can specify the date in one of the following formats:

DATEFORM Value	Formats			
DATEFORM=MDY (default)	mm/dd/yy	mm/dd/yyyy	mm.dd.yy	mm.dd.yyyy
DATEFORM=DMY	dd/mm/yy	dd/mm/yyyy	dd.mm.yy	dd.mm.yyyy
DATEFORM=YMD	yy/mm/dd	yyyy/mm/dd	yy.mm.dd	yyyy.mm.dd
DATEFORM=YDM	yy/dd/mm	yyyy/dd/mm	yy.dd.mm	yyyy.dd.mm

You can use periods or slashes (/) to separate the components of a date value. You can omit the period or slash separators for transfers between mainframe nodes.

If you only specify a date, the time defaults to 00:00.

If you specify RETAIN=YES, you cannot specify a date in the STARTT parameter.

Valid Julian date formats are yyddd, yyyyddd, yy/ddd, yyyy/ddd, yy.ddd, or yyyy.ddd.

day specifies the day of the week to release the Process for execution. Valid names include MOnday, TUEsday, WEDnesday, THursday, FRiday, SATurday, and SUNday. You can abbreviate the day value to the first two characters.

If the day of the week is specified with RETAIN=YES, the Process executes the same day every week. If only day is specified, the time defaults to 00:00. Therefore, if a Process is submitted on Monday, with Monday as the only STARTT parameter, the Process does not run until the following Monday.

You can also specify `TODAY`, which releases the Process for execution the day and time of Process submission (unless the time of day is specified), or `TOMORROW`, which releases the Process for execution the next day.

`hh:mm:ssXM` indicates the time of day the Process will be released in hours (hh), minutes (mm), and seconds (ss). XM can be set to AM or PM.

You can specify the time of day using the 24-hour clock or the 12-hour clock. If you use the 24-hour clock, valid times are from 00:00:00 to 24:00:00. If you do not use AM and PM, the 24-hour clock is assumed.

If you use the 12-hour clock, 01:00:00 hours can be expressed as 1:00AM, and 13:00 hours can be expressed as 1:00PM.

If you specify `hh:mm:ssXM` with `RETAIN=YES`, the Process executes at the same time every day. You do not need to specify minutes and seconds.

You can also specify `NOON`, which releases the Process for execution at noon, or `MIDNIGHT` to release the Process for execution at midnight.

stepname

specifies the user-defined name of the Copy, Run Job, Run Task, or Submit step.

Stepnames must begin in column one. Stepnames are 1-8 character alphanumeric strings. The first character must be alphabetic.

SUBMIT

identifies the SUBMIT statement.

SUBNODE = PNODE | SNODE

specifies the node where the Process defined in a SUBMIT statement will execute. PNODE indicates that the Process is submitted on the node with Process control. SNODE indicates that the Process is submitted on the node participating in, but not controlling, Process execution. In both cases, the Process must reside on the node where it is submitted. The default is PNODE.

SUBNODE=SNODE is not valid if communicating with a Sterling Connect:Direct for i5/OS node.

SYMBOL

identifies the SYMBOL statement.

&symbolic_name = variable string

specifies a string that is substituted into the Process. This parameter is required. The symbolic name can be 1-17 alphanumeric characters.

When Sterling Connect:Direct encounters a &symbolic name, Sterling Connect:Direct substitutes the specified string.

Symbols in the string are resolved from previously specified values in a PROCESS, SUBMIT, or SYMBOL statement. With the SYMBOL statement, different pieces of a Sterling Connect:Direct statement string can be concatenated, allowing you to move data in many ways.

Specify a null value by `=,` (an equal sign immediately followed by a comma). Enclose symbolic parameters strings containing special characters in single quotation marks.

&symbolic_name_1 = variable-string-1
&symbolic_name_2 = variable-string-2
.
.
.
&symbolic_name_n = variable-string-n

specifies the default value for a symbolic parameter in the Process. You can override this value in the SUBMIT command.

Enclose a symbolic parameter string containing special characters in single quotation marks. Specify a null value by the equal sign (=) immediately followed by a comma.

The symbolic parameter for the SUBMIT statement must begin with a single ampersand. This allows correct symbolic parameters resolution.

An ampersand symbolic parameter can be set to a single ampersand symbolic parameter that was resolved during the first Process submission.

Do not use identical symbolic names.

SYSOPTS = "DBCS=(tablename,so,si,PAD | PAD=pc)"
"parameter1[,parameter2...]"

specifies system operation parameters.

DBCS=(tablename,so,si,PAD | PAD=pc) invokes the double-byte character set (DBCS) translation facility. File transfer with double-byte character set is not supported in block mode.

Note: Block mode transfers can produce unpredictable results in the destination file. These results can compromise data integrity. You will not receive an error message in these situations.

- **tablename** is the name of the requested DBCS translation table. The tablename is required with DBCS. If you only specify **tablename**, you do not need to enclose the parameters in parentheses.

Sterling Connect:Direct provides the following tables:

- **EBCXKSC** translates data from host EBCDIC to ASCII KS5601.
- **KSCXEBC** translates data from ASCII KS5601 to host EBCDIC.
- **EBCXKPC** translates data from host EBCDIC to DBCS-PC Korean.
- **KPCXEBC** translates data from DBCS-PC Korean to host EBCDIC.
- **NHCXBG5** translates data from Chinese new host code to Chinese Big5.
- **BG5XNHC** translates data from Chinese Big5 to Chinese new host code.
- **NHCXC55** translates data from Chinese new host code to Chinese 5550.
- **C55XNHC** translates data from Chinese 5550 to Chinese new host code.
- **so** is the SHIFT-OUT character denoting a shift from single-byte character set (SBCS) to double-byte character set (DBCS) mode. The default is the IBM standard x'0E'.
- **si** is the SHIFT-IN character denoting a shift from DBCS to SBCS mode. The default is the IBM standard x'0F'.

NOSO indicates no shift-out or shift-in character and is specified by the use of x'00' for the SO and SI characters. NOSO is used when the data is not in mixed form and is assumed to contain all DBCS characters.

- **PAD | PAD=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 will be replaced by a pad character. This allows 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 will be overlaid by the SHIFT-OUT character. The character immediately following a DBCS character or string will be 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. The default value for **pc** is x'00'.

parameter1[,parameter2...] is used in conjunction with the IOEXIT parameter. It specifies the parameters to be passed to the I/O exit for copies from a non-370 node to a Sterling Connect:Direct for VSE node.

TO

specifies the destination file characteristics. This parameter is required.

(TO) DISP = ([NEW | OLD | RPL | SHR] [,KEEP | CATLG])

specifies the status of the file on the destination node. Subparameters are:

First Subparameter specifies the status of the file before the Process executes. Only the OLD and RPL dispositions apply to VSAM files.

Options for this subparameter are:

- **NEW** specifies that the Process step will create the destination file. This is the default.
- **OLD** specifies that the destination file already exists. The Process will have exclusive control of the file. If DISP=OLD, the destination file can be a VSAM or a SAM file.
- **RPL** specifies that the destination file will replace any existing file, or, if none exists, will allocate a new file. DISP=RPL can be specified for SAM or VSAM files. If the file is VSAM, it must be defined with the REUSE attribute, which specifies that the file can be opened and reset to the beginning.
- **SHR** specifies that the destination file already exists. The file can be used simultaneously by another job or Process.

Second Subparameter specifies the normal termination disposition, but does not apply to VSAM files. Valid destination file dispositions are as follows:

- **KEEP** specifies that the system keeps the file after the Process step completes. If DISP=(NEW,KEEP), a volume serial number also must be specified.
- **CATLG** specifies that the system keeps the file after the Process step completes and that an entry gets placed in the catalog. Catalog is the default.

(TO) DSN =

specifies the destination data set name. This parameter is required. (DSN is optional when used with the IOEXIT parameter.)

If the data set name does not follow VSE naming conventions, enclose the data set name in single quotation marks.

If the data set being copied from requires a password for read or the data set being copied to requires a password for write, specify the password in the COPY statement in the format **datasetname/password** (separate the data set name and password with a slash). For example:

```
COPY TO DSN=datasetname/password...
```

The password is used at data set allocation. If the password is not correct, VSE issues a WTOR requesting the password when Sterling Connect:Direct for VSE software opens the data set.

THEN

specifies the subsequent processing to perform if the specified condition is met.

TYPE = typekey

specifies the entry name of the type defaults file. This file contains the default file attributes to allocate the destination file. This typekey is specified only when defaults are requested by the user.

For VSE to OpenVMS copies, if the typekey exceeds eight characters, you must enter the typekey in the SYSOPTS parameter on the TO clause of the Sterling Connect:Direct for OpenVMS COPY statement.

For OpenVMS to VSE copies, the typekey cannot exceed eight characters.

UNIT=([group-name | device-type | unit-address | DLBLONLY | DNOASGN | TNOASGN])

specifies the group-name, device-type, or unit-address where the file resides or will reside. For BSAM-to-BSAM copies where the destination file is NEW and the UNIT parameter is not specified on the TO parameter, the device type from the source (FROM) is used.

Without Disk or Tape Management System

If you are not using a supported disk or tape management system, specify the UNIT parameter to meet the amount of flexibility and device independence that you require.

UNIT=group-name specifies the input or output device for your Processes.

See the following table to select the supported Sterling Connect:Direct group-name for the input or output device on your Processes. For device independence and greatest flexibility, specify UNIT=group-name in your Processes.

UNIT=device-type specifies the type of device for your Processes.

See the following table to select an appropriate VSE device type. If you do not find your specific device-type, replace the device-type with the appropriate group-name. For example, if you are creating output files on a 93xx FBA device, specify UNIT=FBA on your Process statement.

UNIT=unit-address specifies the address of the specific device.

If you require that a data set be allocated on a specific device every time the Process is executed, specify UNIT=CUU in your Process and replace the CUU with the device Channel/Unit address.

Group-Name	Device-Type
DISK	2311 2314 3310 3330 3340 3350 3375 3380 3390 CKD ECKD FBA
CKD	2311 2314 3310 3330 3340 3350 3375 3380 3390
ECKD	3380 3390
FBA	3370
CART	3480
TAPE	3410 3411 3420 8809
MSAM	VSAM-managed SAM files

With Disk or Tape Management Systems

If you use a supported disk or tape management system, CA-DYNAM/D or CA-EPIC, use the following values for the UNIT parameter on your Process statements:

UNIT=DLBONLY allows for either CA-DYNAM/D or CA-EPIC to determine the data set characteristics such as primary and secondary allocation amounts and unit allocation and perform the actual allocation of the disk data set.

When you specify **UNIT=DLBONLY**, CA-DYNAM/D or CA-EPIC actually controls the data set based upon the characteristics in its system catalog. For example, the pool name, allocation unit (records, blocks, tracks, or cylinders) are kept in the catalog. When you specify this parameter, the data set name must be predefined to the system catalog.

Using the **UNIT=DLBONLY** parameter is the preferred method of allocation when you are using a disk management system. This method allows DYNAM or EPIC to control the data set at all times.

UNIT=DNOASGN allows either DYNAM or EPIC to perform file allocation for Sterling Connect:Direct without your having to predefine the file to the system catalog. The **UNIT=DNOASGN** parameter can also be used to override the catalog pool specification. When you use this parameter, you must specify the **VOL=SER** and **SPACE** parameters.

UNIT=TNOASGN informs Sterling Connect:Direct that your tape management system will control the tape data set and the tape drive allocation. When you use **TNOASGN**, DYNAM or EPIC will perform the following functions for Sterling Connect:Direct:

- Control tape drive
- Request the operator to mount the tape volume
- Perform the tape drive LUB/PUB assignments
- Allocate the tape drive to Sterling Connect:Direct.

**VOL=([PRIVATE],[RETAIN],[volume-count],
[SER=(serial-number [, serial-number.,,,,])] | SER=(serial-number,
[serial-number])**

specifies the volume serial numbers containing the file and optional processing associated with the file. If **VOL** is not specified with the **FROM** parameter, the file must be cataloged.

For disk management Systems such as CA-DYNAM/D or CA-EPIC, the **VOL=SER** parameter serves the following purposes:

- If you are allocating a "START TRACK-1" data set and using **UNIT=DNOASGN**, **VOL=SER** specifies the DYNAM or EPIC dynamic space pool name, where the data set will be allocated, for example: POOL01.
- **VOL=SER** can be used to force a disk data set allocation to a specific volume whether the data set is controlled or uncontrolled.
- **VOL=SER** can be used to override the dynamic space pool name and force a data set to be allocated on a specific device.

PRIVATE specifies allocation of an output file only if the volume is specifically requested and is used for direct access devices only.

Sterling Connect:Direct for VSE does not use this parameter but it is supported on other Sterling Connect:Direct platforms and is listed here for compatibility with those platforms.

RETAIN is ignored by Sterling Connect:Direct, because Sterling Connect:Direct dynamically deallocates data sets. However, if you omit **RETAIN**, you must specify a comma in its place.

volume-count 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.

Do not specify the VOL=SER parameter when you allocate an output scratch tape data set for a VSE node. Sterling Connect:Direct will prompt the operator to mount a scratch tape at file open time. The volume serial number of SCRATCH is also reserved and should not be used.

If you need a VOL=SER for MSAM files, update the default model for MSAM. Change the VSAM default model, called DEFAULT.MODEL.ESDS.SAM, to specify the volumes needed.

For DASD Manager POOL allocation when UNIT=DNOASGN, you must also specify VOL=SER=poolname.

For DASD Manager specific volume allocation, when UNIT=DNOASGN, you must specify VOL=SER=xxxxxx.

VSAMCAT = (dsn, mode, userid, pswd, cuu)

specifies the VSAM catalog where the VSAM file resides.

dsn is the name of the catalog where the file resides. This subparameter is required.

mode specifies the catalog's 2-character VSE file mode. This subparameter is included for compatibility with Sterling Connect:Direct for VM.

userid specifies the 8-character VSE user ID that owns the catalog. This subparameter is included for compatibility with Sterling Connect:Direct for VM.

pswd specifies the password of the VSE user that owns the catalog. This subparameter is included for compatibility with Sterling Connect:Direct for VM. The value can be left blank.

cuu specifies the device address of the VSAM catalog. This subparameter is included for compatibility with Sterling Connect:Direct for VSE.

Specify VSAMCAT=(dsn,1,1,,111) as a standard.

Chapter 8. z/OS Statements and Parameters

Sterling Connect:Direct for z/OS Process Statement

The PROCESS statement defines the attributes of a Process and is always the first statement in a Process.

The maximum storage area allowed for a Process statement is 1MB. To accommodate a larger Process, split the Process into two separate Processes. Include a SUBMIT statement in the first Process to run the second Process.

To ensure that the Transmission Control Queue has adequate space to store a large Process, see *Planning the Installation in IBM Sterling Connect:Direct for z/OS Configuration Guide*.

The following is the Sterling Connect:Direct for z/OS Process statement format. Refer to Process Parameters for more information.

Label	Statement	Parameters
process name	PROCCess	SNODE = secondary-node-name SNODE = TCPNAME = tcpvalue; port SNODE = UDT33NAM = udtvalue;port
		CRC=(OFF ON)
		CLASS = n
		DEBUG = trace bits
		HOLD = Y YES N NO CALL
		MAXDELAY = [UNLIMITED QUEUED hh:mm:ss 0]
		NOTIFY = %USER userid
		PACCT = `pnode-accounting-data'
		PLEXCLASS = (pnode class, snode class)
		PNODE = primary-node-name %PNODE
		PNODEID = (id [,pswd] [,newpswd])
		PRTY = nn
		REQUEUE = Y YES N NO
		RETAIN = Y YES N NO INITIAL

Label	Statement	Parameters
		SECURE=OFF STS SSL TLS or SECURE=ENCRYPT.DATA=Y N or SECURE = (OFF SSL TLS STS , ENCRYPT.DATA=Y N) or SECURE = (OFF SSL TLS STS,<cipher_suite> (cipher_suite_list), ENCRYPT.DATA=Y N) Note: If System SSL is in FIPS mode, only certain ciphers are valid. See the <i>IBM Sterling Connect:Direct for z/OS Release Notes</i> for a list of valid FIPS-mode ciphers.
		SACCT = `snode-accounting-data'
		SNODEID = (id [,pswd] [,newpswd])
		STARTT = ([date day] [,hh:mm:ssXM])
		&symbolicName1 = variable-string-1 &symbolicName2 = variable-string-2 . . . &symbolicNamen = variable-string-n

Sterling Connect:Direct for z/OS COPY Statement

The Sterling Connect:Direct for z/OS COPY statement copies the following file types from one Sterling Connect:Direct node to another:

- Sequential Access Method (SAM)
- Virtual Storage Access Method (VSAM)
- Basic Direct Access Method (BDAM)
- Generation Data Group (GDG)
- Partitioned Data Sets (PDS)
- Library (PDSE)
- Linear
- IBM Data Facility Data Set Services (DFDSS) volumes

The Sterling Connect:Direct for z/OS COPY statement supports both disk and tape transfers.

The COPY statement contains a FROM parameter that specifies the source file name and a TO parameter that specifies the destination file name. You can specify additional parameters to customize the file transfer.

To copy from one Sterling Connect:Direct platform to another, use the COPY FROM and COPY TO statements for the applicable platforms. For example, if the source file is on a Sterling Connect:Direct for z/OS node, use the z/OS COPY FROM parameters. If the file destination is a Sterling Connect:Direct for HP NonStop node, use the Sterling Connect:Direct for HP NonStop COPY TO parameters.

The length of the entire COPY statement cannot exceed 2040 bytes.

The COPY statement supports Multibyte Character Set (MBCS) conversion.

See the following links for information on supported files types:

- “PDS Support” on page 182
- “SMS Support” on page 184
- “VSAM Support” on page 183
- “GDG Support” on page 185
- “MBCS Support” on page 186

The following is the Sterling Connect:Direct for z/OS COPY statement format. Refer to Sterling Connect:Direct for z/OS Process Parameters for more information.

Label	Statement	Parameters
stepname	COPY	From (
		DSN=data set name/password FILE=filename
		FILE=businessprocess mailbox
		PNODE SNODE
		DCB=(model-file-name) [,BLKSIZE=no.-bytes] [,NCP] [,DEN=0 1 2 3 4] [,DSORG= PS PO DA VSAM] [,KEYLEN=no.-bytes] [,LIMCT=no.-blocks-or-tracks] [,LRECL=no.-bytes] [,OPTCD=W Q Z] [,RECFM=record-format] [,RKP=first-byte-position-of-record-key] [,TRTCH=C E T ET COMP NOCOMP])
		DISP=([OLD SHR], [KEEP DELETE], [KEEP DELETE])
		RESGDG = S SUB R RUN

Label	Statement	Parameters
		LABEL=([file-sequence-number], [SL AL BLP LTM NL], [PASSWORD NOPWREAD], [IN OUT], [RETPD=nnnn EXPDT=[yyddd yyyy/ddd]])
		MSVGP=MS-group-name
		UNIT=([unit-address device-type group-name], [unit-count P])
		VOL=([PRIVATE], [RETAIN], [volume-sequence-no], [volume-count], [SER=(serial-no [,serial-no,...])] ([SER=(serial-no,[serial-no,...]) ,REF=dsn))
		ALIAS=Y N
		EXCLUDE=(generic member (start-range/stop-range) list)
		PDS.DIRectory=Y N
		REPLACE NOREPLACE
		SELECT=(member generic (*) (member, [new-name],[NR R]) (generic,, [NR R]) (start-range/stop-range,,[NR R]) list)
		BUFND=number
		IOEXIT=exit-name (exit-name [,parameter,...])
		DATAEXIT=exit-name (exit-name [,parameter,...])
		SYSOPTS="DBCS=(tablename,so,si,PAD PAD=pc, LOGIC=A B (B,RC))" "CODEPAGE=(from code set,to Unicode code set)" "parameter1[,parameter2,...]" "DATATYPE=TEXT BINARY" "XLATE=N NO Y YES" "STRIP.BLANKS=N NO Y YES" "PERMISS=nnn" "PRECOMP=Y YES N NO "
)
		TO (
		DSN=data set name/password FILE=filename
		FILE=businessprocess mailbox
		PNODE SNODE
		TYPE=typekey

Label	Statement	Parameters
		DCB=([model-file-name] [,BLKSIZE=no.-bytes] [,NCP] [,DEN=0 1 2 3 4] [,DSORG=PS PO DA VSAM] [,KEYLEN=no.-bytes] [,LIMCT=no.-blocks-or-tracks] [,LRECL=no.-bytes] [,OPTCD=W Q Z] [,RECFM=record-format] [,RKP=first-byte-position-of-record-key] [,TRTCH=C E T ET COMP NOCOMP])
		DISP=([NEW OLD MOD RPL SHR] , [KEEP CATLG] , [KEEP CATLG DELETE])
		AVGREC=U K M
		DATACLAS=data-class-name
		DSNTYPE=PDS LIBRARY EXTPREF EXTREQ BASIC LARGE
		KEYLEN=bytes
		KEYOFF=offset-to-key
		LIKE=model-data-set-name
		LRECL=bytes
		MGMTCLAS=management-class-name
		RECORG=KS ES RR LS
		SECMODEL=(profile-name [,GENERIC])
		STORCLAS=storage-class-name
		LABEL=([file-sequence-number] , [SL AL BLP LTM NL] , [PASSWORD NOPWREAD] , [IN OUT] , [RETPD=nnnn XPDT=[yyddd yyyy/ddd]])
		MSVGP=MS-group-name
		SPACE=(CYL TRK blk, (prim , [sec] , [dir] , [RLSE] , [CONTIG] , [ROUND]) (av-rec-len , (primary-rcds , [secondary-rcds] , [dir]))
		UNIT=([unit-address device-type group-name] , [unit-count P])
		VOL=([PRIVATE] , [RETAIN] , [volume-sequence- no] , [volume-count] , [SER=(serial-no [,serial-no,...])]) ([SER=(serial-no [,serial-no,...]) ,REF=dsn)
		BUFND=number

Label	Statement	Parameters
		IOEXIT=exit-name (exit-name [,parameter,...])
		DATAEXIT=exit-name (exit-name [,parameter,...])
		SYSOUT=(sysout_parameter1, sysout_parameter2, . . .)
		SYSOPTS="UNIQUE=YES" "DBCS=(tablename,so,si,PAD PAD=pc), LOGIC=A B (B,RC)" "CODEPAGE=(from Unicode code set,to code set)" "DATATYPE=TEXT BINARY" "XLATE=N NO Y YES" "STRIP.BLANKS=N NO Y YES" "PERMISS=nnn" "SYSOUT=(sysout_keyword1, sysout_keyword2, . . .)")
		CKPT=nK nM
		COMPRESS [[PRIMEchar= X'40' X'xx' C'c'] EXTended] Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.
		SECURE = (ENCRYPT.DATA= <u>Y</u> N algorithm name,SIGNATURE=Y N) or (ENC= <u>Y</u> N algorithm name,SIG=Y N) (for use in an STS environment) SECURE = ENCRYPT.DATA= <u>Y</u> N or SECURE = ENC= <u>Y</u> N (for use in a TLS or SSL environment)

PDS Support

Sterling Connect:Direct for z/OS supports transmission of all PDS files, including load modules and overlay files.

You can specify whether:

- An entire PDS is sent.
- Specific members are selected for transmission (SELECT parameter).
- Specific members are excluded from transmission (EXCLUDE parameter).
- One member is sent to a sequential file.
- A sequential file is sent to a PDS member.
- File aliases are sent along with the requested file (ALIAS parameter).
- A member is renamed (NEWNAME parameter).
- Members replace existing members of the same name at the receiving node
- (REPLACE and NOREPLACE parameters, R and NR subparameters of the SELECT parameter).

The following are the guidelines for copying a PDS:

- EXCLUDE or SELECT cannot be used if the FROM DSN parameter contains a member name or if the TO clause specifies SYSOPTS="UNIQUE=YES".
- The hierarchy for the SELECT and EXCLUDE parameters proceeds from top to bottom (highest override priority to lowest) as follows:
 - Exclude by member name
 - Select by member name
 - Exclude by generic (or range)
 - Select by generic (or range)
 - Combine various specifications in a list after the EXCLUDE parameter
 If EXCLUDE is specified and SELECT is not specified, all members not excluded are copied. If EXCLUDE is not specified and SELECT is specified, only selected members are copied.
- If a non-PDS file is specified in the FROM DSN, the TO DSN must specify a single member.
- When the COPY statement involves two PDS files, all members are sent unless one of the following conditions exists:
 - The SELECT option is specified.
 - The EXCLUDE option is specified.
 - A member name is specified in the COPY FROM statement.
 - A member name is specified in the COPY TO statement.
 - UNIQUE=YES is specified in the COPY TO SYSOPTS statement. With UNIQUE=YES, only single-member transfers are supported.
- When the TO DSN contains a member name, EXCLUDE (in the COPY FROM statement) cannot be used. Also, the SELECT entry (also in the COPY FROM statement) is only valid if it contains one member.
- The FROM DSN must specify a single member when a non-PDS is specified in the TO DSN.
- If specifying a non-PDS in the TO DSN, only the data portion of a PDS member is stored in a SAM file. Directory information is ignored.
- When the TO DSN is a tape file, the FROM DSN must specify a single member.

VSAM Support

Copies to existing VSAM files are processed in EXTEND mode. The VSAM file is extended rather than replaced. To completely copy over an existing VSAM file (to copy to a VSAM file in LOAD mode) set the DISP parameter to DISP=RPL. You must define the destination file with the REUSE attribute; otherwise OPEN will fail.

Copies to new VSAM files propagate those attributes supported by SMS. Specifically, attributes supported by SVC 99 for dynamic allocation are propagated. See "SMS Support" on page 184 for the specific attributes that are propagated. If the file requires other VSAM attributes, you must pre-allocate the file outside of Sterling Connect:Direct using IDCAMS, or in a Process step using the DMRTAMS utility prior to the COPY step. See the *IBM Sterling Connect:Direct for z/OS User Guide* for information about DMRTAMS.

SMS Support

The Sterling Connect:Direct for z/OS COPY statement supports transmitting and creating data sets with SMS attributes. The following restrictions apply to the transmission of these data sets:

- If the TO data set is specified with SMS attributes, DCB or SPACE parameters are not propagated by default from the FROM data set, because dynamic allocation treats them as overrides and they replace attributes from the SMS DATA CLASS. Use the DATACLAS parameter and an appropriate SMS definition at the receiving site to acquire default values for DCB and SPACE. See SMS Propagation for more information.

- VSAM data sets can be created as new data sets as part of the COPY TO statement. All forms of VSAM data sets (KSDS, ESDS, RRDS, and LINEAR) are supported as new data sets.

If allocating a NEW VSAM file, the following VSAM attributes are propagated to the receiving node if they are not specifically coded in the process or in the TYPE file definition, and no DATACLAS or LIKE= keywords are coded in the process or TYPE file definition (and no data class is propagated):

- KEYLEN - For KSDS data sets only. The length of the key.
- KEYOFF - For KSDS data sets only. The offset where the key starts.
- LRECL - The MAX RECSIZE. If this is propagated, the output file will be allocated with a MAX and AVG record size of the input file's MAX RECSIZE.
- RECORG - The record organization (KS, RR, ES, or LS).

This way, you do not need to code any file attributes for the TO file when dynamically allocating a NEW VSAM file.

The parameters not supported by SMS cannot be propagated by Sterling Connect:Direct.

- For platforms other than z/OS, all SMS parameters must be specified as subparameters in SYSOPTS. SYSOPTS is a mechanism that allows you to pass system-specific parameters between platforms. See the COPY statement of the appropriate platform for syntax requirements for the SYSOPTS parameter.
- For a data set to be SMS-controlled, it must be created with either a STORAGE CLASS or a MANAGEMENT CLASS or both.
- SMS attributes are not propagated from the FROM data set by default because dynamic allocation treats them as overrides. See SMS Propagation for more information.
- The disposition of all SMS controlled data sets is always CATLG. For example, if you code DISP=(NEW, KEEP) on the COPY TO statement, the system uses DISP=(NEW, CATLG) to control the data set.

SMS-Specific Parameters

The following parameters are specific to SMS support:

- AVGREC
- DATACLAS
- DSNTYPE
- KEYLEN
- KEYOFF
- LIKE
- LRECL
- MGMTCLAS

- RECORG
- SECMODEL
- STORCLAS
- SYSOPTS

The AVGREC parameter is valid only when SPACE is coded on the COPY TO statement.

SMS Propagation

You can propagate any SMS class name from the sending side to the receiving side by coding a value of \$\$\$\$\$\$ for the class name that you want to propagate. Following is an example:

SMSTEST1	PROC	SNODE=YOUR.OTHER.NODE	
STEP01	COPY	FROM(PNODE	-
		DSN=HLQ.SMSTEST.DS	-
		DISP=SHR)	-
		TO (DSN=HLQ.SMSTEST.TODS SNODE	-
		UNIT=SYSDA	-
		STORCLAS=\$\$\$\$\$\$	-
		MGMTCLAS=\$\$\$\$\$\$	-
		DATACLAS=\$\$\$\$\$\$	-
		DISP=(RPL)	-

When a class contains the class name value of \$\$\$\$\$\$, Sterling Connect:Direct performs an INFO call to dynamic allocation to obtain the SMS classes associated with the sending data set. If Sterling Connect:Direct returns an SMS class, this class is substituted for the \$\$\$\$\$\$ value. If Sterling Connect:Direct does not return an SMS class, the keyword and value are not passed to the receiving node. The propagated class name must be defined on the receiving node (if the receiving node is a z/OS) or an error occurs.

GDG Support

Sterling Connect:Direct supports sending and receiving Generation Data Set (GDS) files to a Generation Data Group (GDG) with the following stipulations:

- Only one file (GDS) of a GDG can be referenced in a COPY step.
- Because enqueueing is needed to ensure data integrity during transfer to the receiving node, Sterling Connect:Direct does not support allocating and reading an entire GDG through a single DD statement (GDG ALL).
- Specify CATLG as the second and third subparameters of the DISP parameter to ensure that the Sterling Connect:Direct recovery routines use the correct GDS when RETRY and CHECKPOINT are used. For example, DISP=(NEW,CATLG,CATLG).

For more information on GDG files, see the IBM z/OS reference manuals. The z/OS *MVS JCL User's Guide (SA22-7598)* contains a good explanation of GDGs, allocation, and use and includes references to additional resources.

MBCS Support

Sterling Connect:Direct for z/OS Multibyte Character Set (MBCS) support enables you to convert between Unicode and other code sets supported on the z/OS platform. To perform an MBCS conversion, use the CODEPAGE parameter of the COPY statement FROM and/or TO SYSOPTS clauses .

You can perform MBCS conversions in the following ways:

- Perform a conversion on the FROM node only and then send the Unicode file to the TO node.
- Send a file to the TO node and let that node perform the conversion.
- Perform a conversion from one z/OS compatible code set to a Unicode code set supported on the local node (specified in the FROM clause CODEPAGE parameter). Then send the encoded Unicode file to the remote node to be converted to another z/OS compatible code set.

Instead of requiring that each Sterling Connect:Direct node provide the capability to convert from any supported character set to any other supported character set, the recommended approach is to convert the original character set to a common intermediate form (UTF-8 or UCS-2) on the local node, transmit the intermediate form to the remote node, and then perform the conversion to the final desired character set on the remote node. This way, each node is responsible only for conversion between the Unicode encoding and the character sets relevant to and supported by the node.

To display the CODEPAGE specification for a COPY step in a Process after step completion, use the Select Statistics command for an SY Statistics record. Each node involved in a COPY generates an SY record containing the SYSOPTS relevant to that node.

Except for syntax, the CODEPAGE parameter is not validated when the Process is submitted. However, when the Process is executed, an MBCS001E error will result on the node attempting the conversion if an invalid code set is specified.

The following are examples of COPY performing MBCS conversion:

- MBCS Conversion During z/OS to UNIX Copy
- MBCS Conversion During Microsoft Windows to z/OS Copy
- MBCS Conversion During z/OS to z/OS Copy

Note: To convert between Unicode (ISO 10646) and other code sets, Sterling Connect:Direct makes calls to system routines which are part of the optional z/OS Language Environment component – National Language Support. Verify that your z/OS installation supports the code set conversions specified in the Process language.

Sterling Connect:Direct for z/OS Run Job Statement

The RUN JOB statement submits a job through the z/OS internal reader, a facility that transfers jobs to the job entry subsystem (JES). The job must reside in a file on the node that executes the RUN JOB statement.

Sterling Connect:Direct does not verify job statements. To determine the completion status of a RUN JOB statement, check your Sterling Connect:Direct statistics records.

The following is the Sterling Connect:Direct for z/OS RUN Job statement format. Refer to Sterling Connect:Direct for z/OS Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN JOB	(DSN = dsn[(member)])
		PNODE SNODE

Sterling Connect:Direct for z/OS Run Task Statement

The RUN TASK statement attaches user programs or subtasks during Process execution. When a Sterling Connect:Direct Process issues a RUN TASK statement, the Sterling Connect:Direct Process waits until the subtask finishes before executing the next Sterling Connect:Direct Process step.

You can pass a list of user parameters to the subtask from the RUN TASK statement. The RUN TASK statistics log records the return code of the subtask, program name, parameter list, and dates and times for starting and completing the subtask.

Parameters are passed in upper case using the PARM parameter. Parameters are passed in mixed case using the SYSOPTS parameter. (A double-quoted SYSOPTS string can contain up to 1816 bytes.)

The subtask can be attached at either the PNODE or SNODE. The subtask must reside in a load library that can be accessed by the target (SNODE or PNODE) Sterling Connect:Direct server.

Note: Run Task cannot execute C or C++ programs that contain a "main()" routine or enclave. Using Run Task to execute such a program results in a U4093 ABEND and creates error CEE5151C in SYSOUT. The return code 156 is generated with a reason code of 0D070201.

The following is the Sterling Connect:Direct for z/OS RUN TASK statement format. Refer to Sterling Connect:Direct for z/OS Process Parameters for more information.

Label	Statement	Parameters
stepname	RUN TASK	(PGM=program-name
		PARM=(parameter [,parameter,...]) SYSOPTS="parameter [,parameter,...]"
)
		PNODE SNODE
		RESTART=YES NO

Sterling Connect:Direct for z/OS Submit Statement

The SUBMIT statement submits another Process to either the PNODE or SNODE, from within an executing Process. The Process to be submitted must reside in a file on the node where the SUBMIT statement executes. This node is referred to as the SUBNODE.

The SUBMIT statement is not the same as the SUBMIT command. The SUBMIT statement parses special characters differently from the SUBMIT command. See *Process Language Syntax* for a discussion of special character parsing. See the *IBM Sterling Connect:Direct for z/OS User Guide* for SUBMIT command syntax and parameters.

The following is the Sterling Connect:Direct for z/OS SUBMIT statement format. Refer to Sterling Connect:Direct for z/OS Process Parameters for more information.

Label	Statement	Parameters
stepname	SUBMIT	DSN=dsn[(member)]
		<i>business process name</i>
		DEBUG=trace bits
		NEWNAME=new-name
		SUBNODE=PNODE SNODE
		SNODE=secondary-node-name SNODE = TCPNAME = tcpvalue, port
		SNODEID=(id [,pswd] [,newpswd])
		SACCT='snode-accounting-data'
		PLEXCLASS=(pnode class, snode class)
		PNODEID=(id [,pswd] [,newpswd])
		PACCT='pnode-accounting-data'
		CASE= Y YES N NO
		CLASS = n
		HOLD = Y YES N NO CALL
		PRTY = nn
		NOTIFY = %USER userid
		REQUEUE = Y YES N NO
		RETAIN = Y YES N NO INITIAL
		STARTT = ([date day] [,hh:mm:ssXM])
		&symbolicName1 = variable-string-1 &symbolicName2 = variable-string-2 . . . &symbolicNamen = variable-string-n

Sterling Connect:Direct for z/OS Conditional Statements

Conditional statements alter the sequence of Sterling Connect:Direct Process execution based on the completion of the previous step in the Process. For example, if a file copy fails, the Process may call an external program to generate a console message and stop the Process. If the file copy succeeds, the Process continues with the next step.

The following is the Sterling Connect:Direct for z/OS Conditional statement format. Refer to Sterling Connect:Direct for z/OS Process Parameters for more information.

Label	Statement	Parameters
optional	IF	(label condition nn) THEN
		(process steps)
	ELSE	
		(alternative process steps)
	EIF	
optional	GOTO	label
	EXIT	

Sterling Connect:Direct for z/OS Symbol Statement

The SYMBOL statement creates symbolic substitution values, and can contain up to 254 bytes.

The following is the Sterling Connect:Direct for z/OS Symbol statement format. Refer to Sterling Connect:Direct for z/OS Process Parameters for more information.

Label	Statement	Parameters
optional	SYMBOL	&symbolic_name=variable-string

Creating Processes from z/OS Statement Models

Sterling Connect:Direct for z/OS has a sample Process library that contains Process statement models. You can use these models as templates for building Sterling Connect:Direct Processes.

About this task

There are two types of the Process statement models in the Process library:

- Commented files have a file name preceded by the at sign (@).
- Files without comments have a file name preceded by a pound sign (#).

To create a Process from a Process model,

Procedure

1. Use either the Sterling Connect:Direct for z/OS Interactive User Interface (IUI) or the Interactive System Productivity Facility (ISPF) EDIT facility.
2. Access the Process definition screen (DF on the Sterling Connect:Direct for z/OS Primary Option Menu), and specify a new PDS member.
3. Press **ENTER**.
4. Type **COPY** on the command line at the top of the blank member.
5. Press **ENTER**. An ISPF Edit-Copy screen is displayed.
6. In the **DATA SET NAME** field, type the name of the Process library and the member name of the model you want copied into your new member, and press **ENTER**.

For example, you build your Process by first including the PROCESS statement. If you specify @PROCESS with the Process library, the commented Sterling Connect:Direct PROCESS statement model is copied into the member. (Use #PROCESS if you do not want to include the comments in your Process.)

The PROCESS statement model is copied into your new member.

7. To add additional statement models, type a over the 0 (zero) in the number column of the last line of the member and repeat steps 4 through 6.
Each specified Sterling Connect:Direct statement model is copied into the member following the PROCESS statement.
8. Continue adding statement models until your Process is complete.
9. Edit the statements:
 - Replace underscores with the appropriate parameter values.
 - Provide an appropriate Process name in the PROCESS statement.
 - Delete any lines that are not applicable.
 - Continuation marks are necessary on all but the last line of each statement model.
 - Delete any unwanted Comment lines.
10. Save the Process to the PDS member. You can now submit it from the Submit panels in the IUI. See the *IBM Sterling Connect:Direct for z/OS User Guide* for instructions on executing Processes.

Sterling Connect:Direct for z/OS Process Parameters

ALIAS = Y | N

specifies whether aliases are copied when their associated member names are copied. The default is ALIAS=Y.

Guidelines for alias entries when ALIAS=Y follow:

- If the name specified in the SELECT parameter is a true member name, that member is sent and any of its aliases are sent unless they are specified in the EXCLUDE parameter. If the **R** subparameter of the SELECT parameter is specified, it also applies to the aliases.
- If the name specified in the SELECT parameter is an alias, any other aliases plus their associated true member are sent unless they are specified in the EXCLUDE statement. If the **R** subparameter of the SELECT parameter is specified, it applies to the true member and the other aliases sent.
- If the true member name is specifically excluded and any of its aliases are selected, a completion code of 4 results. When copying a PDS with aliases but no corresponding true members, Sterling Connect:Direct software does not copy the aliases and returns a completion code of 4.

Guidelines for alias entries when ALIAS=N follow:

- If the name specified in the SELECT parameter is a true member name, only the member is sent.
- If the true member name is also specified and if the name specified in the SELECT parameter is an alias, then the directory of the alias that is specified is sent. If the **R** subparameter is specified, it must be used with the true member name or it results in a completion code of 4. No entry is then made for that alias.

- If the true member name has not been specified and if the name specified in the `SELECT` parameter is an alias, then it results in a completion code of 4, and no entry is made for that alias.

AVGREC = U | K | M

requests that the data set be allocated in records. The primary and secondary space quantities represent number of records requested in units, thousands, or millions of records. This parameter is mutually exclusive with the `TRK/CYL` subparameter of the `SPACE` parameter. This parameter is only valid on systems with SMS support.

For platforms other than z/OS: All SMS parameters must be specified as subparameters of the `SYSOPTS` parameter. `SYSOPTS` is a mechanism that allows you to pass system-specific parameters between platforms. See the `COPY` statement of the appropriate platform for syntax requirements for the `SYSOPTS` parameter.

- **U** specifies a record request where primary and secondary space quantities are the number of records requested. The value of the primary space request is a multiple of 1.
- **K** specifies a record request where primary and secondary space quantities are the number of records requested in thousands of records. The value of the primary space request is a multiple of 1024.
- **M** specifies a record request where primary and secondary space quantities are the number of records requested in millions of records. The value of the primary space request is a multiple of 1,048,576.

BUFND = number

specifies the number of I/O buffers VSAM will use 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 I/O performance, but requires more memory.

CASE = Y | YES | N | NO

specifies whether parameters associated with accounting data, user ID, password, and data set name in the command and in the submitted Process are to be case sensitive. The default is **NO**.

CLASS = n

determines the node-to-node session on which a Process can execute. If `CLASS` is not specified in the Sterling Connect:Direct Process, it will default to the class value specified in the `ADJACENT.NODE NETMAP` record for the destination node (`SNODE`). Values range from 1-255.

CKPT = nK | nM

specifies the byte interval for checkpoint support, which allows restart of interrupted transmissions at the last valid transmission point, avoiding the need to restart transmission from the beginning. (**K** denotes thousands; **M** denotes millions.) A checkpoint value of zero stops automatic checkpointing.

Valid values are:

- 1-2147483K
- 1-2147M

Sterling Connect:Direct converts the value to a block boundary, and a data transmission checkpoint is taken at that position.

Sterling Connect:Direct for i5/OS does not support checkpointing for versions prior to 1.4.00.

If **DISP=MOD** is specified on the COPY TO statement, checkpoint-restart is not possible; duplicate data would be difficult to detect.

Sequential files, VSAM files, and PDSs can be checkpointed. For PDS-to-PDS transmission, any value specified causes Sterling Connect:Direct for z/OS to checkpoint each member. Note that sequential-to-PDS and PDS-to-sequential transmissions cannot be checkpointed.

Note: For sequential files, do not specify a CKPT value less than:

`BLKSIZE * NCP * 10 * # Stripes`

where **NCP** is the number of buffers for reading data from or writing data to a sequential data set using BSAM and # stripes refers to striped extended-format data sets (see the **NCP** parameter for more information).

If the specified checkpoint interval is too small, it can significantly reduce transmission speed in the following ways:

- The amount of data in an RU or packet may be reduced, thus increasing the number needed and with that the number of network I/O operations. In V2 (TCP and LU6.2) transmissions, the packet or RU count increases one for one with the number of checkpoints taken.
- Sequential file I/O slows down because the average number of overlapping I/Os outstanding is reduced when checkpointing occurs too frequently.

COMPRESS [[PRIMEchar = X'40' | X'xx' | C'c'] | EXTended]

specifies that the data is to be compressed, reducing the amount of data transmitted as the file is copied from one node to another. The file is automatically decompressed at its destination. The default subparameter for the COMPRESS parameter is PRIMEchar=X'40'. COMPRESS PRIMEchar is used for text data or single-character repetitive data.

Note: Compression is CPU-intensive, and its effectiveness is data dependent. It should only be used if its benefits are known.

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 1 byte.
- Repetitive occurrences (ranging from 3-63) of any other character are compressed to 2 bytes.

Note: If the SNODE is Sterling B2B Integrator, only COMRESS EXT is supported.

PRIMEchar specifies the primary compression character. The default value for PRIMEchar is a blank (X'40').

EXTended converts repetitive strings in the data into codes that are transmitted to the remote node. These codes are converted back to the

original data string by the remote node during decompression. Specify this parameter when line transmission bandwidth is limited and CPU cycles are available.

CAUTION:

Compression consumes significant CPU resources. To avoid performance degradation in your production environment when changing extended compression parameter settings, review *Testing the Effects of Changing Values for Extended Compression Parameters* in the *IBM Sterling Connect:Direct for z/OS User Guide* for information on the CDSACOMP offline utility. This utility can help determine if changing the extended compression parameters' default values at the global level or overriding them at the Process level will significantly improve your system performance.

The following are options for EXTended:

- **CMPr1level** determines the compression level. The valid value range is 1-9. Level 1 is the fastest compression and usually provides sufficient compression. The default is 1.
- **WINDowsize** determines the size of the compression window or history buffer. This memory is above the line. The valid values are 8-15. Higher windowsize specifications increase the degree of compression and use more virtual memory. Size 8 uses 1 KB of memory. Size 15 requires 128 KB of memory. The default is 13.
- **MEM1level** identifies how much virtual memory (above the line) is allocated to maintain the internal compression state. The valid value range is 1-9. Level 1 requires the least memory (1 KB). Level 9 requires the most memory (256 KB). The default is 4.

The following example shows one way to specify the various EXTended options in a COPY statement:

```
COMPRESS EXT = ( CMP=1
                  WIN=12
                  MEM=8 )
```

condition

specifies the type of comparison to be performed. This condition checking can be based on comparisons for equality, inequality, greater than, less than, greater than or equal to, and less than or equal to.

The completion code from RUN JOB is for the job submission only. It is not the completion code of the job submitted.

Valid symbols, alternate symbols, and conditions follow:

- **= or EQ** specifies that the completion code must be equal to the value nn for the condition to be satisfied.
- **<> or != or NE** specifies that the completion code must not equal the value nn for the condition to be satisfied.
- **>= or >= or GE** specifies that the completion code must be greater than or equal to the value nn for the condition to be satisfied.
- **> or GT** specifies that the completion code must be greater than the value nn for the condition to be satisfied.
- **<= or <= or LE** specifies that the completion code must be less than or equal to the value nn for the condition to be satisfied.

- **< or LT** specifies that the completion code must be less than the value **nn** for the condition to be satisfied.

COPY

identifies the statement with all its parameters as the COPY statement. This statement identifier is specified with either the FROM or TO parameter, whichever is specified first.

CRC=(OFF|ON)

Provides an override of the initial CRC setting in the initialization parameters. This value is ignored if the initialization parameter does not allow for overrides. This parameter is only valid for TCP/IP transfers. The default is OFF.

DATACLAS = data-class-name

requests the data class for a new data set. The class selected must have been previously defined by the SMS administrator. This parameter may be used with VSAM data sets, sequential data sets, or partitioned data sets.

For platforms other than z/OS: All SMS parameters must be specified as subparameters of the SYSOPTS parameter. SYSOPTS is a mechanism that allows you to pass system-specific parameters between platforms. See the COPY statement of the appropriate platform for syntax requirements for the SYSOPTS parameter.

data-class-name is the 1-8 character name of the data class to which this data set belongs. The name of the data class is assigned by the SMS administrator. The user should contact the SMS administrator for a valid list of the available data classes.

You can use **data-class-name=\$\$\$\$\$\$** to propagate a data class from an input file to the receiving node and to the output data set. When DATACLAS is propagated, the DCB and SPACE attributes are ignored.

DATAEXIT = exit-name | (exit-name[,parameter,...])

indicates that a user-written program is to be called. This exit is similar to the I/O Exit except it does not require the same I/O management. See the *IBM Sterling Connect:Direct for z/OS Administration Guide* for instructions on writing Data exits.

exit-name specifies the name of the user-written program that receives control for data requests.

parameter specifies a parameter, or list of parameters, to be passed to the specified exit. For valid parameter formats, refer to the parameters described in the RUN TASK Statement chapter.

```
DCB =([model-file-name]
[,BLKSIZE = no.-bytes ]
[,NCP] = no. of buffers for BSAM data transfers
[,DEN = 0 | 1 | 2 | 3 | 4]
[,DSORG = PS | PO | DA | VSAM]
[,KEYLEN = no.-bytes]
[,LIMCT = no.-blocks-or-tracks]
[,LRECL = no.-bytes]
[,OPTCD = W | Q | Z]
[,RECFM = record-format]
[,RKP = first-byte-position-of-record-key]
[,TRTCH = C | E | T | ET | COMP | NOCOMP])
```


specifies attributes to be used in allocating source and destination files. 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 Process.

model-file-name specifies a model data set control block (DSCB).

BLKSIZE specifies the length in bytes of the block. The maximum length depends on the device type. For most device types, the maximum length is 32,760 bytes, although Sterling Connect:Direct for z/OS supports a maximum length of 262,144 bytes for certain tape drives.

If you specify a block size other than zero, there is no minimum requirement for block size except for variable format data sets that have a minimum block size of 8. However, if a data check occurs on a magnetic tape device, any block shorter than 12 bytes in a read operation, or 18 bytes in a write operation, is treated as a noise record and lost. No check for noise is made unless a data check occurs.

BLKSIZE=0 allows the operating system to derive the block size. The system does not derive a block size for old or unmovable data sets, or when the RECFM is U. If the BLKSIZE remains 0 when the data set is opened, the Process fails with an SVSG005I message.

NCP (number of channel programs) specifies the number of buffers for reading data from or writing data to a sequential data set using BSAM. The default is 0, which lets the system determine the value and usually produces the best throughput results. The maximum is 255. When the number of BSAM buffers is greater than 1, Sterling Connect:Direct interleaves BSAM and network I/O to maximize throughput. For more information on BSAM data processing, see *Performance Tuning* in the *IBM Sterling Connect:Direct for z/OS Administration Guide*.

Note: Here are some additional points you may need to know for your environment:

The NCP value may be limited by the MAXSTGIO initialization parameter. For more information on the MAXSTGIO initialization parameter, see *Chapter 16. Global Initialization Parameters* in the *IBM Sterling Connect:Direct for z/OS Administration Guide*.

When LU0 is used and checkpointing is requested, Sterling Connect:Direct sets NCP to 1 (see the CKPT parameter for more information.)

If the TAPEIO initialization parameter is set to EXCP, the NCP value is ignored and only one buffer is acquired with the storage occurring below the line.

DEN specifies the magnetic tape mode setting. The values for the DEN parameter for 7- and 9-track tape are shown in the following table. When specified together, the DEN and TRTCH values are used to select a tape device for allocation by Sterling Connect:Direct.

DEN	7-Track Tape	9-Track Tape
0	200 bpi	-
1	556 bpi	-

DEN	7-Track Tape	9-Track Tape
2	800 bpi	800 bpi (NRZI) NRZI is Non-Return-to-Zero Inverted recording mode
3	-	1600 bpi (PE) PE is Phase Encoded recording mode
4	-	6250 bpi (GCR) GCR is Group Coded Recording mode

DSORG specifies the file organization. Supported file organizations are PO, PS, DA, and VSAM.

KEYLEN specifies the length of the keys used in a file. The 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.

Note: When using RECFM=V or RECFM=VB type files, the LRECL value must be at least the size of the largest record in the file plus 4 bytes. If RECFM=V, the BLKSIZE value must be at least the LRECL value plus another 4 bytes. If RECFM=V, the BLKSIZE value does not need to be an even multiple of LRECL.

An entry-sequenced file coming from HP NonStop to an IBM PS/VB file must be specified with an LRECL 4 bytes larger than the HP NonStop file. This is specified on the COPY TO statement to account for a 4-byte-length area required on the IBM file but not required on HP NonStop.

When you are performing an MBCS conversion between two z/OS nodes, the receiving file LRECL must be larger than the sending file LRECL, due to possible data length increase during conversion and to avoid an SVSJ032I error during the Copy. Making the receiving file LRECL 10% larger than that of the sending file is usually adequate.

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 COPY operation. Valid options are as follows:

- **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. Note that Q is the default and is 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. Any valid record format, such as F (Fixed), FA (Fixed ASA printer control), FB (Fixed Block), FBA (Fixed Block ANSI carriage control), FM (Fixed Machine code control character), U (Undefined), V (Variable), VB (Variable Block), VBA (Variable Block ASA printer control), VBM (Variable Block Machine code control character), VS (Variable Spanned), and VBS (Variable Block Spanned), can be specified. For FDR volumes and DFDSS files, you must specify RECFM=U on the FROM parameter.

Note: When transmitting VBS and VS files to a non-370 platform, the record descriptor word (RDW) is transmitted to the receiving node.

An OpenVMS file with a record format of undefined (U) cannot be copied to z/OS.

When performing an MBCS conversion on a file created on a z/OS receiving node, you must specify the file record format (RECFM) as V (Variable), VB (Variable Block), or U (Undefined). If RECFM=VB, BLKSIZE for the output file must be at least as large as LRECL +4.

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 specified together, the TRTCH and DEN values are used to select a tape device for allocation by Sterling Connect:Direct. Valid options are as follows:

- **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. COMP 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.

DEBUG = trace bits

specifies the 8-position trace setting for the Process. This allows you to specify a trace for a specific Process. The following table shows the available function traces for Sterling Connect:Direct for z/OS, with their respective DEBU settings, and the DD names (or filenames) used for output. Specify these bits using hexadecimal notation. For example, X'80' plus X'10' results in X'90 and X'08' plus X'04' results in X'0E'.

DEBUG Setting	Trace Type	Output DD
80000000	COPY Routine and RUN TASK trace	RADBDD01
10000000	Full TPCB/SYMBOLICS from DMCBSUBM	DMCBSUBM
08000000	Session manager trace	RADBDD05
04000000	Separate trace per task (Example: "R0000005" to trace TASK 5)	Rnnnnnnn
02000000	API session trace	RADBDD07
01000000	DMGCBSUB trace	RADBDD08
00400000	TCQSH from DMCOPYRT	DMCOPYRT
00200000	Make each SVC dump unique	N/A
00100000	SECURITY Trace Control	SECURITY

DEBUG Setting	Trace Type	Output DD
00040000	GETMAIN/FREEMAIN trace	RADBDD16
00008000	I/O buffer trace	RADBDD21
00004000	WTO all dynamic allocation parameters	RADBDD22
00002000	Sterling Connect:Direct/Plex traces	
	ACTION queue manager trace	CDPLXACT
	CKPT queue manager trace	CDPLXCKP
	TCQ queue manager trace	CDPLXTCQ
	STATS queue manager trace	CDPLXSTA
	First REQUEST queue manager trace	CDPLXREQ
	Second and subsequent REQUEST queue manager trace. For example, "CDPLXR03" traces the third REQUEST queue manager. The number of REQUEST queue manager traces is based on the maximum number of servers from the asset protection (APKEY) file.	CDPLXRnn
JOIN queue manager trace	CDPLXJOI	
00001000	Workload Balancing trace	CDPLXWLB
00000100	In-storage tracing only. WARNING: If specified, all SYSOUT (except WTOs) goes to in-storage only.	N/A
00000080	RPL trace - long	RPLOUT
00000040	RPL trace - short	RPLOUT
00000020	Version 2 session trace	RADBDD33
00000008	Logon exit trace	RADBDD35
00000004	Logon processor trace	RADBDD36
00000002	SCIP exit trace	RADBDD37
00000001	Extended dump Information	ESTAE

DSN = dsn[(member)]

For a Submit statement, this specifies the name of the file that contains the Process. DSN specifies the file name and member name, if the Process resides in a PDS. If the Process is in a SAM file, only the file name should be given.

For a Run Job statement, this specifies the name of the data set containing the job to be submitted. If the file is a PDS, the member containing the job must be specified. The data set containing the job must already exist on the node where the job will be submitted.

Any JCL data set used as input for RUN JOB statements cannot have an LRECL greater than 254 bytes.

Values for the DSN parameter must be in the proper case for the node where they will be processed. For example, specify the value for DSN in uppercase letters when submitting a Process from UNIX that runs a job on z/OS.

For a Copy statement using Version 5.0 or later, DSN=NULLFILE may be used. NULLFILE is a dummy data set.

DSNTYPE = LIBRARY | PDS | BASIC | LARGE | EXTPREF | EXTREQ

defines a specific data set organization for a sequential (BASIC or LARGE) or partitioned (LIBRARY or PDS) data set. The BASIC and LARGE parameters are only available for Sterling Connect:Direct for z/OS.

For platforms other than z/OS: The DSNTYPE parameter must be specified as a subparameter of the SYSOPTS parameter. SYSOPTS is a mechanism that allows you to pass system-specific parameters between platforms. See the COPY statement of the appropriate platform for syntax requirements for the SYSOPTS parameter.

- **LIBRARY** specifies a partitioned data set extended (PDSE).
- **PDS** specifies a partitioned data set.
- **BASIC** specifies a sequential data set that cannot contain more than 65535 tracks per volume.
- **LARGE** specifies a sequential data set which can contain more than 65535 tracks per volume.
- **EXTPREF** specifies a data set where the extended attribute is preferred but not required. The data set is created whether the extended attribute is obtained through this parameter or another such as DATACLAS or LIKE.
- **EXTREQ** specifies a data set which requires the extended attribute. If an extended format data set cannot be allocated, a data set is not created.

EIF

is required for specifying the end of the IF THEN or IF THEN ELSE block of statements. No parameters exist.

ELSE

designates a block of Sterling Connect:Direct statements that execute when the IF THEN condition is not satisfied. No parameters exist.

EXCLUDE = (generic | member | (start-range/stop-range) | list)

specifies criteria that identifies the PDS members that are not to be copied. The EXCLUDE parameter can be specified only in the FROM clause of the COPY statement. EXCLUDE allows the user to make exceptions to members specified generically or by range in the SELECT option.

Note: EXCLUDE cannot be used if a member name is specified as part of the FROM DSN or TO DSN.

generic specifies a generic member name. For example, if CDM* is specified, all member names beginning with CDM are excluded. The only way to override an excluded generic is to specify an individual member name in the SELECT parameter.

member specifies an individual member name. When a member is specified in the EXCLUDE parameter, its exclusion cannot be overridden.

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 (*). A slash (/) separates the first (start-range) and last (stop-range) member names. When used with the EXCLUDE statement, the first and last members specified in the range, as well as all members between, are not copied.

stop-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 (*). A slash (/) separates the first (start-range) and

last (stop-range) member names. When used with the EXCLUDE statement, the first and last members specified in the range, as well as all members between, are not copied.

Note: The only way to override an excluded range is to specify an individual member name in the SELECT parameter.

list specifies a list of member names.

EXIT

is used to bypass all remaining steps within a Process. No parameters exist.

FROM

specifies that the subsequent parameters and subparameters define the source file characteristics.

(FROM) DSN = data set name/password | FILE=filename

specifies the source data set name when used with the FROM parameter. Data set names are verified based on the standard z/OS data set name conventions. If the data set name does not follow z/OS naming conventions, enclose the data set name in single quotation marks.

Use the relative generation number when copying a Generation Data Group (GDG) data set. Using the relative generation number ensures that no data is lost because you can specify only one Generation Data Set (GDS) in a COPY step.

Also, you can submit a Process from a GDG using the relative generation number.

Note: DSN is optional when used with the IOEXIT parameter.

When FROM DSN=NULLFILE is specified, a null file is copied. The NULLFILE option must be accompanied by any DCB information for the output file on either the FROM or TO parameter of the COPY statement. At a minimum, a block size must be specified. This allows you to allocate a file using the COPY function by specifying a disposition of (NEW,CATLG).

If the source data set being copied from requires a password for read or the destination data set requires a password for write, the password may be specified in the COPY statement 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, z/OS issues a WTOR requesting the password when Sterling Connect:Direct opens the data set. For example:

```
COPY FROM DSN=data-set-name/pwd...
```

If the data set is an HFS file, the filename must begin with a slash (/). The name is limited to a maximum of 255 characters. It does not have to be enclosed in quotes. For example:

```
DSN=/u/directory/subdirectory/anotherdirectory/filename
```

(FROM) DISP =([OLD | SHR], [KEEP | DELETE], [KEEP | DELETE])

specifies the status of the file and what is done with the file after notification of successful transmission. Subparameters are as follows:

First Subparameter specifies the status of the file prior to execution of the Process. This subparameter applies to all files. Options for this subparameter are as follows:

- **OLD** specifies that the source file existed before the Process began executing and the Process is given exclusive control of the file.
- **SHR** specifies that the source file existed before the Process began executing and that the file can be used simultaneously by another job or Process. The default is SHR.

Second Subparameter specifies the disposition of the file following a normal Process step termination resulting in a zero completion code. This subparameter applies to non-VSAM files. Valid source file dispositions are as follows:

- **KEEP** specifies that the system keeps the file after the Process step completes.
- **DELETE** specifies that the system deletes the file after the Process step completes successfully.

Third Subparameter specifies the disposition of the file after an abnormal Process step termination resulting in a non-zero completion code. This subparameter applies to non-VSAM files. Valid source file dispositions are as follows:

- **KEEP** specifies that the system keeps the file after the Process step terminates abnormally or with a non-zero return code.
- **DELETE** specifies the system deletes the file if the Process step terminates abnormally.

GOTO

moves to a specific step within a Process.

HOLD = Y | YES | N | NO | CALL

specifies whether the Process is to be placed in the Hold queue at submission.

Y or **YES** specifies that the Process is submitted to the Hold queue and remains there until the operator explicitly releases the Process.

When both HOLD=YES and a STARTT value are specified, the HOLD specification takes precedence (a Process submitted with HOLD=YES is placed in the Hold queue even if a start time is specified).

Specifying both HOLD=YES and MAXDELAY=YES is not valid. The PROCESS statement returns message SCBI219I.

N or **NO** specifies that the Process is to execute as soon as possible. HOLD=NO is the default.

CALL specifies that Sterling Connect:Direct is to place the Process in the hold queue until a session is established with the specified SNODE. This session is established by either another Process starting on the PNODE destined for the same SNODE or the SNODE contacting the PNODE. For example, a Process submitted with HOLD=NO establishes a session and causes execution of any Processes residing on the SNODE destined for this node that are submitted with HOLD=CALL.

Note the following:

- Sterling Connect:Direct ignores the HOLD parameter if RETAIN=Y.
- When the SNODE is a Microsoft Windows operating system, a null or ENABLE Process is required from the Microsoft Windows operating system to release the held Processes. A normal send or receive of a file does not release them. This functionality enables those who dial in to send or receive files without executing held Processes until they are ready.

IF THEN

specifies that Sterling Connect:Direct executes a block of statements based on the completion code of a Process step. The EIF statement must be used in conjunction with an IF THEN statement. A return code with the high order bit on is evaluated as a negative return code.

IOEXIT = **exit-name** | (**exit-name**[,**parameter**,...])

indicates that a user-written program is to be called to perform I/O requests for the associated data. See the *IBM Sterling Connect:Direct for z/OS Administration Guide* for instructions on writing I/O exits.

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

parameter specifies a parameter, or list of parameters, to be passed to the specified exit. For valid parameter formats, refer to the parameters described in the RUN TASK Statement.

label

The label is a user-assigned 1-8 character alphanumeric string that identifies the statement.

Labels must begin in column one. The first character must be alphabetic.

For the IF THEN statement, the label specifies the name of a previous step whose completion code is used for comparison.

For the GOTO statement, the label specifies the name of a subsequent step in a Process (required for GOTO only). The name cannot be the label of a preceding step nor can it be the label of the GOTO statement of which it is a part.

LABEL =([**file-sequence-number**]
,[**SL** | **AL** | **BLP** | **LTM** | **NL**]
,[**PASSWORD** | **NOPWREAD**]
,[**IN** | **OUT**]
,[**RETPD** = **n****nnn** | **EXPDT** = [**yyddd** | **yyyy/ddd**]])

specifies label information for the tape.

file-sequence-number specifies the relative file position on the tape.

The label type is designated as follows:

- **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.

PASSWORD specifies that a password must be supplied by the operator or user before the data set can be accessed.

NOPWREAD indicates that a password is not required to read the data set.

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

OUT specifies that a BSAM data set opened for OUTIN or OUTINX is to be write 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 yyyy/ddd is a valid Julian date.

Note: No slash is used in the 4-digit year EXPDT parameter of a process submitted on a UNIX or Microsoft Windows platform.

LIKE = model-data-set-name

requests that allocation attributes for a new data set be copied from an existing cataloged data set. Any or all of the following attributes are copied to the new data set: RECORG or RECFM, LRECL, KEYLEN, KEYOFF, DSNTYPE, AVGREC, and SPACE. Any attributes specified for the data set override the values from the model data set. Neither EXPDT nor RETPD are copied from the model data set.

For platforms other than z/OS: All SMS parameters must be specified as subparameters of the SYSOPTS parameter. SYSOPTS is a mechanism that allows you to pass system-specific parameters between platforms. See the COPY statement of the appropriate platform for syntax requirements for the SYSOPTS parameter.

model-data-set-name is the name of the data set from which the allocation attributes are copied.

LRECL = bytes

specifies the length, in bytes, of the records in the new data set. This parameter is valid for SMS VSAM data sets. LRECL must not be specified with RECORG=LS type data sets.

Note: When RECFM=V or RECFM=VB type files are used, the LRECL value must be at least the size of the largest record in the file plus 4 bytes. If RECFM=V, the BLKSIZE value must be at least the LRECL value plus another 4 bytes. If RECFM=V, the BLKSIZE value does not need to be an even multiple of LRECL.

For platforms other than z/OS: All SMS parameters must be specified as subparameters of the SYSOPTS parameter. SYSOPTS is a mechanism that allows you to pass system-specific parameters between platforms. See the COPY statement of the appropriate platform for syntax requirements for the SYSOPTS parameter.

bytes is the length of the records in the data set. For non-VSAM data sets, valid values range from 1-32760 bytes. For VSAM data sets, valid values range from 1-32761 bytes. The LRECL must be longer than the KEYLEN value for VSAM KSDS.

KEYLEN = bytes

specifies, in bytes, the length of the keys used in the file. This parameter is valid for SMS data sets. The value must be a decimal integer from 0-255 for non-VSAM data sets or 1-255 for VSAM data sets.

For platforms other than z/OS: All SMS parameters must be specified as subparameters of the SYSOPTS parameter. SYSOPTS is a mechanism that allows you to pass system-specific parameters between platforms. See the COPY statement of the appropriate platform for syntax requirements for the SYSOPTS parameter.

KEYOFF = offset-to-key

specifies the offset within the record to the first byte of the key in a new VSAM KS data set. The first byte of the record is byte 0.

For platforms other than z/OS: All SMS parameters must be specified as subparameters of the SYSOPTS parameter. SYSOPTS is a mechanism that allows you to pass system-specific parameters between platforms. See the COPY statement of the appropriate platform for syntax requirements for the SYSOPTS parameter.

offset-to-key is the position of the first byte of the key in the record. The value ranges from 0-32760.

MAXDELAY =[UNLIMITED | QUEUED | hh:mm:ss | 0]

indicates that the submit command waits until the submitted Process completes execution or the specified time interval expires. This parameter is optional. Do not use MAXDELAY for a submit within a Process—use only in SUBMIT commands.

CAUTION:

If you use the MAXDELAY PROCESS statement keyword, you must specify ESF=N0 or the message SCBI221I MAXDELAY not supported for ESF submits will display when the DTF is down and the Process will not submit.

Note: If the Process does not complete within the time interval specified by queued or hh:mm:ss, the API returns SSPA006I, RC=4 and DMBATCH terminates with RC=48 (x'30').

UNLIMITED specifies that the submit command waits until the Process completes execution. This is the default when no parameters are specified.

QUEUED specifies that the submit command waits until the Process completes or 30 minutes, whichever occurs first.

hh:mm:ss specifies that the submit command waits for an interval no longer than the specified hours, minutes, and seconds or until the Process completes, whichever occurs first.

0 specifies that the submit command attempts to start a session for the submitted Process to execute on immediately. If Sterling Connect:Direct cannot establish a session, after all retries are exhausted, the Process is flushed and the submit command fails with the error SVTM118I RC=52(x'34').

If Sterling Connect:Direct cannot establish a session after all retries are exhausted due to all available sessions on the remote node being in use,

that is, when session attempts fail with error SVTM080I SESSION (nnn) REJECTED pname (pnum) SNODE=remote.node, the Process is flushed and the submit command fails with the error SVTM118I RC=12(x'0C').

MAXDELAY=0 Processes will not use the intelligent retry feature. When a transfer to a remote node times out and retries, subsequent transfers to the same remote node will also time out and retry rather than being added to the wait queue.

MGMTCLAS = management-class-name

determines the previously defined management class to which a new data set belongs. Available classes are determined and named by the SMS administrator. For example, attributes in this class can determine when a data set is migrated or backed up. The system Automatic Class Selection (ACS) routine can override this parameter.

For platforms other than z/OS: All SMS parameters must be specified as subparameters of the SYSOPTS parameter. SYSOPTS is a mechanism that allows you to pass system-specific parameters between platforms. See the COPY statement of the appropriate platform for syntax requirements for the SYSOPTS parameter.

management-class-name is the 1-8 character name of the management class to which a data set belongs. The name of the management class is assigned by the SMS administrator.

You can use **management-class-name=\$\$\$\$\$\$\$** to propagate a management class from an input file to the receiving node and to the output data set.

MSVGP = MS-group-name

specifies the group of mass storage volumes that reside on a mass storage system (MSS) device. This must be a valid DD (data definition) name, ranging from 1-8 alphanumeric characters with the first character alphabetic.

NEWNAME = new-name

specifies the new name to be given to the Process. The default value is the label on the PROCESS statement.

nn

specifies the numeric value to be used for comparison. If specified as X'nn', it is a hexadecimal value; any other coding is treated as a decimal.

Typically, if a completion code less than 4 is returned, the Process completed successfully. In most cases, a return code greater than 4 indicates the Process ended in error. A return code of 4 indicates a warning.

NOREPLACE

specifies that members of a sending PDS do not replace existing members of the same name at the receiving PDS. The NOREPLACE parameter takes effect only when the FROM and TO files are PDSs. The default is REPLACE. Note that NOREPLACE applies to an entire PDS as opposed to the NR option of the SELECT parameter, which applies to members within a PDS.

NOTIFY = %USER | userid

specifies that the user receives Process completion messages.

%USER specifies that the user on the host Sterling Connect:Direct who submitted the Process receives the completion messages. If the Sterling Connect:Direct user ID is different from the host user ID, the user is not notified.

userid specifies the TSO user ID that will receive Process completion messages.

NOTIFY is not supported across z/OS images in a sysplex environment.

PACCT = 'pnode-accounting-data'

specifies the accounting data for the primary node (PNODE). The maximum length of the accounting data is 256 characters. Enclose the string in single quotation marks if it contains special characters. This data overrides any accounting data specified on the SIGNON command and can be used by a user-written program or statistics exit.

PARM = (parameter [,parameter,...]) | SYSOPTS = "parameter [,parameter,...]"

specifies the parameters to be passed to the subtask when that subtask is attached. These parameters are the actual parameters rather than a list of addresses. Null parameters can be specified by adjacent commas.

You must use SYSOPTS in addition to PGM when submitting a Process from z/OS to run a program on UNIX. Values for the SYSOPTS parameter must be in the proper case for the node where the program is processed.

CAUTION:

Do not use PARM on a RUN TASK Process submitted from a z/OS to run on a HP NonStop system using TCP/IP or LU6.2 protocol. Use SYSOPTS in place of PARM instead.

The actual format of the parameter list that is passed to the program consists of a 2-byte field, indicating the length of the parameter followed by the parameter itself. The valid data types for the PARM parameter follow.

CLn'value' specifies a data type of character with a length of n, where n is the number of bytes. The length is optional. If it is not specified, the actual length of the value is used. If the length specified is less than the real value, the data is truncated. If the length specified is longer than the value, the value is padded with blanks on the right. For example, CL44'FILE.NAME'.

XLn'value' specifies a data type of hexadecimal with a length of n, where n is the number of bytes. The length is optional. If it is not specified, the length of the value is used. If the length specified is less than the real value, the data is truncated. If the length specified is longer than the value, the value is padded on the left with binary zeros. For example, XL8'FF00'.

H'value' specifies a halfword value. No length can be specified. The value can be specified with a plus (+) or minus (-) sign. If no sign is given, plus is assumed. For example, H'-32'.

F'value' specifies a fullword value. No length can be specified. The value can be specified with a plus (+) or minus (-) sign. If no sign is given, plus is assumed. For example, F'4096'.

PLn'value' specifies a packed value. The length is optional; if it is not specified, the length of the value is used. If the length specified is longer than the value, the value is padded on the left with zeros. The length

specifies the size of the field in bytes and cannot be longer than 16. The value can be specified with a plus (+) or minus (-) sign. If no sign is given, plus is assumed. For example, PL10'+512'.

If no data type or length is specified, the parameter is assumed to be character type and the length of the parameter is used. For example, if PARM=('FILE.NAME') is specified, the length used is 9.

The parameter can also be specified as a symbolic value that is resolved when the Process is submitted. If a symbol is used, the parameter must be specified without a data type designation or length. For example, &PARAM1.

When using strings that include symbolics, the strings must be enclosed in double quotes. If an ampersand (&) is to be passed as part of the parameter, then the data-type format must be used. For example, CL8'&PARAM1' uses no substitution; CL8"&PARAM1" indicates that the value is substituted.

PDS.DIRectory = Y | N

specifies whether user-related information in the directory is sent.

If the PDS is a loadlib and PDS.DIR is set to NO, the directory information is lost and the modules are no longer executable.

PGM = program-name

specifies the name of the program to be attached as the subtask. The program runs on the node specified and has access to the DD cards allocated on that node only.

PLEXCLASS = (pnode class, snode class)

specifies the class that directs the Process to only certain servers in a Sterling Connect:Direct/Plex. This parameter is only used in a Sterling Connect:Direct/Plex.

Each server in a Sterling Connect:Direct/Plex can be designated to support only certain PLEXCLASSES through the CDPLEX.PLEXCLASSES initialization parameter. Processes can then be limited to only those servers by specifying the PLEXCLASS in the Process definition.

The **pnode class** controls which Sterling Connect:Direct/Server runs the Process. The **snode class** controls what other node is used by the Process.

The **pnode class** and **snode class** are each 1-8 characters long. An asterisk (*) indicates that the Process will run on any server with an asterisk designated in the CDPLEX.PLEXCLASSES initialization parameter. If no PLEXCLASS is specified, the network map is checked for a default PLEXCLASS. If the network map does not specify a default PLEXCLASS, then an asterisk is used as the default.

If a Process must run on a specific Sterling Connect:Direct/Server, specify the Sterling Connect:Direct/Server name in the field. The Process will only run on that server.

PNODE

For a Copy statement, this specifies the primary node, defining the direction of transfer (with SNODE). When PNODE is specified with the FROM parameter, a send takes place. When PNODE is specified with the TO parameter, a receive takes place. PNODE is the default for the FROM parameter.

For a Run Job statement, this specifies that the job is to be submitted on the primary node (PNODE), which is the node with Process control. PNODE is the default value.

For a Run Task statement, this specifies that the program will be executed on the PNODE, which is the default.

PNODE = primary-node-name | %PNODE

specifies the primary node to be used in the Process.

primary-node-name is a 1-16 character alphanumeric name that is defined in the network map. The name can be expressed in alphanumerics or nationals (@ # \$), with embedded periods.

The node to which the Process is submitted is always the PNODE. This parameter defaults to the name of the node submitting the Process and need not be specified. It is used for documentation purposes only.

For more information about %PNODE, see the description for the &symbolicName1 Process parameter.

PNODEID = (id [,pswd] [,newpswd])

specifies security user IDs and passwords at the primary node (PNODE). This parameter should be used only to validate security with an ID different from the one you used to sign on to Sterling Connect:Direct.

id specifies the security ID passed to the security system at the PNODE (1-64 alphanumeric characters).

pswd specifies the current security password (1-64 alphanumeric characters) for the specified ID. This parameter can be used by the security system at the PNODE to validate the current security password. The password is optional unless the user has security set to require a password.

newpswd specifies the new security password (1-64 alphanumeric characters). It can be used by the security system to change the current security password to the new security password.

PROCCess

identifies the statement with all its parameters as the PROCESS statement. This statement identifier can be abbreviated to PROC.

process name

specifies the name of the Process. The Process name must exactly match the member name under which it is stored in the Process Library PDS. Accordingly, every process name must be 1-8 characters in length, begin with an alphabetic character, and contain only the characters A-Z, 0-9, @, #, -, and \$. The Process name must start in column one. The PROCESS keyword must be on the same line as the Process name.

This label is used to find the Process in the Process Library and to identify the Process in any messages or statistics relating to the Process.

PRTY = nn

specifies the Process priority in the Transmission Control Queue (TCQ). The TCQ holds all Processes that have been submitted to Sterling Connect:Direct. High numbers indicate high priorities; low numbers indicate low priorities.

This priority is used only for Process selection within class and does not affect VTAM transmission priority. The range is from 0-15. If PRTY is not specified, the default is the priority defined by the PRTYDEF keyword in the Sterling Connect:Direct for z/OS initialization parameters.

RECORG = KS | ES | RR | LS

defines the organization of records in a new VSAM data set. If RECORG is not specified, then SMS assumes that the data set is either a physical sequential (PS) data set or a partitioned (PO) data set.

For platforms other than z/OS: All SMS parameters must be specified as subparameters of the SYSOPTS parameter. SYSOPTS is a mechanism that allows you to pass system-specific parameters between platforms. See the COPY statement of the appropriate platform for syntax requirements for the SYSOPTS parameter.

- **KS** specifies a VSAM key-sequenced data set.
- **ES** specifies a VSAM entry-sequenced data set.
- **RR** specifies a VSAM relative record data set.
- **LS** specifies a VSAM linear data set.

REPLACE

specifies that the sending PDS replaces members of the same name at the receiving PDS. REPLACE is the default.

REQUEUE = Y | YES | N | NO

specifies whether a COPY step should requeue if an x37 abend occurs during processing. This parameter is valid only if used when checkpointing.

Y or **YES** places the requeued Process in the Hold queue with a status of HELD IN ERROR (HE). Corrective action can be taken and the Process restarted with the failing step. Checkpointing resumes at the last successful checkpoint. The Process must be explicitly released from the Hold queue when the status is HELD IN ERROR (HE).

N or **NO** enables the Process to run to completion, executing subsequent steps when a COPY step fails with an abend (such as x37). The default is NO.

When MAXDELAY is specified, REQUEUE=NO is forced even if REQUEUE=YES is specified.

RESGDG = S | SUB | R | RUN

allows users to specify submit or execution time for resolution input GDGs. The parameter, valid only for input GDGs, is specified on the FROM clause of the COPY statement.

S or **SUB** specifies GDG resolution at Process submit time. Sub is the default.

If you specify GDG resolution at Process submit time, note the following conditions:

- Before the submit, if you perform a single session cross-domain signon to another node or a multiple session signon to another node (for example, the API doing the submit is logged on to another DTF), GDG resolution occurs at execution time, regardless of the parameter specified on the PROCESS statement.

It is possible that the API is running on a different system than the DTF or a GDG of the same name is on both systems and the wrong generation of the DTF GDG might be copied. This error can also occur if the GDG to be copied is not on shared DASD.

- If the LOCATE for the data set fails at Process submit time, GDG resolution occurs at execution time.

R or **RUN** specifies GDG resolution at Process run or execution time within the DTF.

RESTART = YES | NO

specifies whether or not the subtask is restarted if interrupted.

RETAIN = Y | YES | N | NO | INITIAL

keeps a copy of the Process in the Hold queue after the Process executes.

Y or **YES** specifies the Process remains in the Hold queue after initial execution. The Process must then be released manually through the CHANGE PROCESS command to cause it to be executed, or explicitly deleted through the DELETE PROCESS command.

If RETAIN=YES is specified, the Process is held until released unless the STARTT parameter is specified. Use RETAIN with STARTT to run a Process repeatedly at an interval.

When a Process is submitted with RETAIN=YES and HOLD=NO or CALL, the HOLD parameter is ignored.

RETAIN=YES is ignored when MAXDELAY is specified.

N or **NO** specifies that the system deletes the Process after execution. The default value for RETAIN is NO.

INITIAL specifies that the Process executes every time Sterling Connect:Direct initializes. Processes submitted with RETAIN=INITIAL do not execute when submitted. STARTT should not be specified with RETAIN=INITIAL.

RETAIN=INITIAL is ignored when MAXDELAY is specified.

RUN JOB

identifies the statement with all its parameters as the RUN JOB statement.

RUN TASK

identifies the statement with all its parameters as the RUN TASK statement.

SACCT = 'snode-accounting-data'

specifies the accounting data for the SNODE. The maximum length of the accounting data is 256 characters. Enclose the string in single quotation marks if it contains special characters. This data overrides any accounting data specified on the SIGNON command and can be used by a user-written program or statistics exit. This parameter is ignored when the SNODE is a Sterling Connect:Direct for i5/OS node.

SECMODEL = (profile-name [,GENERIC])

copies an existing Resource Access Control Facility (RACF) profile as the discrete profile for a new data set. The following information is copied along with the profile: OWNER, ID, UACC, AUDIT/GLOBALAUDIT, ERASE, LEVEL, DATA, WARNING, and SECLEVEL.

profile-name is the name of the model RACF profile, discrete data set profile, or generic data set profile to be copied to the discrete data set profile created for the new data set.

GENERIC identifies that the profile-name refers to a generic data set profile.

SECURE=OFF | STS | SSL | TLS

or

SECURE = ENCRYPT.DATA=Y | N

or

SECURE = (OFF | SSL | TLS | STS , ENCRYPT.DATA=Y | N)

or

SECURE = (OFF | SSL | TLS |

STS,<cipher_suite> | (cipher_suite_list), ENCRYPT.DATA=Y | N)

(for use in a PROCESS statement)

turns on security for a specific session by allowing you to select a protocol (SSL, TLS, or STS) and one or more ciphers when non-secure sessions are the default or turns off security when secure sessions are the default. In addition, you can specify the type of encryption you want performed. For more information, see the *IBM Sterling Connect:Direct Secure Plus for z/OS Implementation Guide*.

Parameter	Definition
,ENCRYPT.DATA=Y N or ENC=Y N	Depending on the option chosen, encrypts both the control block information contained in Function Management Headers (FMHs) and the files being transferred (ENC=Y) or encrypts only the FMHs (ENC=N). The type of encryption chosen will be performed if: <ul style="list-style-type: none"> • The SNODE's remote node entry in its Sterling Connect:Direct Secure Plus file for this node specifies OVERRIDE=Y. • ENCRYPT.DATA must be the last (or only) value specified on the SECURE= parameter. • Both sides of the connection support ENCRYPT.DATA= for SSL/TLS.
OFF	If the remote node in the Secure+ parameters file specifies OVERRIDE=Y, attempts to start the session as a non-secure session. The session will be successfully established if: <ul style="list-style-type: none"> • The SNODE has no remote node entry in its Secure+ parameters file. • The SNODE's remote node entry in its Secure+ parameters file for this node specifies that all Secure+ protocols are disabled. • The SNODE's remote node entry in its Secure+ parameters file for this node specifies OVERRIDE=Y.
SSL TLS STS	If the remote node in the Secure+ parameters file specifies OVERRIDE=Y, attempts to start the session as a secure session using the specified protocol. The session will be successfully established if: <ul style="list-style-type: none"> • The SNODE's remote node entry in its Secure+ parameters file for this node specifies that the specified protocol is to be used. • The SNODE's remote node entry in its Secure+ parameters file for this node specifies OVERRIDE=Y.
,Cipher Suite	Specifies the one cipher suite for Sterling Connect:Direct to use when executing the Process overriding the cipher suite defined in the Secure+ parameters file, for example, SSL_RSA_WITH_3DES_EDE_CBC_SHA. Note: If System SSL is in FIPS mode, only certain ciphers are valid. See the <i>IBM Sterling Connect:Direct for z/OS Release Notes</i> for a list of valid FIPS-mode ciphers.

Parameter	Definition
,(Cipher suite list)	<p>Specifies a list of cipher suites for Sterling Connect:Direct to use when executing the Process overriding the cipher suite defined in the Secure+ parameters file. The cipher list must be enclosed in parentheses and each cipher suite separated by a comma or space, for example, (TLS_RSA_AES_128_SHA,TLS_RSA_AES_256_SHA, TLS_RSA_WITH_DES_CBC_SHA)</p> <p>Note: If System SSL is in FIPS mode, only certain ciphers are valid. See the <i>IBM Sterling Connect:Direct for z/OS Release Notes</i> for a list of valid FIPS-mode ciphers.</p>

**SECURE = (ENCRYPT.DATA=Y | N | algorithm name, SIGNATURE=Y|N
or
ENC=Y | N | algorithm name, SIG=Y | N)** (for use in a COPY statement in an STS environment)

specifies whether to set data encryption (FMH control block information and file data being copied or FMH information only) and digital signatures features using the STS protocol. You can always enable these features from the COPY statement, but not necessarily disable them. The SECURE parameter value specified in the COPY statement overrides the value specified in the Secure Plus remote node record only if the override function is enabled in that remote node record. After the security settings of the PNODE and SNODE are merged, the strongest setting is always used. Therefore, the value specified from the COPY statement cannot disable data encryption or digital signatures if the SNODE has enabled them. For more information, see the *IBM Sterling Connect:Direct Secure Plus for z/OS Implementation Guide*.

ENCRYPT.DATA=Y|N|algorithm name or ENC=Y|N|algorithm name enables or disables copy file encryption. Default= Sterling Connect:Direct Secure Plus file value. You can specify one of these algorithm names to use for encryption:

- DESCBC56
- TDESCBC112
- IDEACBC128

SIGNATURE= Y|N or SIG=Y|N enables or disables digital signature creation. Default= Sterling Connect:Direct Secure Plus file value

**SECURE = ENCRYPT.DATA=Y | N
or
SECURE = ENC=Y | N** (for use in a COPY statement in a TLS or SSL environment)

specifies whether to set data encryption (FMH control block information and file data being copied or FMH information only) using the SSL or TLS protocol. If both sides support ENCRYPT.DATA= for SSL/TLS, the PNODE governs whether the data is encrypted. For more information, see the *IBM Sterling Connect:Direct Secure Plus for z/OS Implementation Guide*.

ENCRYPT.DATA=Y|N or ENC=Y|N enables or disables copy file encryption. Default= Sterling Connect:Direct Secure Plus file value.

**SELECT =(member | generic | (*) | (member, [newname]
,[NR | R]) | (generic,, [NR | R])
(start-range/stop-range,, [NR | R]) | list)**

specifies selection criteria by which PDS members are to be copied. The SELECT parameter can be specified only with the FROM parameter.

Various specifications can be combined in a list after the SELECT parameter.

If SELECT is specified and EXCLUDE is not specified, all selected members are copied. If SELECT is not specified and EXCLUDE is specified, all members not excluded are copied.

generic specifies a generic member name. If CDM* is specified as either a parameter or subparameter, all member names beginning with CDM are selected for copying.

(*) represents a global generic. A global generic indicates that all members of the file are to be included. A global generic is valid only with the SELECT parameter.

When a generic is specified in the SELECT parameter, its selection can be overridden with any type of specification in the EXCLUDE parameter.

When using a generic and specifying NR or R, the second positional parameter (NEWNAME) must be null.

member specifies an individual member name. Note that specifying a member name in the DSN is the same as specifying a SELECT statement with only that member.

The only way to override a selection by member name is to specify that member name in the EXCLUDE parameter.

newname specifies a new name for a member. The NEWNAME parameter must be null, if a generic name or range is used in the first subparameter position.

NR specifies that a member does not replace an existing member of the same name at the receiving PDS. **NR** overrides the REPLACE parameter. **R** is the default.

When used with NEWNAME, **NR** applies to the NEWNAME and not to the original member name. When used with a generic name or with a range, **NR** applies to all members selected for that criteria.

Note: NOREPLACE applies to an entire PDS as opposed to **NR**, which applies to members within a PDS.

R specifies that a member replaces an existing member of the same name at the receiving PDS. **R** overrides the NOREPLACE parameter.

When used with NEWNAME, **R** applies to the NEWNAME and not to the original member name. When used with a generic name or with a range, **R** applies to all members selected for that criteria.

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 (*). A slash (/) separates the first (start-range) and last (stop-range) member names. When used with the SELECT statement, the first and last members specified in the range, as well as all members between, are copied.

stop-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 (*). A slash (/) separates the first (start-range) and

last (stop-range) member names. When used with the SELECT statement, the first and last members specified in the range, as well as all members between, are copied.

When a range in the SELECT parameter is specified, its selection can be overridden with any type of specification in the EXCLUDE parameter.

The second positional parameter (NEWNAME) of SELECT must be null when using a range and specifying **NR** or **R**.

list specifies a list of selected members.

**SNODE = secondary-node-name | SNODE = TCPNAME = tcpvalue;port |
SNODE = UDT33NAM = udtvalue;port**

specifies the secondary node in the Process.

Note: The default SNODE value is the value specified in the Process statement. The Process statement value can be overridden by the SNODE value specified in the SUBMIT command. If SNODE is specified in the Submit command, it is not required in the Process statement.

secondary-node-name is a 1-16 character alphanumeric name that is defined in the network map. The following characters are allowed:

A-Z, 0-9, !, @, #, \$, %, &, {, }, +, -, and ^

Sterling Connect:Direct for z/OS does not accept the following characters for the adjacent node:

(,) =, \, ", ', <, >, |, ||

Use **SNODE=TCPNAME=tcpvalue** or **SNODE=UDT33NAM=udtvalue** to specify TCP/IP or UDT connections that are not defined in the Sterling Connect:Direct network map. **tcpvalue** or **udtvalue** can be a DNS name up to 255 characters or a 15-character IPv4 or 39-character IPv6 TCP/IP address. A TCP/IP default entry is required in the network map if a Process uses **SNODE=TCPNAME=** but is not required with **SNODE=UDT33NAM=**.

You can specify a port number by appending a semicolon followed by a 1-5 character port number. If you do not specify a port number, Sterling Connect:Direct uses the port number from the TCP.IP.DEFAULT entry of the network map. If you do not specify a port number with the udtvalue, the default port value of 1366 is used.

If the DNS cannot fit on one line, concatenate it with the double-pipes (||) character. For example:

PROC1	PROCESS SNODE=TCPNAME=THIS.IS.A.LONG.DNS.NAME.THAT.	-
	WONT.FIT.ON.ONE.LINE	-
	HOLD=NO	-

If you use **SNODE=TCPNAME=tcpvalue** or **SNODE=UDT33NAM=udtvalue**, Processes in HO WC status do not automatically restart when the node becomes available and another Process is submitted to that node. However, if **SNODE = secondary-node-name** is used, Processes in HO WC status restart, automatically.

SNODE

For a Copy statement, this specifies the secondary node, defining the direction of transfer (with PNODE). When SNODE is specified with the FROM parameter, a receive takes place. When SNODE is specified with the TO parameter, a send takes place. SNODE is the default for the TO parameter.

If you do not specify either the PNODE or SNODE parameter, the file is sent from the PNODE to the SNODE.

For a Run Task statement, this specifies that the subtask will be attached on the secondary node (SNODE), which is the destination node. The program must exist in a load library allocated to Sterling Connect:Direct on the specified node.

For a Run Job statement, this specifies that the job is to be submitted on the secondary node (SNODE), which is the node that interacts with the PNODE.

SNODEID = (id [,pswd] [,newpswd])

specifies security user IDs and passwords at the SNODE.

For z/OS and UNIX, each value can be 1-64 alphanumeric characters. For other operating environments, each value can be 1-8 alphanumeric characters, unless otherwise noted.

For Sterling Connect:Direct for i5/OS, if the SNODEID and password is not specified in the PROCESS statement, Sterling Connect:Direct for i5/OS uses the user ID and password of the Process submitter for the security ID and password check.

id specifies the security ID passed to the SNODE security system.

For Sterling Connect:Direct for HP NonStop, this subparameter specifies the HP NonStop group number and user number. These numbers can range from 0-255. When specifying an HP NonStop value, you must use a period (.) as a separator between the group number and the user number.

For Sterling Connect:Direct for i5/OS, this subparameter specifies the i5/OS user profile used for authorization checks during Process execution and is limited to 8 characters.

If the SNODE DTF can authenticate using a PassTicket password, then specifying an SNODE user ID override without password override results in the creation of a PassTicket password. The creation of a PassTicket by the PNODE depends on proper information in the PNODE Authorization File and the appropriate creation of the PNODE stage 2 Security Exit. See the *IBM Sterling Connect:Direct for z/OS Administration Guide* for more information about the Authorization File and the stage 2 Security Exit.

pswd specifies the current security password and can be used by the security system on the SNODE to validate the current security password. The password is optional unless the user has security set to require a password.

Passwords for a z/OS node must be specified in uppercase alphanumeric characters. As a result, Processes cannot be successfully initiated from Sterling Connect:Direct for z/OS with Sterling Connect:Direct for HP NonStop unless the Sterling Connect:Direct for HP NonStop SNODEID password follows the same convention (uppercase alphanumeric characters).

newpswd specifies the new security password and can be used by the security system to change the current security password to the new security password.

For Sterling Connect:Direct for HP NonStop, SAFEGUARD must be running on the HP NonStop.

This subparameter is ignored for Sterling Connect:Direct for i5/OS.

SPACE =(CYL | TRK | blk | **av-rec-len**, (**prim** , [**sec**] , [**dir**]) , [**RLSE**] , [**CONTIG**], [**ROUND**])

specifies the amount of storage to be allocated for new files on the destination node. If SPACE is specified, the DISP of the destination file must be NEW. If SPACE is not specified in the Process or the TYPE file, and the DISP is NEW, the output file is allocated as follows:

- If no secondary space allocation exists on the input file, then the primary amount of space allocated (rather than used) is used to allocate the NEW output file.
- If secondary space exists on the input file, then space used (rather than allocated) is used to allocate the output file and it is allocated with secondary extents.

If the AVGREC parameter is also specified in the TO clause of the COPY statement, the allocation of the data set is done on a record size basis instead of TRK, CYL, or blk. The TRK, CYL and blk subparameters are not valid when the AVGREC parameter is specified in the COPY TO statement.

Valid choices for this parameter are as follows:

- **CYL** specifies that space will be allocated by cylinder.
- **TRK** specifies that space will be allocated by track.
- **blk** specifies that space will be allocated by the average block length of the data. 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 specified, allocation is in blocks, due to device dependencies.
- **av-rec-length** specifies the average record length, in bytes, of the data. The system computes the BLKSIZE and the number of tracks to allocate. The record length must be a decimal value from 1-65535.
- **prim** specifies the primary allocation of storage (number of units).
- **sec** specifies the secondary allocation of storage (number of units).
- **dir** specifies the number of PDS directory blocks to be created in the file.
- **RLSE** specifies the release of the unused storage allocated to the output file.
- **CONTIG** specifies that the storage for the primary allocation must be contiguous.
- **ROUND** specifies that the storage allocated by average block length is rounded to an integral number of cylinders.

STARTT = ([**date** | **day**] [,hh:mm:ssXM])

specifies that the Process will execute at a selected date or time. The date, day, and time are positional parameters. If you do not specify date or day is not specified, precede the time with a comma.

Do not specify STARTT with RETAIN=INITIAL.

If you specify both HOLD=YES and a STARTT value in a Process, the HOLD specification takes precedence, and the Process is placed in the Hold queue.

date specifies that the Process starts on a specific date. Depending on the value of the DATEFORM initialization parameter, you can specify the date in one of the following formats:

DATEFORM Value	Formats			
DATEFORM=MDY (default)	mm/dd/yy	mm/dd/yyyy	mm.dd.yy	mm.dd.yyyy
DATEFORM=DMY	dd/mm/yy	dd/mm/yyyy	dd.mm.yy	dd.mm.yyyy
DATEFORM=YMD	yy/mm/dd	yyyy/mm/dd	yy.mm.dd	yyyy.mm.dd
DATEFORM=YDM	yy/dd/mm	yyyy/dd/mm	yy.dd.mm	yyyy.dd.mm

You can omit the period or slash separators for transfers between mainframe nodes.

If you only specify a date, the time defaults to 00:00.

If you specify RETAIN=YES, you cannot specify a date in the STARTT parameter.

Valid Julian date formats are yyddd, yyyyddd, yy/ddd, yyyy/ddd, yy.ddd, or yyyy.ddd.

day specifies the day of the week to release the Process for execution. Valid names include MOnday, TUESday, WEdnesday, THURsday, FRIday, SATurday, and SUNday. You can abbreviate the day value to the first two characters.

If the day of the week is specified with RETAIN=YES, the Process executes the same day every week. If only day is specified, the time defaults to 00:00. Therefore, if a Process is submitted on Monday, with Monday as the only STARTT parameter, the Process does not run until the following Monday.

You can also specify TODAY, which releases the Process for execution the day and time of Process submission (unless the time of day is specified), or TOMORROW, which releases the Process for execution the next day.

hh:mm:ssXM indicates the time of day the Process will be released in hours (hh), minutes (mm), and seconds (ss). XM can be set to AM or PM.

You can specify the time of day using the 24-hour clock or the 12-hour clock. If you use the 24-hour clock, valid times are from 00:00:00 to 24:00:00. If you do not use AM and PM, the 24-hour clock is assumed.

If you use the 12-hour clock, 01:00:00 hours can be expressed as 1:00AM, and 13:00 hours can be expressed as 1:00PM.

If you specify hh:mm:ssXM with RETAIN=YES, the Process executes at the same time every day. You do not need to specify minutes and seconds.

You can also specify NOON, which releases the Process for execution at noon, or MIDNIGHT to release the Process for execution at midnight.

STORCLAS = storage-class-name

specifies the storage class to which a new data set is assigned. The storage class name must be previously defined to the SMS system. Storage class defines a storage service level for the data set and replaces the UNIT and

VOLUME parameters for SMS data sets. None of the attributes in the storage class can be overridden by JCL parameters, and an ACS routine can override the specified class.

For platforms other than z/OS: All SMS parameters must be specified as subparameters of the SYSOPTS parameter. SYSOPTS is a mechanism that allows you to pass system-specific parameters between platforms. See the COPY statement of the appropriate platform for syntax requirements for the SYSOPTS parameter.

storage-class-name is the 1-8 character name of the storage class to which the data set is assigned. These names are defined by the SMS administrator.

You can use **storage-class-name=\$\$\$\$\$\$** to propagate a storage class from an input file to the receiving node and to the output data set.

SUBMIT

identifies the statement with all its parameters as the SUBMIT statement.

SUBNODE = PNODE | SNODE

specifies the node where the Process defined in this SUBMIT statement will execute. Specifying PNODE means that the Process is submitted on the node that has Process control. Specifying SNODE means that the Process is submitted on the node participating in, but not controlling, Process execution. In both cases, the Process must reside on the node where it is being submitted. The default is PNODE.

SUBNODE=SNODE is not valid if communicating with a node running Sterling Connect:Direct for i5/OS.

SYMBOL

identifies the statement with all its parameters as the SYMBOL statement.

&symbolicName1 = variable string 1

&symbolicName2 = variable string 2

.

.

.

&symbolicName n = variable string n

specifies the default value for a symbolic parameter in the Process. The value is substituted within the Process when the symbolic parameter is encountered. You can override this default in the SUBMIT command.

The symbolic_name parameter must begin with an ampersand. The maximum length of &symbolic_name (including the ampersand) is 9 characters. The maximum length of the variable-string is 256 characters.

Do not use identical symbolic_names. Enclose any parameters containing special characters in single quotation marks.

Note: Depending on how you use a variable string, you may need to include bracketing characters. This situation is often required when a SYSOPTS string is sent as a symbolic parameter and must be enclosed in quotation marks.

For example, to transfer a file to a UNIX system using a symbolic variable, you would type the SYSOPTS clause as follows:

```
&SYSOPTS="\":datatype=text:xlate=yes:"\
```


In this example, what the Process states:

```
SYSOPTS=&SYSOPTS
```

resolves to:

```
SYSOPTS=":datatype=text:xlater=yes:"
```

Sterling Connect:Direct for z/OS provides the following intrinsic symbolic variables that you can use to substitute user-defined values when a Process is executed. This flexibility lets you use the same Process for multiple applications when these values change.

Value	Description
%DD2DSN	Specifies an allocated DD statement, which references a DSN to be passed to a Process being submitted (for Sterling Connect:Direct for z/OS)
%JDATE	Specifies the date the Process was submitted in Julian format. The variable is resolved as the submission date of the Process in the format yyyyddd. Among other uses, the value returned is suitable for constructing a file name on the node receiving the file. The value of the variable is resolved at Process submit time. The value will correspond to the date on which the Process was submitted, regardless of when or how many times the Process is actually executed.
%JOBID	Specifies the job number.
%JOBNM	Specifies the job name.
%USER	Specifies a variable that resolves to the USERID of the submitted job.
%NUM1	Specifies the submission time of the Process in minutes, seconds, and fraction of seconds in the format mmssth.
%NUM2	Specifies the submitted time of a Process as the low order 4 bits of the milliseconds of the time expressed as 1 hex digit (a value from 0 through F).
%PNODE	PNODE name where the submit occurs
%PRAND	Pseudo-random number (6 hex digits)
%SUBDATE	Specifies the date the Process was submitted in Gregorian format. The variable is resolved as the submission date of the Process in the format cyymmdd where c is the century indicator and is set to 0 for year 19yy or 1 for year 20yy. The value returned can be used to create a file name on the node receiving the file.
%SUBDATE1	Use this parameter to substitute the submitted date in the yyyyymmdd date format.
%SUBDATE2	Use this parameter to substitute the submitted date in the yyyyddmm date format.
%SUBDATE3	Use this parameter to substitute the submitted date in the mmdyyy date format.
%SUBDATE4	Use this parameter to substitute the submitted date in the ddmyyyy date format.

Value	Description
%SUBTIME	Specifies the time the process was submitted. The variable is resolved as the submission time of the process in the format hhmmss. The return value can be used to create a file name on the node receiving the file. The value of the variable is resolved at Process submit time. The value will correspond to the time at which the Process was submitted, regardless of when or how many times the Process is actually executed.
%USER	Specifies a variable that resolves to the user submitting the Process

SYSOUT=(sysout_keyword1, sysout_keyword2, . .)

Refer to the *IBM Sterling Connect:Direct for z/OS Facilities Guide* for a list and description of the SYSOUT keywords.

SYSOPTS="DBCS=(tablename,so,si, PAD | PAD=pc,

LOGIC=A | B | (B,RC))"

"CODEPAGE=(from code set, to Unicode code set)"

"parameter1[parameter2,...]"

"DATATYPE=TEXT | BINARY"

"XLATE=NO | YES"

"STRIP.BLANKS=NO | YES"

"PRECOMP=Y | YES | N | NO"

specifies the FROM system operation parameters.

DBCS=(tablename, so, si, PAD | PAD=pc, LOGIC=A | B | (B, RC)) is used to invoke the double-byte character set (DBCS) translation facility.

tablename is the name of the requested DBCS translation table. The tablename is required with DBCS. If you only specify tablename, you do not need to enclose the parameters in parentheses. For an updated list of translation tables provided by Sterling Connect:Direct, see *Supporting DBCS in IBM Sterling Connect:Direct for z/OS Administration Guide*.

so is the SHIFT-OUT character denoting a shift from single-byte character set (SBCS) to double-byte character set (DBCS) mode. The default is the IBM standard x'0E'.

si is the SHIFT-IN character denoting a shift from DBCS to SBCS mode. The default is the IBM standard x'0F'.

Note: NOSO indicates no shift-out or shift-in character and is denoted by the use of x'00' for the SO and SI characters. NOSO is used when the data is not in mixed form and is assumed to contain all DBCS characters.

PAD | PAD=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 will be replaced by a pad character. This allows 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 will be overlaid by the SHIFT-OUT character. The character immediately following a DBCS character or string will be 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. The default value for **pc** is x'00'.

LOGIC=A|B| (B,RC) tells Sterling Connect:Direct how to process data when it encounters SO (SHIFT-OUT) and SI (SHIFT-IN) characters. Normal mainframe data processing expects a pairing of SO/SI characters, and generates an error and terminates a Process when these SO/SI characters are not equally matched. You specify the DBCS keyword within the SYSOPTS parameter, the parameters that define the translation table and the SO and SI characters, and whether padding characters are in use. For example, the following two examples of a SYSOPTS parameter mean the same thing and tell Sterling Connect:Direct to use this normal method to process DBCS data (LOGIC=A):

```
SYSOPTS="DBCS=(EBCXKSC,0E,0F,PAD=00)"
```

or

```
SYSOPTS="DBCS=(EBCXKSC,0E,0F,PAD=00,LOGIC=A)"
```

The initial state of the data is SBCS. With normal logic translation processing, you are not required to specify the keyword, Logic=A. With normal logic, the mainframe system processes the data as SBCS until it encounters an SO character. After encountering the SO character, the system expects DBCS characters. Sterling Connect:Direct generates an error and terminates the Process if it encounters one of the following conditions:

- An SI character before an SO character
- A combination of SI and SO characters without data between the SI and SO characters

An alternate processing method exists. When you specify LOGIC=B, special rules apply to the normal DBCS translation. The system tells Sterling Connect:Direct to send the file before generating an error. LOGIC=B tells Sterling Connect:Direct to continue processing and keep the state as SBCS if the system encounters one of the following conditions:

- An SI character before a SO character
- An invalid combination of SI and SO characters

The system processes the data in the state that was in effect prior to the invalid SI-SO combination and sends the entire file. After sending the file, the system generates an error.

Alternate Translation allows for the file to be completely transferred and an error (message SCPA074I with return code 8) noted at the completion of the transmission. You also have the option of using LOGIC=B,RC to specify a different return code within the range of 1-254 for this specific message. If you specify LOGIC=B without specifying a return code, the default return code of 8 is used. The following coding examples show how to specify a return code for SCPA074I and the expected results for each:

```
SYSOPTS="DBCS=(EBCXKSC,0E,0F,LOGIC=(B,4))"
```

In the example above, if the DBCS transfer produces the SCPA074I message, the return code generated will be 4.

```
SYSOPTS="DBCS=(EBCXKSC,0E,0F,LOGIC=(B,254))"
```

In the example above, if the DBCS transfer produces the SCPA074I message, the return code generated will be 254 or X'FE'.

CODEPAGE=(from code set, to Unicode code set) invokes code set conversion utilities supported by the z/OS system.

- **from code set** is the name of the code set of the original data. The code set name is required and can be any z/OS-compatible IBM code set, such as IBM-930, IBM-932, IBM-942, and IBM-943, or LOCALE to indicate the default code page set for the sending node.
- **to Unicode code set** is the name of the code set on the local node that will be used as the intermediate conversion format. The code set name is required and can be UTF-8 or UCS-2, or their equivalent on other operating systems. For example, 65001 is the UTF-8 equivalent on the Microsoft Windows system.

The code set specifications are only validated for basic syntax. An invalid code set specification will produce an error message on the node attempting conversion.

A code set value of LOCALE specifies the default code set for the node performing conversion.

parameter1[parameter2,...] is used in conjunction with the IOEXIT parameter. It specifies the parameters to be passed to the I/O exit for copies from a non-370 node to a Sterling Connect:Direct for z/OS node.

DATATYPE = TEXT | BINARY specifies the type of data in the file. Data can be either text or binary format. Can be a key word. Valid for HFS files only.

XLATE = NO | YES specifies whether ASCII/EBCDIC character translation occurs. Can be a key word. Valid for HFS files only.

STRIP.BLANKS = NO | YES specifies whether trailing blanks characters are removed from the text record before writing or transmitting the record. Can be a key word. Valid for HFS files only.

PRECOMP=YES|NO specifies that Sterling Connect:Direct will automatically decompress a file that was precompressed with the CDSACOMP utility. See the *IBM Sterling Connect:Direct for z/OS User Guide* for more information on the CDSACOMP utility.

YES indicates that the FROM data set is precompressed and tells Sterling Connect:Direct to decompress the file as part of the Process.

NO tells Sterling Connect:Direct to send the file in compressed format. This value works only when copying to another Sterling Connect:Direct for z/OS system that can decompress the file using the CDSACOMP utility.

If SYSOPTS are not coded or if SYSOPTS='PRECOMP=NO', the file is sent in compressed format and the receiver must run CDSACOMP with MODE=DECOMP.

SYSOPTS = "UNIQUE=YES"

"DBCS=(tablename, so, si, PAD | PAD=pc, LOGIC=A | B | (B, RC))"

"CODEPAGE=(from Unicode code set, to code set)"

"DATATYPE=TEXT | BINARY"

"XLATE=NO | YES"

"STRIP.BLANKS=NO | YES"

"PERMISS=nnn"

“SYSOUT=(sysout_keyword1, sysout_keyword2, . .)”

specifies the TO system operation parameters.

UNIQUE=YES specifies that the Unique Member Name Allocation Exit (AXUNIQ) will be invoked in order to force the PDS member name to be unique on the z/OS TO node.

Note: The initialization parameters must specify ALLOCATION.EXIT=AXUNIQ in order to use SYSOPTS=“UNIQUE=YES”.

DBCS=(tablename, so, si, PAD|PAD=pc, LOGIC=A|B| (B,RC)) is used to invoke the double-byte character set translation facility.

tablename is the name of the requested DBCS translation table. The tablename is required with DBCS. If you only specify tablename, you do not need to enclose the parameters in parentheses. For an updated list of translation tables provided by Sterling Connect:Direct, see *Supporting DBCS in IBM Sterling Connect:Direct for z/OS Administration Guide*.

so is the SHIFT-OUT character denoting a shift from single-byte character set (SBCS) to double-byte character set (DBCS) mode. The default is the IBM standard x'0E'.

si is the SHIFT-IN character denoting a shift from DBCS to SBCS mode. The default is the IBM standard x'0F'.

NOSO indicates no shift-out or shift-in character and is denoted by the use of x'00' for the SO and SI characters. NOSO is used when the data is not in mixed form and is assumed to contain all DBCS characters.

PAD|PAD=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 will be replaced by a pad character. This allows 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 will be overlaid by the SHIFT-OUT character. The character immediately following a DBCS character or string will be 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. The default value for pc is x'00'.

LOGIC=A|B| (B,RC) tells Sterling Connect:Direct how to process data when it encounters SO (SHIFT-OUT) and SI (SHIFT-IN) characters. Normal mainframe data processing expects a pairing of SO/SI characters, and generates an error and terminates a Process when these SO/SI characters are not equally matched. You specify the DBCS keyword within the SYSOPTS parameter, the parameters that define the translation table and the SO and SI characters, and whether padding characters are in use. For

example, the following two examples of a SYSOPTS parameter mean the same thing and tell Sterling Connect:Direct to use this normal method to process DBCS data (LOGIC=A):

```
SYSOPTS="DBCS=(EBCXKSC,0E,0F,PAD=00)"
```

or

```
SYSOPTS="DBCS=(EBCXKSC,0E,0F,PAD=00,LOGIC=A)"
```

The initial state of the data is SBCS. With normal logic translation processing, you are not required to specify the keyword, Logic=A. With normal logic, the mainframe system processes the data as SBCS until it encounters an SO character. After encountering the SO character, the system expects DBCS characters. Sterling Connect:Direct generates an error and terminates the Process if it encounters one of the following conditions:

- An SI character before an SO character
- A combination of SI and SO characters without data between the SI and SO characters

An alternate processing method exists. When you specify LOGIC=B, special rules apply to the normal DBCS translation. The system tells Sterling Connect:Direct to send the file before generating an error. LOGIC=B tells Sterling Connect:Direct to continue processing and keep the state as SBCS if the system encounters one of the following conditions:

- An SI character before a SO character
- An invalid combination of SI and SO characters

The system processes the data in the state that was in affect prior to the invalid SI-SO combination and sends the entire file. After sending the file, the system generates an error.

Alternate Translation allows for the file to be completely transferred and an error (message SCPA074I with return code 8) noted at the completion of the transmission. You also have the option of using LOGIC=B,RC to specify a different return code within the range of 1-254 for this specific message. If you specify LOGIC=B without specifying a return code, the default return code of 8 is used. The following coding examples show how to specify a return code for SCPA074I and the expected results for each:

```
SYSOPTS="DBCS=(EBCXKSC,0E,0F,LOGIC=(B,4))"
```

In the example above, if the DBCS transfer produces the SCPA074I message, the return code generated will be 4.

```
SYSOPTS="DBCS=(EBCXKSC,0E,0F,LOGIC=(B,254))"
```

In the example above, if the DBCS transfer produces the SCPA074I message, the return code generated will be 254 or X'FE'.

CODEPAGE=(from Unicode set, to code set) invokes code set conversion utilities supported by the z/OS C/C++ compiler.

- **from Unicode set** is the name of the Unicode set of the encoded data sent to the receiving node. The code set name is required and can be

UTF-8 or UCS-2, or their equivalent on other operating systems. For example, 65001 is the UTF-8 equivalent on the Microsoft Windows system.

- **to code set** is the name of the final code set that will be used on the remote node. You can use LOCALE to indicate the default code page set relevant to the receiving node.

DATATYPE = TEXT | BINARY specifies the type of data in the file. Data can be either text or binary format. Can be a key word. Valid for HFS files only.

XLATE = NO | YES specifies whether ASCII/EBCDIC character translation occurs. Can be a key word. Valid for HFS files only.

STRIP.BLANKS = NO | YES specifies whether trailing blanks characters are removed from the text record before writing or transmitting the record. Can be a key word. Valid for HFS files only.

PERMISS = nnn specifies the HFS file permissions for a file being created. This subparameter is ignored if the file already exists. Can be a key word. Valid for HFS files only.

Note: To honor the permission setting for HFS files using the PERMISS keyword, set the UNIX System Services UMASK to 000, either by default or by using the runtime environment variable, `_EDC_UMASK_DFLT`. To set the environment variable, define the `_EDC_UMASK_DFLT=000` variable in a RECFM=VB type file and allocate the ENVIRON DD in the Sterling Connect:Direct startup JCL. For example:

```
//ENVIRON DD DISP=SHR,DSN=$CD.ENVIRON(TZ)
```

The first digit indicates the owner's file permissions, the second digit indicates the owner's group's file permissions, and the third digit indicates the file permissions for all others.

The following table shows permission values:

Value	Permissions
0	No file access allowed
1	Execute access allowed
2	Write access allowed
3	Write and Execute access allowed
4	Read access allowed
5	Read and Execute access allowed
6	Read and Write access allowed
7	Read, Write, and Execute access allowed

For example, **permiss=634** indicates that the file owner has read and write permissions, the owner's group has write and execute permissions, and all others are allowed only read access. **permiss=751** indicates that the file owner has read, write, and execute access, the owner's group has read and execute access, and all others have execute access to the file.

SYSOUT=(sysout_keyword1, sysout_keyword2, . . .) specifies various SYSOUT keywords. See the *IBM Sterling Connect:Direct for z/OS Facilities Guide* for a list and description of the SYSOUT keywords.

THEN

specifies subsequent processing to be performed if the condition specified is true.

TO

specifies that the subsequent parameters and subparameters define the destination file characteristics.

(TO) DSN = data set name/password | FILE=filename

specifies the destination data set name when used with the TO parameter.

Note: DSN is optional when used with the IOEXIT parameter.

If the data set name does not follow standard z/OS data set name conventions, enclose the data set name in single quotation marks to allow for special characters.

If the data set being copied from requires a password for read or the data set being copied to requires a password for write, the password may be specified in the COPY statement 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, z/OS issues a WTOR requesting the password when Sterling Connect:Direct for z/OS software opens the data set. For example:

```
COPY TO DSN=data-set-name/pwd...
```

If the data set is an HFS file, the filename must begin with a slash (/). The name is limited to a maximum of 255 characters. It does not have to be enclosed in quotes. For example:

```
DSN=/u/directory/subdirectory/anotherdirectory/filename
```

(TO) DISP = ([NEW | OLD | MOD | RPL | SHR], [KEEP | CATLG], [KEEP | CATLG | DELETE])

specifies the status of the file on the receiving node. Subparameters are as follows:

Note: If you are decompressing a file using CDSACOMP, you cannot allocate VSAM files as DISP=(NEW,CATLG). You must predefine the VSAM output file.

For tape files only: If a COPY statement specifies DISP=(NEW,CATLG) on the TO clause and the tape file already exists as a cataloged file, the COPY statement fails.

First Subparameter specifies the status of the file before the Process executes. Only the OLD and RPL dispositions apply to VSAM files. Valid options for this subparameter are as follows:

- **NEW** specifies that the Process step will create the destination file. NEW is the default.
- **OLD** specifies that the destination file already exists. The Process will have exclusive control of the file. If DISP=OLD, the destination file may be a VSAM file, SAM file, or PDS.
- **MOD** specifies that the Process step will modify the SAM file by appending data at the end of the file. If a system failure occurs when

MOD is specified, the system is designed not to restart even if CKPT is specified; data loss or duplication would be difficult to detect.

- **RPL** specifies that the destination file will replace any existing file or, if none exists, will allocate a new file. DISP=RPL may be specified for SAM or VSAM files. If the file is VSAM, it must be defined with the REUSE attribute, which specifies that the file can be opened and reset to the beginning.
- **SHR** specifies that the destination file already exists. The file can be used simultaneously by another job or Process.

Second Subparameter specifies the normal termination disposition, but does not apply to VSAM files. Valid destination file dispositions are as follows:

- **KEEP** specifies that the system keeps the file after the Process step completes. If DISP=(NEW,KEEP), a volume serial number also must be specified.
- **CATLG** specifies that the system keeps the file after the Process step completes and an entry is to be placed in the catalog. CATLG is the default.

Third Subparameter specifies the disposition of the file after an abnormal Process step termination resulting in a non-zero completion code. This subparameter applies only to non-VSAM files. The PNODE setting for the THIRD.DISP.DELETE initialization parameter controls how Sterling Connect:Direct processes this subparameter's value when an ABEND occurs in the COPY step on the SNODE. Valid destination file dispositions are as follows:

- **KEEP** specifies that the system keeps the file after the Process step terminates abnormally or with a non-zero return code.
- **CATLG** specifies that the system keeps the file after the Process step terminates abnormally and that an entry is to be placed in the catalog. CATLG is the default.
- **DELETE** specifies the system deletes the file if the Process step terminates abnormally.

TYPE = typekey

specifies the entry name of the type defaults file. The type defaults file contains the default file attributes used to allocate the destination file. The typekey is specified only when defaults are requested by the user.

- For z/OS to OpenVMS copies: For z/OS to OpenVMS copies where the typekey exceeds eight characters, the typekey must be entered into the SYSOPTS parameter on the TO clause of the Sterling Connect:Direct for OpenVMS COPY statement.
- For OpenVMS to z/OS copies: The typekey must not be greater than eight characters.

UNIT = ([unit-address | device-type | group-name] , [unit-count | P])

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 specified with the TO parameter, the device type from the source file is used. When unit address is 4 bytes in length, begin the value with a slash (/). For example, if the unit address is 1FA2, UNIT=/1FA2.

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.

**VOL = ([PRIVATE], [RETAIN], [volume-sequence-no], [volume-count]
,[SER=(serial-no [,serial-no,...])]) |
([SER=(serial-no, [serial-no,...]) | ,REF=dsn])**

specifies the volume serial number(s) containing the file and optional processing associated with the file. If VOL is not specified with the FROM parameter, the file must be cataloged. Valid options are as follows:

PRIVATE specifies allocation of an output file only if the volume is specifically requested and is used for direct access storage devices only.

RETAIN has no significance because Sterling Connect:Direct does dynamic deallocation of data sets. However, if RETAIN is omitted, a comma must be specified. If RETAIN is specified, the volume is not retained as it would be in a regular batch.

volume-sequence-no specifies the volume of an existing multivolume data set to be used to begin processing the data set. The volume sequence number must be less than or equal to the number of volumes on which the data set exists or the job fails.

volume-count 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.

REF 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.

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