IBM Sterling Connect:Direct for HP NonStop

User Guide and Reference

Version 3.6

This edition applies to the 3.6 Version of IBM® Sterling Connect:Direct® for HP NonStop and to all subsequent releases and modifications until otherwise indicated in new editions.

Before using this information and the product it supports, read the information in *Notices*, on page119.

Contents

Preface

The *IBM Sterling Connect:Direct for HP NonStop User Guide and Reference* is for programmers and network operations staff who use IBM® Sterling Connect:Direct® for HP NonStop.

Read the first three chapters in the book to gain the general knowledge required to use Sterling Connect:Direct for HP NonStop. These chapters introduce basic product components, general concepts, and the tasks you can perform using the command and Process languages. Then, refer to command syntax and parameter descriptions for the particular task you want to perform. The commands are organized alphabetically under the following functions: controlling the environment, viewing system information, managing processes, viewing system files, and transferring multiple files.

This User Guide and Reference assumes knowledge of the HP NonStop operating system, its applications, network, and environment. If you are not familiar with the HP NonStop operating system, refer to the HP NonStop library of manuals.

Chapter Overview

The organization of the *IBM Sterling Connect:Direct for HP NonStop User Guide and Reference* follows:

- Chapter 1, *About Sterling Connect:Direct for HP NonStop*, provides general information about the product and describes how Sterling Connect:Direct for HP NonStop works.
- Chapter 2, *Using Sterling Connect:Direct for HP NonStop*, presents basic information you need to begin working with Sterling Connect:Direct for HP NonStop.
- Chapter 3, *Queuing Processes*, describes the Transmission Control Queue and the commands you use to manipulate Processes in the queue.
- Chapter 4, *Controlling the Environment*, details the Sterling Connect:Direct for HP NonStop environment commands such as EDIT, LOGON, PRINTER, and RUN.
- Chapter 5, *Viewing System Information*, describes the commands used to access system information, such as status, time, version, initialization parameters, and volume.
- Chapter 6, *Managing Processes*, describes the commands used to control Processes.
- Chapter 7, *Viewing System Files*, describes the commands used to view certain system files, such as the network map, security, and statistics files.
- *Glossary*, defines Sterling Connect:Direct for HP NonStop terms used in the manual.

Chapter 1

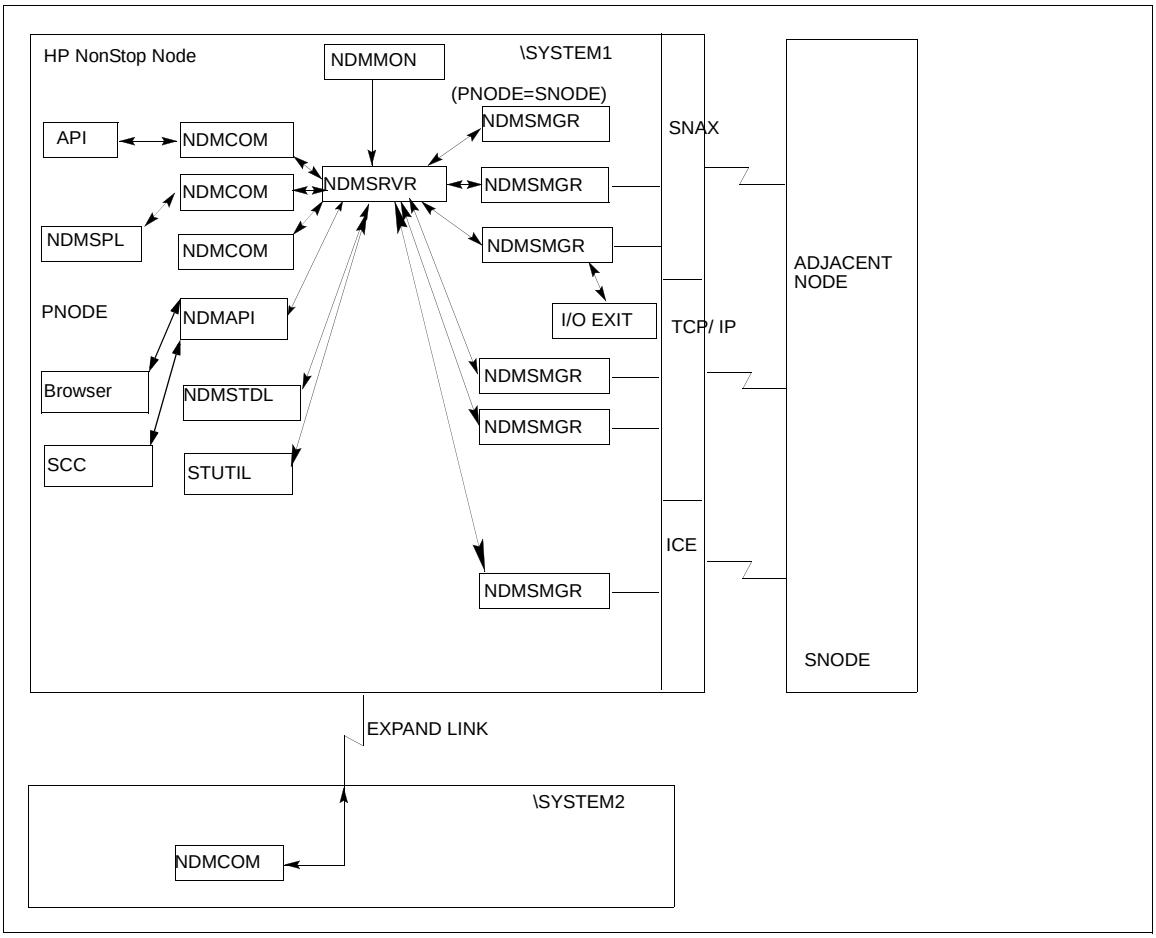
About Sterling Connect:Direct for HP NonStop

Sterling Connect:Direct for HP NonStop links technologies and moves all types of information between networked systems and computers. It manages high-performance transfers by providing features such as automation, reliability, efficient use of resources, application integration, and ease of use. Sterling Connect:Direct for HP NonStop software offers choices in communications protocols, hardware platforms, and operating systems. It provides the flexibility to move information among mainframes, midrange systems, desktop systems, and LAN-based workstations.

Sterling Connect:Direct for HP NonStop Components

Sterling Connect:Direct for HP NonStop runs as an application on the HP NonStop operating system. The product components interact to execute the Process statements and commands submitted through the user interface.

The following figure illustrates the basic components of Sterling Connect:Direct for HP NonStop: Monitor (NDMMON), Server (NDMSRVR), User Interface (NDMCOM), Sterling Control Center and Sterling Connect:Direct Browser User Interface (NDMAPI), Session Manager (NDMSMGR), I/O Exits (I/O EXIT), Statistics Deletion Program (NDMSTDL), Statistics Utility Program (STUTIL), Application Programming Interface (API) Manager (NDMAPI), and Sterling Connect:Direct for HP NonStop Spooler Option (NDMSPL). Brief descriptions of each component follow the sample network configuration.



Component	Description
Monitor	The monitor (NDMMON) is a nonstop process that creates and monitors the Sterling Connect:Direct for HP NonStop server (NDMSRVR) process. For NDMMON startup instructions, refer to the *IBM Sterling Connect:Direct for HP NonStop Installation Guide*.
Server	The Sterling Connect:Direct for HP NonStop server (NDMSRVR) process manages: - Command requests - Communication with the session manager - Session establishment requests for TCP/IP **Note**: If the NDMSRVR process ends abnormally or the CPU executing the NDMSRVR process fails, NDMMON creates a new NDMSRVR process, retaining the original NDMSRVR process name and parameters.
User Interface	NDMCOM is the user interface with NDMSRVR. Use NDMCOM, the command-line interface, to issue Sterling Connect:Direct for HP NonStop commands and to change and configure the Sterling Connect:Direct for HP NonStop environment.

Component	Description
Session Manager	The Sterling Connect:Direct for HP NonStop session manager (NDMSMGR) module establishes sessions and transfers data between the local and adjacent nodes. The application can be configured to start session managers at initialization, or you can start them manually using the MODIFY command. If you define dynamic LUs for TCP/IP connectivity, NDMSRVR starts session managers as needed. You cannot issue the MODIFY command to start dynamic session managers. The figure on the previous page shows six session managers, two of which are communicating across SNAX sessions, two across TCP/IP, and one across ICE. One session manager is using the PNODE=SNODE facility.
API Manager	The Sterling Connect:Direct for HP NonStop API Manager (NDMAPI) module provides an interface for browser(s) and Sterling Control Center. To define an API Manager, see the instructions on the INSERT NETMAP AMGR command in the *IBM Sterling Connect:Direct for HP NonStop Administration Guide*.
I/O Exits	I/O exit support enables the user-written programs to serve as application interfaces for Sterling Connect:Direct for HP NonStop data transfers. I/O exits permit manipulation of data formats and database architectures not currently supported by Sterling Connect:Direct for HP NonStop. For transfers (COPY), Sterling Connect:Direct for HP NonStop supports direct access only to Enscribe and Spool files. I/O exit support enables user-written programs to access non-supported databases, such as SQL, and manipulate data during a COPY step.
Statistics Deletion Program	The statistics deletion program (NDMSTDL) ensures that sufficient space is available to write statistics records in the statistics files. NDMSTDL deletes records from the Sterling Connect:Direct for HP NonStop statistics file based on user-specified deletion criteria and maximum percentage of file capacity. For instructions on using NDMSTDL, refer to *Optimizing Performance* in the *IBM Sterling Connect:Direct for HP NonStop Administration Guide*.
Statistics Utility Program	The statistics utility program (STUTIL) analyzes the statistics files to determine how much space is available. Sterling Connect:Direct for HP NonStop returns this information to the server for determination on when to run NDMSTDL.
Application Program Interface	An Application Program Interface (API) is a user-written application that communicates with NDMCOM. Refer to the *IBM Sterling Connect:Direct for HP NonStop Management Programming Guide* for details on creating and using an API.
Sterling Connect:Direct for HP NonStop Spooler Option	The Sterling Connect:Direct for HP NonStop Spooler option permits an installation to transfer spooler jobs automatically from an HP NonStop node to a file on an adjacent node. For the information you need to install, configure, and run the Sterling Connect:Direct for HP NonStop Spooler option, refer to *Sterling Connect:Direct for HP NonStop Spooler Option* in the *IBM Sterling Connect:Direct for HP NonStop Administration Guide*.

Automated Installation and Management System

The Automated Installation and Management System (AIMS) is a full-screen, block-mode interface for installing, configuring, and starting Sterling Connect:Direct for HP NonStop.

AIMS is a menu-driven system that collects information about your node and the nodes you are communicating with and guides you through the installation. Performing the menu options in the displayed numerical order expedites installation. Each user-input screen has a Help feature, which describes the entry fields for the screen. Throughout the AIMS procedure, messages displayed on the bottom line of the screen inform you of the status of the procedure and indicate errors. For more information on AIMS, refer to *IBM Sterling Connect:Direct for HP NonStop Installation Guide*.

Sterling Connect:Direct for HP NonStop Concepts

This section introduces certain concepts and definitions important to understanding user operations.

Processes

The Process language provides instructions for transferring files, running programs, submitting jobs on the adjacent node, and altering the sequence of Process step execution. You can include one or more steps in a Process.

A Process consists of a Process definition statement (PROCESS statement) and one or more additional statements. Parameters further qualify Process instructions. For more information, including sample Processes, see the Processes web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html.

Transmission Control Queue

The Transmission Control Queue (TCQ) controls Process execution as Sterling Connect:Direct for HP NonStop operates. Sterling Connect:Direct for HP NonStop stores submitted Processes in the TCQ which is divided into logical queues.

Sterling Connect:Direct for HP NonStop places the Process in the appropriate queue based on Process statement parameters that affect scheduling. Examples of such parameters are the HOLD, RETAIN, and STARTT parameters.

Sterling Connect:Direct for HP NonStop selects Processes in a first-in first-out manner for execution in Process class and priority as sessions are available. You can access the queues and manipulate the Processes through Sterling Connect:Direct for HP NonStop commands.

Refer to *Queuing Processes* in the *IBM Sterling Connect:Direct for HP NonStop User Guide and Reference* for a discussion of the following topics:

- Understanding the Transmission Control Queue
- Managing Processes in the TCQ
- Scheduling Sterling Connect:Direct for HP NonStop Activity

Network Map

The network map file defines the nodes with which Sterling Connect:Direct for HP NonStop can communicate. The network map includes a local node record and one or more adjacent nodes, logical units (LUs), API managers (AMGRs), and logmode records.

The local node is the logical name for the node on which you installed Sterling Connect:Direct for HP NonStop. An adjacent node is the node definition for a remote site. LUs provide communication between the HP NonStop system (local node) and adjacent nodes. Logmode records define the session protocol for an SNA HP NonStop LU, and are only used when the local LU is configured as the primary LU (PLU).

In addition to creating explicit adjacent node records for the individual nodes with which you communicate, you can also define domain node adjacent node records for communications with large networks of Sterling Connect:Direct nodes, including Sterling Connect:Direct/Plex systems, in a TCP domain. These special-purpose adjacent node records simplify your network map and increase efficiency.

Defining Domain Nodes to Manage Inbound TCP/IP Connections

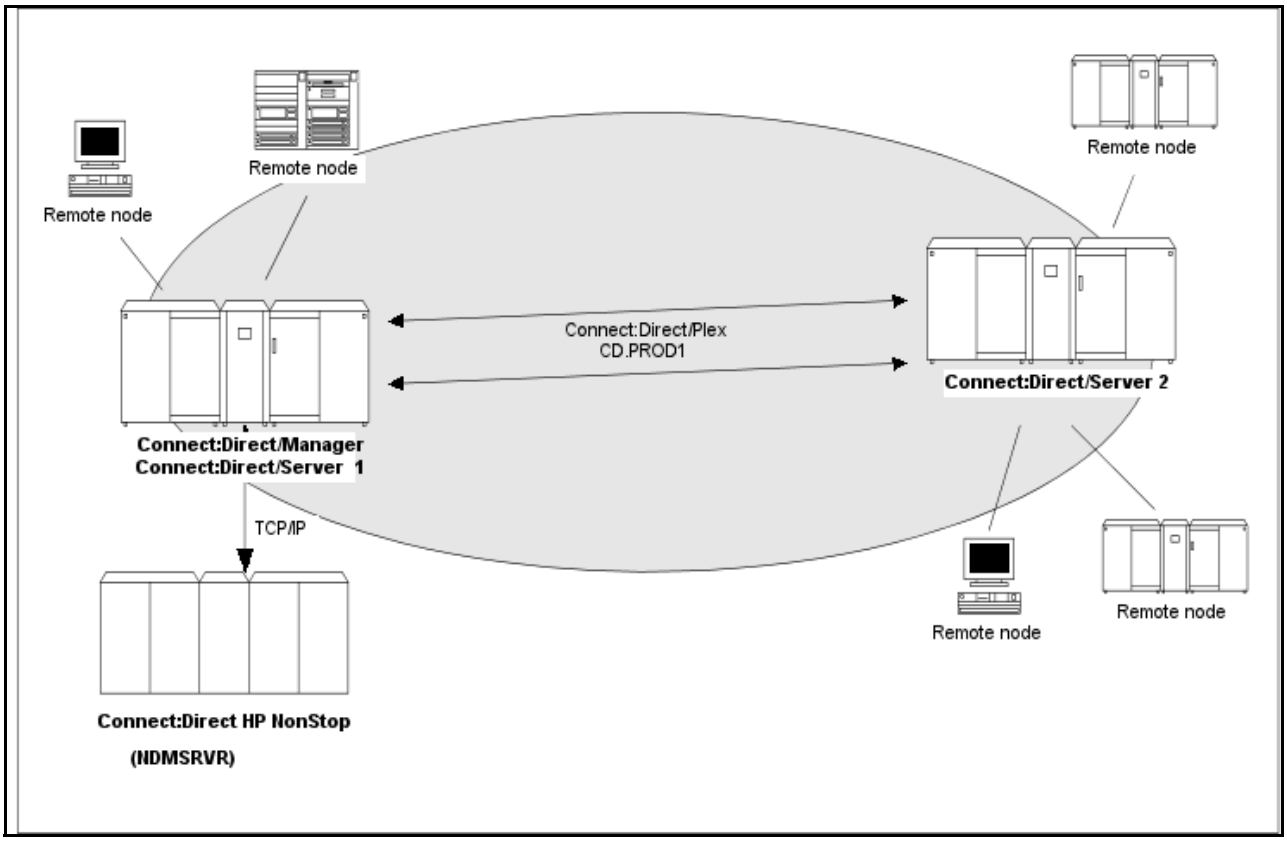
The domain node feature enables you to manage inbound connection requests to the Sterling Connect:Direct for HP NonStop node from IP addresses that are not explicitly configured in the network map, for example from multiple Sterling Connect:Direct/Server processes under the direction of the Sterling Connect:Direct/Plex Manager. Using the domain node feature, you can create an adjacent node entry of the type NDM.DOMAIN for any TCP/IP domain containing one or more Sterling Connect:Direct nodes and define a range of IP addresses instead of defining an adjacent node record for each remote connection. When the Sterling Connect:Direct for HP NonStop server receives a connection request, it first attempts to match the originating IP address with a specific adjacent node entry in the network map. If this search fails, the server searches for adjacent nodes of the type NDM.DOMAIN and then uses the IPMASK parameter as a template to identify a node that best fits the mask's pattern. Without a domain node record, each Sterling Connect:Direct/Plex Server or remote node must have an adjacent node record in the Sterling Connect:Direct for HP NonStop network map to initiate connections.

The DOMAINSERVER and the NETMAPCHECK initialization parameters are associated with this feature.You must set the DOMAINSERVER global initialization parameter to Yes before you can define a domain node.

You can use the NETMAPCHECK initialization parameter and Sterling Connect:Direct Secure Plus to secure the TCP/IP sessions. See *Sterling Connect:Direct Secure Plus* in this chapter for more information about Sterling Connect:Direct Secure Plus and *Planning the Installation* in the *IBM Sterling Connect:Direct for HP NonStop Installation Guide* for a discussion about how the security options function in your environment.

Using Session Redirection for Outbound TCP/IP Connections

Sterling Connect:Direct for HP NonStop supports session redirection for outbound connections to a Sterling Connect:Direct/Plex system. As illustrated in the following figure, a Sterling Connect:Direct/Plex system is a Sterling Connect:Direct for z/OS system consisting of a Sterling Connect:Direct/Plex Manager and one or more Sterling Connect:Direct/Servers in a TCP/IP environment. Connection requests from the Sterling Connect:Direct for HP NonStop node to the Sterling Connect:Direct/Plex system are routed to the Sterling Connect:Direct/Plex Manager, which redirects the connection request to the appropriate, available Sterling Connect:Direct/Plex Server process. Redirecting communications sessions across multiple Sterling Connect:Direct Server processes simplifies the network map, facilitates load-balancing, and ensures continuous, efficient use of resources.



You can create adjacent node records either through AIMS or with individual network map commands. Use the following table as a guide to the tools and the parameters used to create adjacent node records:

Task	Reference
Planning your network map to use domain nodes and session redirection	*Defining Adjacent Node Records for TCP/IP Connections* in *Planning the Installation* in the *IBM Sterling Connect:Direct for HP NonStop Installation Guide*
Setting the DOMAINSERVER and NETMAPCHECK initialization parameters	*Setting Initialization Parameters* in *Installing and Configuring Sterling Connect:Direct for HP NonStop* in the *IBM Sterling Connect:Direct for HP NonStop Installation Guide*
Assessing your security options	*Defining Adjacent Node Records for TCP/IP Connections* in *Planning the Installation* in the *IBM Sterling Connect:Direct for HP NonStop Installation Guide*
Creating the worksheets for your adjacent node records in the network map	*Preparing to Define the Network Map through AIMS* in *Planning the Installation* in the *IBM Sterling Connect:Direct for HP NonStop Installation Guide*
Defining the network map through AIMS	*Configuring the Network Map* in *Installing and Configuring Sterling Connect:Direct for HP NonStop* in the *IBM Sterling Connect:Direct for HP NonStop Installation Guide*
Using individual commands, syntax, and parameters to define and maintain the network map	*Defining and Maintaining the Network Map* in the *IBM Sterling Connect:Direct for HP NonStop Administration Guide*

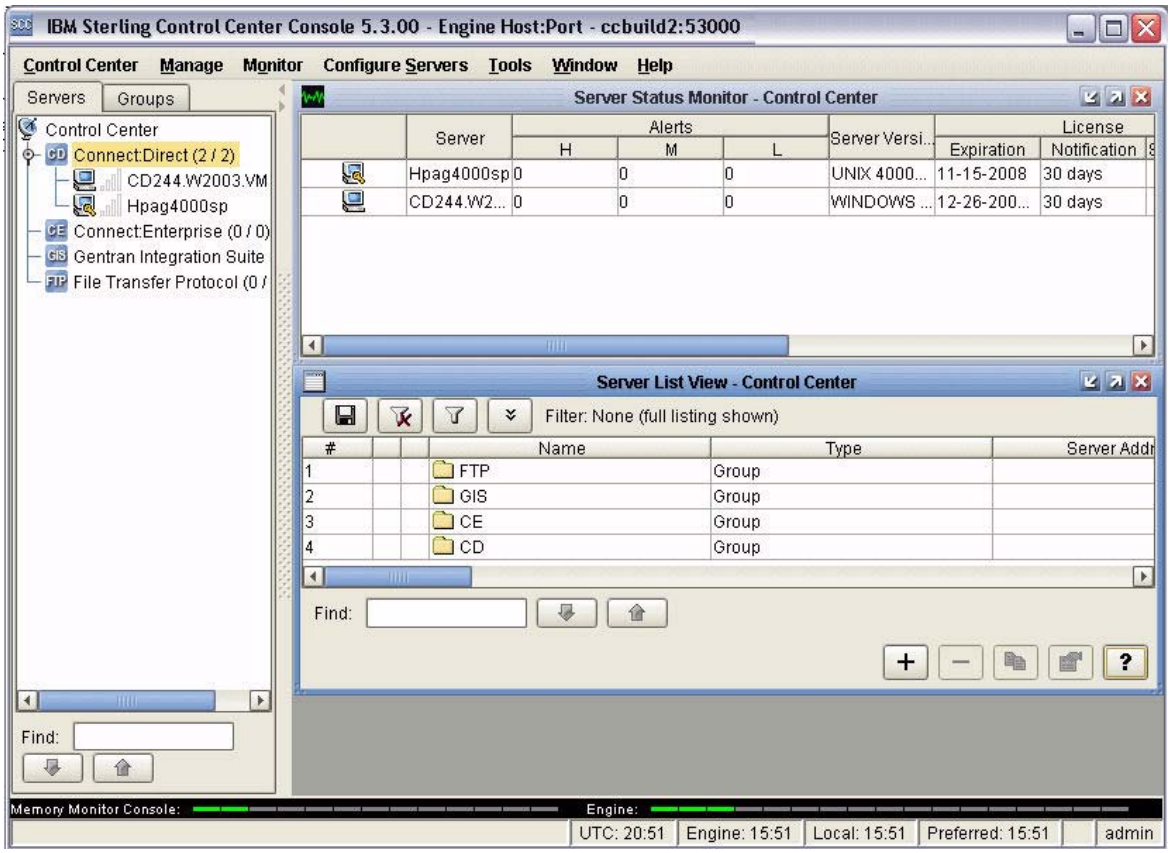
Sterling Connect:Direct Secure Plus

The client authentication certificates and multiple cipher suites offered by Sterling Connect:Direct Secure Plus provide the confidence that your organization can use public networks knowing that data is being reliably transferred from a known source and can only be read by the intended recipient. To use Sterling Connect:Direct Secure Plus for communications with remote nodes, you must have node records in the Sterling Connect:Direct Secure Plus parameters file (SPNODES) that duplicate the adjacent node records in the Sterling Connect:Direct for HP NonStop network map.You can populate the Sterling Connect:Direct Secure Plus parameters file from entries defined in an existing network map using the Sync with NetMap function. For more information about populating the Sterling Connect:Direct Secure Plus parameters file (SPNODES) and configuring nodes for Sterling Connect:Direct Secure Plus, refer to the *IBM Sterling Connect:Direct Secure Plus for HP NonStop Implementation Guide*. For information about using Sterling Connect:Direct Secure Plus with domain nodes, see *Planning the Installation* in the *IBM Sterling Connect:Direct for HP NonStop Installation Guide*.

Sterling Control Center

Sterling Control Center is a centralized management system that provides operations personnel with continuous enterprise-wide business activity monitoring. Sterling Control Center lets you monitor these types of servers:

- Sterling Connect:Direct for z/OS
- Sterling Connect:Direct for UNIX
- Sterling Connect:Direct for Microsoft Windows
- Sterling Connect:Direct for HP NonStop
- Sterling Connect:Direct Select
- Sterling Connect:Direct for i5/OS (iSeries)
- IBM® Sterling Connect:Enterprise® for z/OS®
- Sterling Connect:Enterprise for UNIX
- IBM® Sterling B2B Integrator servers (including Sterling B2B Integrator clusters)
- FTP servers that use xferlog format



Sterling Control Center enables you to:

- Manage Sterling Connect:Direct for UNIX, Microsoft Windows, or z/OS servers. You can manage these types of configuration objects:
  - Functional authorities
  - Initialization parameters
  - Netmap nodes
  - Netmap modes
  - Netmap communication paths
  - Sterling Connect:Direct Secure Plus nodes
  - Sterling Connect:Direct Secure Plus key certificates
  - Sterling Connect:Direct Secure Plus trusted certificates
  - Sterling Connect:Direct Secure Plus cipher suites
  - User proxies

  You can also compare versions of the above configuration objects for a given server, do searches on configuration objects, make templates to simplify the creation of new configuration objects, and do audits of changes to configuration objects. (For more on using Sterling Control Center to configure servers, see the *IBM Sterling Control Center Configuration Management Guide*.)

- Monitor multiple servers
  - Group individual servers into server groups for a single view of system-wide activity. Group server groups into larger groups, and display a list view of servers and server groups.
  - View status and statistics on active or completed processing

- Suspend, release, and handle Sterling Connect:Direct Processes on z/OS, Microsoft Windows, HP NonStop, and UNIX platforms
- Stop Sterling Connect:Direct servers on z/OS, Microsoft Windows, HP NonStop, i5/OS (iSeries), and UNIX platforms
- Pause and resume monitoring for a Sterling Connect:Direct server

❖ Monitor service levels
- View information about active and completed Processes across servers within your network
- Receive notification of data delivery events that occur or do not occur as scheduled
- Define rules based on processing criteria that can generate an alert, send an e-mail notification, generate a Simple Network Management Protocol (SNMP) trap to an Enterprise Systems Manager (ESM), run a system command, or issue a Sterling Connect:Direct server command
- Monitor for alerts about conditions such as a server failure or a Process that starts late
- Create service level criteria (SLCs) that define processing schedules, monitor Processes and file transfers for compliance with the processing schedules, and generate alerts when schedules are not met

❖ Analyze key operational metrics through reports to document and analyze processing activity

❖ Create customized reports based on criteria you define, and schedule the reports to run and be delivered automatically by e-mail

❖ Validate user authenticity for console to engine connections using one or more of four authentication methods, including password validation, host name identification, Microsoft Windows domain, and TCP/IP address (or three methods in the case of the Web console, which does not support domain authentication)

❖ Identify additional Sterling Connect:Direct servers (through Node Discovery) that may need to be monitored based on communications with a currently monitored server

Sterling Control Center enhances operational productivity and improves quality of service by:

❖ Ensuring that critical processing windows are met

❖ Reducing impact on downstream processing by verifying that expected processing occurs

❖ Providing proactive notification for at-risk business processes

❖ Consolidating information for throughput analysis, capacity planning, post-processing operational or security audits, and workload analysis

❖ Reducing the risk of errors associated with manual system administration, including eliminating individual server logon to view activity and the need to separately configure each server for error and exception notifications

Sterling Control Center is available for purchase as a separate product. Contact your IBM representative to learn more about Sterling Control Center.

Sterling Connect:Direct Browser User Interface

Sterling Connect:Direct Browser User Interface allows you to build, submit, and monitor Sterling Connect:Direct Processes from an Internet browser, such as Microsoft Internet Explorer.

You can also perform Sterling Connect:Direct system administration tasks, such as viewing and changing the network map or initialization parameters, from Sterling Connect:Direct Browser User Interface. The specific administration tasks that you can perform depend on the Sterling Connect:Direct platform that your browser is signed on to and your security level.

Sterling Connect:Direct Browser User Interface is installed on a Web server and can be accessed by administrators and users through a URL. The following example shows the page used to graphically submit a Process:

Interfacing with Sterling Control Center or Sterling Connect:Direct Browser User Interface

Sterling Connect:Direct for HP NonStop can interface with Sterling Control Center and Sterling Connect:Direct Browser User Interface. The TCP/IP API enables users of these other IBM applications to configure, control, and operate Sterling Connect:Direct for HP NonStop from any host on a TCP/IP network. To set up a connection between Sterling Connect:Direct for HP NonStop and Sterling Control Center or Sterling Connect:Direct Browser User Interface, you need to define two entities in the network map:

- An adjacent node with the TYPE parameter defined as NDM.API and the IPADDR parameter defined as the address of the external application client from which connection requests may be received.
- An API manager (AMGR) to handle communications sessions with the external application. The AMGR record is used to define the local TCP process and port number on which a LISTEN is to be posted to accept incoming connection requests.

After you have defined these components, you must identify the AMGRs you want to use to communicate with an adjacent node by using the RELATE NETMAP command. For more information on both the INSERT and RELATE NETMAP commands, refer to *Defining and Maintaining the Network Map* in the *IBM Sterling Connect:Direct for HP NonStop Administration Guide*. You can also perform these functions using the Automated Installation & Management System (AIMS) to set up the network map. For more information, refer to *Installing and Configuring Sterling Connect:Direct for HP NonStop* in the *IBM Sterling Connect:Direct for HP NonStop Installation Guide*.

Commands

You use commands to submit Sterling Connect:Direct for HP NonStop Processes to the TCQ and to manipulate Processes in the queue by flushing, deleting, or suspending them.

The following command submits the Process called ONESTEP to the TCQ with a HOLD status of Yes:

```
SUBMIT FILE ONESTEP HOLD=YES
```

Other commands allow you to select and display statistics or perform administrative functions, such as maintain network maps, user authorities, and default types.

The command language consists of the following types of commands:

- User
- Administrator
- Environment
- Message

User and Administrator Commands

Issue user and administrator commands to perform the following tasks:

- Submit Sterling Connect:Direct for HP NonStop Processes
- Monitor and control Process execution
- Perform administrative functions
- Examine Sterling Connect:Direct for HP NonStop node definitions
- Display and update initialization parameters
- Stop Sterling Connect:Direct for HP NonStop

Refer to the *IBM Sterling Connect:Direct for HP NonStop User Guide and Reference* for command syntax and parameter descriptions for user commands. Command syntax and parameter descriptions for administrator commands are in the *IBM Sterling Connect:Direct for HP NonStop Administration Guide*.

The following table lists the user and administrator commands and their functions:

Command	Function
CHANGE PROCESS	Modifies a Process in the TCQ.
DELETE PROCESS	Removes a nonexecuting Process from the TCQ.
DELETE NETMAP	Removes a node, LOGMODE, or LU from the network map.
DELETE SECURITY†	Removes a user record from the security file.
DELETE TYPE†	Removes a type record from the type file.
DELETE USER†	Removes a user record from the authorization file.
DISPLAY LOGGING	Displays or prints the settings for EMS and STATS, and the name of the collector process.
FLUSH PROCESS	Removes an executing Process from the TCQ.
INSERT APIMGR†	Adds an API manager, AMGR, to the network map, which enables connections to Sterling Control Center and the Sterling Connect:Direct Browser User Interface.
INSERT NETMAP†	Adds an adjacent node to the network map, which lets you add an API manager, LOGMODE, or LU to the network map using the other INSERT NETMAP commands.
INSERT SECURITY†	Adds a security record to the security file.
INSERT TYPE†	Adds a type record to the type file.
INSERT USER†	Adds a user record to the authorization file.
LASTPNUMBER	Determines the number of the last Process submitted in the current NDMCOM session.
MODIFY†	Runs Sterling Connect:Direct for HP NonStop traces or modifies certain operational functions.

† Administrative commands

Command	Function
RELATE NETMAP†	Assigns specific LUs or AMGRs to an adjacent node record.
SELECT NETMAP	Displays or prints definitions of API Manager, node, LOGMODE, and LU entries in the network map file.
SELECT PROCESS	Displays or prints information about a Process in the TCQ.
SELECT SECURITY	Displays or prints records in the security file.
SELECT STATISTICS	Displays or prints statistics, messages, and /or commands in the statistics log.
SELECT TYPE	Displays or prints type records.
SELECT USER	Displays or prints user records in the authorization file.
STATUS	Displays the status of nodes and LUs, Processes in the CALL and WAIT queues, and TCP listen ports.
STOP ALL†	Stops Sterling Connect:Direct for HP NonStop operation.
SUBMIT	Submits a Process for execution.
SUSPEND PROCESS	Suspends an executing Process.
UPDATE LOGGING†	Modifies settings for EMS, STATS, and COLLECTOR.
UPDATE NETMAP†	Modifies settings for an API manager, node, LOGMODE, or LU record in the network map.
UPDATE PARM†	Alters operating parameters from the NDMINIT file. For more information on this command, see *IBM Sterling Connect:Direct for HP NonStop Installation Guide*.
UPDATE SECURITY†	Changes a security record in the security file.
UPDATE STATISTICS†	Dynamically changes the percentage setting, deletion criteria, and midnight housekeeping flag in the statistics facility (NDMSTDL).
UPDATE TYPE†	Changes a type record in the type file.
UPDATE USER†	Changes a user record in the authorization file.

† Administrative commands

Environment Commands

Use environment commands to change and define the Sterling Connect:Direct for HP NonStop environment or to facilitate the use of NDMCOM. The following table lists the environment commands and their functions:

Command†	Function
!	Reexecutes a previous command line, without modifications.
DISPLAY PARMS	Displays or prints current settings of the initialization parameters.
DISPLAY STATINFO	Displays percentage setting, deletion criteria, midnight flag setting, last execution of NDMSTDL, and file information for the statistics files (STATFILE, STATSRCH, STATSRC0).
EDIT	Invokes the HP NonStop TEDIT editor.
ENVIRONMENT	Displays the current Sterling Connect:Direct for HP NonStop environment, including defaults.

† Refer to the *Controlling the Environment* chapter in the *IBM Sterling Connect:Direct for HP NonStop User Guide and Reference* for command syntax and parameter descriptions for environment commands.

Command†	Function
EXIT	Exits NDMCOM.
FC	Changes and/or reissues previously typed commands.
HELP	Accesses the interactive Sterling Connect:Direct for HP NonStop Help facility.
HISTORY	Displays up to the last 100 commands issued.
LIST	Displays the contents of an edit file.
LOGON	Logs on to NDMCOM.
OBEY	Executes a series of HP NonStop and Sterling Connect:Direct for HP NonStop commands, except FC, contained in an edit file.
OBEYVOLUME	Defines the default volume used for expansion of the obey file name.
OPEN	Opens the NDMSRVR process.
OUT	Changes the default output file.
PRINTER	Defines the print file name.
PROCVOLUME	Defines the default volume used for expansion of the Process file name.
RUN	Executes any user-written or system programs without exiting NDMCOM.
SYMBOL	Builds, deletes, and displays symbolic substitution values for use in Sterling Connect:Direct for HP NonStop.
TIME	Retrieves the current day, date, and time.
VERSION	Displays or prints the version, release, and maintenance level for the NDMCOM currently running.
VOLUME	Defines the current default volume.

† Refer to the *Controlling the Environment* chapter in the *IBM Sterling Connect:Direct for HP NonStop User Guide and Reference* for command syntax and parameter descriptions for environment commands.

Message Commands

Use Sterling Connect:Direct for HP NonStop message commands to insert, delete, display, modify, and print messages. Refer to *Using Sterling Connect:Direct for HP NonStop* in the *IBM Sterling Connect:Direct for HP NonStop User Guide and Reference* for syntax and parameter descriptions for displaying and printing messages. Refer to *Modifying the Message File* in the *IBM Sterling Connect:Direct for HP NonStop Administration Guide* for syntax and parameter descriptions for modifying messages.

Flow of Sterling Connect:Direct for HP NonStop Operations

The following shows the processing flow for a SUBMIT command.

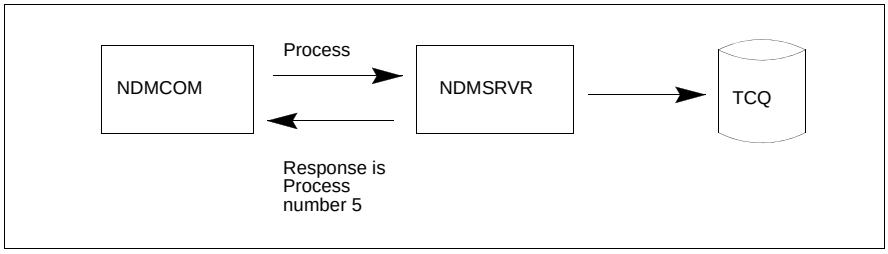
- The SUBMIT command is issued through NDMCOM.

```
CD.49.>SUBMIT FILE $VOL.SEND.FILE
```

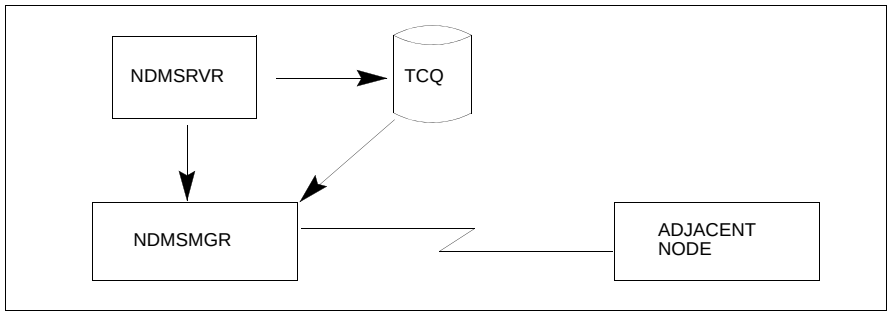
- The command submits the file, $VOL.SEND.FILE. The file contains Process statements.

```
SEND     PROCESS  SNODE=MVS.NODE
STEP01   COPY     FROM (DSN=$SYS.TAN.TXT)-
                  TO   (DSN=MVS.FILE SNODE)
```

- The Process is sent to the server. The server then places the Process on the TCQ, responds to NDMCOM with the Process number (PNUMBER), and routes the Process to an available session manager. In the following figure, the server returns a PNUMBER of 5 to NDMCOM.



- The session manager reads the Process from the TCQ and executes it.



- While the Process is queued, or during execution, you can display Process status by issuing the SELECT PROCESS command.

```
CD.50.>SELECT PROCESS PNUMBER=5
```

Refer to *Managing Processes* in the *IBM Sterling Connect:Direct for HP NonStop User Guide and Reference* for sample output from the SELECT PROCESS command.

- After Process execution, you can display the results of the operation by issuing the SELECT STATISTICS command. Refer to *Viewing System Files* in the *IBM Sterling Connect:Direct for HP NonStop User Guide and Reference* for sample output from the SELECT STATISTICS command.

```
CD.51.>SELECT STATISTICS PNUMBER=5
```

Chapter 2

Using Sterling Connect:Direct for HP NonStop

This chapter provides the following information used for basic Sterling Connect:Direct for HP NonStop operation:

- Running Sterling Connect:Direct for HP NonStop
- Issuing commands
- Using macros
- Sterling Connect:Direct for HP NonStop Process statements
- Sterling Connect:Direct for HP NonStop operation
- Accessing the message file

The tables in this chapter list and define all Sterling Connect:Direct for HP NonStop commands.

Running Sterling Connect:Direct for HP NonStop

NDMCOM is the Sterling Connect:Direct for HP NonStop command line user interface the NDM server. RUN NDMCOM starts this user interface. You can run NDMCOM in interactive or background mode. Refer to *Issuing Commands through NDMCOM* on page 26 for command syntax and examples for both modes.

When you run NDMCOM, you open the indicated server, if that server is running. The server processes commands. Contact the system administrator if the server is down or you are not authorized to run it.

If you want to use a different server and the server you specified is not running, issue the OPEN command to open another server. Refer to *Opening the Server Process* on page 51 for the syntax of the OPEN command.

You are not required to specify a server when starting NDMCOM. If you do not specify a server, the default server is opened.

Changing Ownership of NDMCOM

Ownership of the current NDMCOM session provides the basis for the ownership and security attributes. The last user to log on to NDMCOM owns the NDMCOM session.

You can override security for accessing files by defining a PNODEID parameter in a Process or in a SUBMIT command. For syntax and parameter descriptions for Process statements, refer to the Processes web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html. For syntax and parameter descriptions of the SUBMIT command, see *Submitting a Process for Execution* on page 91.

Note: You can also use the Sterling Connect:Direct Browser User Interface to build, submit, and monitor Sterling Connect:Direct Processes from an Internet browser, such as Microsoft Internet Explorer. See the documentation for that product for more information.

Changing the Default Server Process Name

The default Sterling Connect:Direct for HP NonStop server process name is $NDMS. You can change the NDMSRVR parameter to a different server name by issuing the PARAM command from the TACL prompt. The new process name can be up to six characters long and must have a $ as the first character.

In the following example, the NDMSRVR name is set to $NDMJV using the TACL PARAM command.

```
TACL>PARAM NDMSRVR $NDMJV
TACL>RUN NDMCOM
Connect:Direct (TM) 3.3.0.0
COPYRIGHT (C) 1988–1999, 2003 IBM
CD.1.>OPEN $NDMJV
   SAPI125I:(RC=0,FDBK="0")
NDM server opened.
CD.2.>
```

After you issue the PARAM command and invoke NDMCOM, Sterling Connect:Direct for HP NonStop echoes the command to open the server.

Changing the Command Prompt

The Sterling Connect:Direct for HP NonStop command prompt is CD.n>, where *n* represents the next command number followed by a period (.). For example, CD.49.>.

You can customize the prompt by setting the parameter NDMPROMPT to the appropriate string from the command interpreter. In the following example, the NDMPROMPT is set to CD, followed by the initials of the user, JV, a greater than sign (>), and a space. Use quotation marks (" ") when you are including spaces in the prompt.

```
TACL>PARAM NDMPROMPT "JV > "
TACL>RUN NDMCOM
Connect:Direct (TM) 3.2.0.0
COPYRIGHT (C) 1988–2003 IBM
CD.1.JV >OPEN $NDMJV
   SAPI125I:(RC=0,FDBK="0")
NDM server opened.
CD.2.JV >
```

Issuing Commands through NDMCOM

You can issue commands through NDMCOM using either of the following methods:

- In interactive mode from the command line. Interactive mode enables you to issue a command and receive an immediate response.

- In background mode using a disk input file (an OBEY file). Background mode enables you to include a series of Sterling Connect:Direct for HP NonStop commands in an OBEY file.

The following sections describe running NDMCOM in interactive and background modes.

Note: To run NDMCOM in conjunction with an application program interface (API), refer to *IBM Sterling Connect:Direct for HP NonStop Management Programming Guide*.

Running NDMCOM in Interactive Mode

Issue the following command to run NDMCOM as a high-pin process in the interactive mode from TACL. You can issue multiple commands in the interactive mode by concatenating the commands and delimiting each command with a semicolon (;).

```
TACL>RUN NDMCOM /highpin on/ server ;command... | ;command...
```

Always precede the command with RUN.

Parameters

Following are the NDMCOM interactive mode parameters:

Parameter	Description
highpin	Runs NDMCOM as a high-pin process when this parameter is set to on.
server	Specifies the HP NonStop process name of the NDMSRVR. If you omit this parameter, the default server ($NDMS) is assumed.
command	Specifies one command or a list of commands, separated by semicolons (;). After execution of these commands, type additional commands from the NDMCOM prompt. Issuing the command to run NDMCOM in the interactive mode changes the command prompt from TACL to the Sterling Connect:Direct for HP NonStop command prompt.

Example

The following example shows how to run NDMCOM in interactive mode. The command to run NDMCOM and submit the file ACCT was issued from the TACL prompt. Sterling Connect:Direct for HP NonStop responds with the version, the OPEN command, the opened server message, the SUBMIT command, and the message returned from the SUBMIT command. You can type additional Sterling Connect:Direct for HP NonStop commands at the NDMCOM prompt.

```
TACL>RUN NDMCOM $NDMS1; SUBMIT FILE ACCT
Connect:Direct (TM) 3.3.0.0
COPYRIGHT (C) 1988–2003 IBM
CD.1.>OPEN $NDMS1
   SAPI125I : (RC=0, FDBK="0")
NDM server opened.
CD.2.>SUBMIT FILE ACCT
 SSRV1o1I : (RC=0, FDBK="0")SUBMIT command.
Process submitted successfully. Process number 1.
CD.3.>
```

Running NDMCOM in Background Mode

To run NDMCOM in background mode, issue the following command from TACL. Multiple commands issued in background mode are concatenated, delimited by a semicolon (;).

```
TACL>RUN NDMCOM /runtime options/ server
```

Parameters

Following are the parameters for the background mode:

Parameter	Description
runtime options	Specifies any valid HP NonStop runtime options, except backup CPU. Refer to the *TACL Reference Manual* for additional information. IN—Specifies the name of a disk file containing Sterling Connect:Direct for HP NonStop commands. OUT—Specifies the spooler or disk file to which output from NDMCOM is directed. NOWAIT—Specifies that control returns to your terminal immediately after the NDMCOM process is initiated. HIGHPIN—Specifies whether the NDMCOM process runs as a high- or low-pin process. **Note:** The IN file is required if you are going to run NDMCOM in background mode.
server	Specifies the server name. If this parameter is omitted, the default server ($NDMS) is assumed.
command	Specifies one command or a list of commands, separated by semicolons (;). After execution of these commands, Sterling Connect:Direct for HP NonStop reads additional commands from the standard input file unless the last command is EXIT.

Example

The following example shows how to run NDMCOM in background mode. NDMIN includes all Sterling Connect:Direct for HP NonStop commands. If the EXIT command is part of the NDMIN file contents, Sterling Connect:Direct for HP NonStop passes control to the TACL prompt after command execution. NDMCOM directs all messages to the spooler location #NDMCOM.

```
TACL>RUN NDMCOM /IN NDMIN, OUT $S.#NDMCOM/ $NDMS
TACL>
```

Using Sterling Connect:Direct for HP NonStop Macros

Sterling Connect:Direct for HP NonStop furnishes two sets of macros that provide greater functionality and flexibility in NDMCOM:

- Interactive mode macros include NDMRUN, NDMS, and NDMA
- Background mode macros include NDMSTART, CD, and NDMSTOP

Both sets of macros are in NDMINSTL.TACLNDM.

Macros for Interactive Mode

Issue the command NDMRUN and the name of the server from the TACL prompt to execute the macros for the interactive mode. The macros enable you to issue HP NonStop commands from the TACL prompt without stopping NDMCOM and without NDMCOM interfering with your HP NonStop command output.

Macros for the interactive mode are as follows:

- Use NDMRUN to start NDMCOM in interactive mode.
- Use NDMS to suspend the NDMCOM process when you use the break key to exit NDMCOM. Issue this command once from the TACL prompt after you exit NDMCOM with the break key.
- Use NDMA to reactivate NDMCOM after you complete the appropriate TACL activities. Issue this command from the TACL prompt to reactivate the NDMCOM program and return to the NDMCOM prompt.

For example, to suspend NDMCOM without losing your history buffer from Sterling Connect:Direct for HP NonStop, press the break key and type NDMS from the TACL prompt. To reactivate NDMCOM, type NDMA from the TACL prompt.

Macros for Background Mode

Issue the command NDMSTART and the name of the server from the TACL prompt to execute the macros for the background mode. The macros enable you to pass commands to NDMCOM from your TACL prompt.

WARNING: For security considerations, do not leave Sterling Connect:Direct for HP NonStop running in background mode.

The following macros are for background mode:

- Use NDMSTART to start NDMCOM in background (NOWAITed) mode.
- Use CD to communicate with NDMCOM in background mode. If you are using the macros for background mode, you must precede all Sterling Connect:Direct for HP NonStop commands with CD.
- Use NDMSTOP to stop NDMCOM in background mode.

For example, if you started NDMCOM with the NDMSTART macro, use the CD macro to issue Sterling Connect:Direct for HP NonStop commands. A sample SELECT PROCESS command follows:

```
CD SELECT PROCESS PNUMBER=n
```

You return to the TACL prompt after Sterling Connect:Direct for HP NonStop displays results from the command at your terminal.

Implementing Macros

Perform the following steps to implement either set of macros:

1. Determine the volume and subvolume where you want NDMCOM located. The default volume and subvolume name is $SYSTEM.NDMOBJ.
2. If you want to modify the default location, edit NDMRUN or NDMSTART or both routines in NDMINSTL.TACLNDM and specify a different location for NDMCOM.

3. Type the following command from the TACL prompt:

```
LOAD / KEEP 1 / NDMINSTL.TACLNDM
```

4. Run the server.
5. Type NDMRUN or NDMSTART from the TACL prompt. If your server process name is different from the default of $NDMS, specify it as part of the command. An example follows:

```
NDMSTART server-name
```

Sterling Connect:Direct for HP NonStop Process Statements

The following table lists Process statements and their functions. For complete information on the Process language and instructions on building a Process, see the Processes web site at http://www.sterlingcommerce.com/documentation/processes/processhome.html.

Note: Sterling Connect:Direct Browser User Interface allows you to build, submit, and monitor Sterling Connect:Direct Processes from an Internet browser, such as Microsoft Internet Explorer. See the documentation for that product for more information.

Process Statement	Function
COPY	Copies files from one node to another.
MODAL	Alters the sequence of Process execution based on the completion code of previous steps with the IF THEN, ELSE, EIF (end if), GOTO, and EXIT statements.
PROCESS	Defines general Process characteristics.
RUN JOB	Executes asynchronous operations on z/OS, VSE, and VM nodes.
RUN TASK	Creates and runs HP NonStop processes during Process execution and performs remote operating system commands.
SUBMIT	Submits another Process to either the PNODE or the SNODE during execution of a Process.
SYMBOL	Builds a symbolic substitution value.

A sample Process follows:

```
ONESTEP  PROCESSSNODE=HPNONSTOP.NODE
STEP     COPY FROM(SNODE DSN=$A.ACCT.DATA)
         CKPT=1k
          TO    (PNODE DSN=$B.JAN.DATA
             DISP=RPL)
         COMPRESS
```

Sterling Connect:Direct for HP NonStop Operation

This section shows how you can apply various Sterling Connect:Direct for HP NonStop functions.

The following sample Process copies a file from the primary node (PNODE) to the secondary node (SNODE). The PNODE is a HP NonStop node, and the SNODE is a z/OS node.

```
/*This sends accounting records to Boston.*/
DALLAS   PROCESSSNODE=BOSTON-
               SNODEID=(IBMUSER,PSWRD)
STEP1    COPY FROM(PNODE DSN=&FROM-
              DISP=SHR)-
           TO(SNODE DSN=&TO-
              DISP=RPL)
STEP2    IF (STEP1 GT 4) THEN
           EXIT
           EIF
STEP3    RUN JOB  (DSN=IBM.PROGRAM SNODE)
STEP4    RUN TASK PGM=FUP SYSOPTS "PURGE &FROM!"
```

A description of each part of the sample Process follows:

- The first statement in the file is a PROCESS statement. The PROCESS statement defines DALLAS as the Process name and the secondary node as BOSTON (SNODE=BOSTON). The SNODEID parameter identifies the user ID and password for the BOSTON node. You do not need a SNODEID if the SNODE uses automatic user ID security resolution. Security is an administrative issue discussed in the *Defining and Maintaining Security* chapter in the *IBM Sterling Connect:Direct for HP NonStop Administration Guide*.
- Step 1 is a COPY statement. In this example, the &FROM and &TO file names are symbolic values that are resolved during submission of the Process. The ampersand (&) denotes symbolic values. The FROM file is allocated as SHR and the TO file as RPL. SHR specifies that the file is read by Sterling Connect:Direct for HP NonStop and can also be read by concurrent users. RPL specifies that Sterling Connect:Direct for HP NonStop replaces any existing file of the same name or creates the file if it does not exist.
- Step 2 uses modal logic to check the completion code of Step 1. If the completion code for Step 1 is greater than 4, then additional Process execution is cancelled. If the completion code for Step 1 is less than or equal to 4, Step 3 runs.
- Step 3 executes the RUN JOB statement to run the IBM.PROGRAM on the SNODE.
- Step 4 starts the RUN TASK statement that runs the FUP utility in batch mode to purge the file named by the symbolic value. By default, the RUN TASK statement executes on the PNODE.

Submitting the Process to the TCQ

The following command submits the Process for execution. In this command string, the symbolic values (&FROM and &TO) are constructed and passed to the Process. A sample SUBMIT command and the Sterling Connect:Direct for HP NonStop response follow:

```
CD.3.>SUBMIT FILE $A.NDMPROCX.DALLAS &FROM=$A.SMITH.AC
&TO=JONES.CNTL(AC)
     SSRV1O1I: (RC=0,FDBK="0")

Thursday - January 28, 1999 - 09:33:42.870
     SSRV101I: (RC=0, FDBK="0")
Process submitted successfully. Process number : 1
```

Monitoring the Process Status in the TCQ

After you submit the Process for execution, you can issue the SELECT PROCESS command to monitor the data transmission activity. Sterling Connect:Direct for HP NonStop generates a report with the Process name and number, submitter node and ID, destination node, and queue. When you type the DETAIL parameter as part of the command, you receive additional information. The following example is a SELECT PROCESS command:

```
SELECT PROCESS PNUMBER=1
```

Samples of the reports and commands that generate each of the report formats are available in Chapter 6, *Managing Processes*.

Determining the Outcome of the Process

Upon completion of the Process, you can review the statistics log for the Process. Following is a sample command to generate a statistics log:

```
SELECT STATISTICS PNUMBER=1
```

Refer to the sample statistics log in Chapter 7, *Viewing System Files*.

Exiting NDMCOM

Issue the EXIT command, to NDMCOM and return to the command interpreter. A sample command and Sterling Connect:Direct for HP NonStop response follows:

```
EXIT
     SAPI220I: (RC=0,FDBK="0")
EXIT command successfully completed.
TACL>
```

Accessing the Message File

Sterling Connect:Direct for HP NonStop has an online message program, where you can display, modify, and print messages. A sample message is in MESSAGE in the NDMSAMP subvolume of the distribution tape.

For the syntax for inserting, deleting, and modifying messages, refer to the *Modifying the Message File* chapter in *IBM Sterling Connect:Direct for HP NonStop Administration Guide*.

Syntax for displaying and printing message text follows.

Displaying Messages

The message file, NDMMSG, displays message text when supplied with a message identifier. Use the following commands to display messages:

```
TACL>RUN NDMMSG msgfile-name
?DISPLAY msgid
```

Parameters are as follows:

Parameter	Description
NDMMSG	Indicates the Sterling Connect:Direct for HP NonStop message program.
msgfile-name	Indicates the file of Sterling Connect:Direct for HP NonStop messages.
DISPLAY	Specifies the command that displays a message in the Sterling Connect:Direct for HP NonStop message file. Input the command at the ? prompt. You can use MSG interchangeably with DISPLAY.
msgid	Specifies the message identifier for a particular message.

To exit the message program, type **CTRL-Y**.

You can also use the HELP command to display messages. For syntax and parameter descriptions, refer to the description of the HELP command in Chapter 4, *Controlling the Environment*.

Printing Messages

Use the following commands to print Sterling Connect:Direct for HP NonStop messages:

```
TACL>RUN NDMMSG /OUT $S.#OUTMSG/ msgfile-name
GET msgid|*
```

Following are the parameters for printing messages:

Parameter	Description
RUN NDMMSG	Indicates the Sterling Connect:Direct for HP NonStop message program.
OUT $S.#OUTMSG	Specifies the output spool location.

Parameter	Description
msgfile-name	Specifies a file of Sterling Connect:Direct for HP NonStop messages.
GET	Copies the specified message to the spooler for printing.
msgid	Identifies the message identifier for a particular message.
asterisk (*)	The indicator that specifies all messages in the message file.

Chapter 3

Queuing Processes

This chapter describes the following information about the Transmission Control Queue (TCQ):

- Understanding the Transmission Control Queue
- Managing Processes in the TCQ
- Scheduling Sterling Connect:Direct for HP NonStop activity

Understanding the Transmission Control Queue

The TCQ controls Process execution. After Processes are submitted, they are stored in the TCQ. The TCQ consists of two key-sequenced files and an in-memory queue, which controls access. The TCQ consists of eleven queues. Following are the TCQ queues:

Queue	Description
B (Bad)	An error occurred during initiation of Process execution. This error can occur because of a security error or some other unrecoverable error.
C (Call)	The Process executes after a connection is established with the other node. You cannot specify a start date or time.
E (Execution)	The Process is currently executing.
H (Hold)	The Process remains in the Hold queue until you release it.
I (Initial)	A copy of the Process executes when you start the server.
P (Pending)	Pnode Processes pending execution (PEXC). A session is being requested with another node but has not yet been established.
R (Retain)	A copy of the Process is retained after execution. You can later release a copy of this Process for execution.
S (Suspend)	The SUSPEND PROCESS command suspends the Process. You can later release the Process for execution.
T (Timer)	The Process executes at a specified start date and time.
W (Wait)	The Process awaits execution.
RETTIMER (Retain-Timer)	The Process executes periodically, either daily or weekly. A copy of the Process is released for execution at the end of the period specified.

Managing Processes in the TCQ

After you submit a Process, you can monitor its status, modify specific characteristics, retrieve the original source for a Process, and stop its execution by using the appropriate commands. For example, you can change the destination of a particular file or stop an executing Process. The commands summarized in the following table allow you to perform such tasks.

Command	Definition
CHANGE PROCESS	Changes the status and modifies specific characteristics of a *nonexecuting* Process in the TCQ.
DELETE PROCESS	Removes a *nonexecuting* Process from the TCQ.
FLUSH PROCESS	Deletes an *executing* Process.
SELECT PROCESS	Monitors Processes in the TCQ, and any currently running Processes. You can specify the search criteria and the form of the information presented. You can also reconstruct the source for a Process in the TCQ so you can easily update the script without having to start from scratch.
SUSPEND PROCESS	Places an *executing* Process in the hold queue. You can later release the held Process.

Scheduling Sterling Connect:Direct for HP NonStop Activity

Sterling Connect:Direct for HP NonStop places a Process in the appropriate queue based on scheduling parameters. Specify the following scheduling parameters in the PROCESS statement or SUBMIT command:

- HOLD=Yes|No|Call
- RETAIN=Yes|No|Initial
- STARTT=(date|day, hh:mm:ssXM)

The following table illustrates how scheduling parameters affect the queues:

If the Process Is Submitted with	Placed in Queue	Comment
None of the scheduling parameters specified	Wait	The Process remains in the Wait queue until a session is started with an adjacent node.
RETAIN=YES	Retain	The Process executes once and stays in the queue. You can specify a day or time or both for the Process to start.
RETAIN=NO	Wait	If you specify no other parameters, the Process remains in the Wait queue until a session is started with an adjacent node. RETAIN=NO is the default.
RETAIN=INITIAL	Initial	A copy of the Process remains in the queue and executes every time the server is initialized.

If the Process Is Submitted with	Placed in Queue	Comment
RETAIN=YES and HOLD=NO or CALL	Retain	A copy of the Process remains in the queue and is executed when released. Sterling Connect:Direct for HP NonStop ignores the HOLD parameter.
HOLD=YES	Hold	You can execute the Process by specifying CHANGE PROCESS PNAME=filename HOLD=NO. You can specify RELEASE instead of HOLD=NO.
HOLD=NO	Wait	If no other parameters are specified, the Process remains in the Wait queue until a session is started with an adjacent node. HOLD=NO is the default.
HOLD=CALL	Call	The Process remains in the queue until the destination node starts a session with the local node.
STARTT (a start time and day, date, or both)	Timer	When the scheduled time and date arrive, Sterling Connect:Direct for HP NonStop moves the Process to the specified Wait queue for execution. For more information on how dates can be entered as parameter values, see *Date Formats* on page 79.

Chapter 4

Controlling the Environment

Use environment commands to change and define the Sterling Connect:Direct for HP NonStop environment or to facilitate the use of NDMCOM. You can issue these commands at any time during Sterling Connect:Direct for HP NonStop operation. For example, to change the volume during a session or invoke TEDIT, use the environment commands.

This chapter describes the environment commands. The table in *Environment Commands* on page 22 lists the commands and summarizes the tasks each command can perform.

Note: Some Sterling Connect:Direct for HP NonStop environment commands are familiar to users of the HP NonStop operating system. For more information on those commands, refer to the HP NonStop documentation.

Recalling and Reissuing Commands

Use the ! (exclamation point) command to recall and reissue a previously issued command without modifications. Issue this command like the familiar TACL command. You can request a specific line by typing its command number, a relative number, or a command abbreviation.

Typing the ! without one of the parameters recalls and reissues the last command entered.

Format

Following is the ! command format:

```
!                       command number
                        -command number
                        command string
```

Required Parameters

The ! command has no required parameters.

Optional Parameters

Following are the optional parameters for the ! command:

Parameter	Description
command number	Specifies an absolute command number.
-command number	Specifies a relative command number.
command string	Specifies a command abbreviation. The command abbreviation must uniquely identify the command and must start from the beginning of the command.

Examples

Following are examples of optional parameters for the ! command:

Command Syntax	Description
CD.18.>!	Recalls and reissues the previous command.
CD.27.>! 12	Recalls and reissues previous command 12 in the current history stack.
CD.32.>! -6	Recalls and reissues the sixth command back from the current command prompt.
CD.35.>! sub	Recalls and reissues the most recent command that begins with the entered text string.

Invoking the HP NonStop Text Editor (TEDIT)

Use the EDIT command to invoke the HP NonStop text editor, TEDIT. For instructions on using the text editor, refer to the HP NonStop Operating System documentation.

Format

Following is the EDIT command format:

```
EDIT                    filename parameters
```

Required Parameters

The EDIT command has no required parameters.

Optional Parameters

Following are optional parameters for the EDIT command:

Parameter	Description
filename	Specifies any edit file name (code 101).
parameters	Specifies any TEDIT option/commands. **Note:** If you are executing editor commands, NDMCOM cannot concatenate multiple commands when the editor is using Sterling Connect:Direct for HP NonStop delimiters such as (;) for search values.

Examples

The following command invokes TEDIT and displays the TEDIT initial Help screen:

```
CD.2.>EDIT
```

The following command invokes TEDIT and accesses MYFILE in read mode:

```
CD.3.>EDIT MYFILE R
```

The following command invokes TEDIT, accesses MYFILE in read/write mode, and searches for the text string entered:

```
CD.4.>EDIT MYFILE; SEARCH TEXT
```

Exiting NDMCOM

Use the EXIT command to exit NDMCOM. After you issue the EXIT command, Sterling Connect:Direct for HP NonStop passes control to TACL. You can also use the **CTRL-Y** (control Y) key sequence to exit NDMCOM.

Format

Following is the EXIT command format:

```
Exit
```

Required Parameters

The EXIT command has no required parameters.

Optional Parameters

The EXIT command has no optional parameters.

Examples

The following example displays the results from issuing the EXIT command. Sterling Connect:Direct for HP NonStop exits NDMCOM, displays the confirmation message indicating successful completion of the command, and returns you to the default command interpreter.

```
CD.5.>EXIT
  SAPI220I:(RC=0,FDBK="0")
CD.6.>EXIT command successfully completed.
TACL>
```

Changing and Reissuing Commands

Use the FC command to change and reissue a previously entered command. This command is valid only in an interactive environment. If you enter the FC command, Sterling Connect:Direct for HP NonStop displays the previous command, along with two periods. You can reissue the command by pressing **Enter**, or you can edit and then reissue the command. For further information on this command, refer to the HP NonStop documentation.

Enter FC with no parameters to recall the last command entered.

Format

Following is the FC command format:

```
FC                      command number
                        -command number
                        command string
```

Required Parameters

The FC command has no required parameters.

Optional Parameters

Optional parameters for the FC command are:

Parameter	Description
command number	Refers to the command-line number in the history buffer you want to retrieve.
-command number	Refers to the relative command-line number in the history buffer you want to retrieve.
command string	Identifies the most recent command line in the history buffer beginning with the specified text.

Examples

Following is a sample listing of previously issued commands. Examples using the FC command against this buffer follow the figure.

```
1..OPEN $NDMS
2..TIME
3..ENV
4..SUB PROC=TOBOSTON
5..SEL PROC PNAME=TODALLAS DETAIL
6..HISTORY
```

Enter FC and a line number to repeat the requested line number. The prompt number does not change until you enter and execute the correction or change.

```
CD.7.>FC 4
CD.7.>SUB PROC=TOBOSTON
CD.7..          TODALLAS
CD.7.>SUB PROC=TODALLAS
CD.7..
```

Enter FC and a portion of the command string to repeat the requested line. The prompt number does not change until you enter and execute the correction.

```
CD.8.>FC SE
CD.8.>SEL PROC PNAME=TODALLES DETAIL
CD.8..                       A
CD.8.>SEL PROC PNAME=TODALLAS DETAIL
CD.8..
```

Accessing the Sterling Connect:Direct for HP NonStop Help Facility

Use the HELP command to access the interactive Sterling Connect:Direct for HP NonStop Help facility. For help using a specific Sterling Connect:Direct for HP NonStop command or Process statement, enter the command or Process statement name after the HELP command or Browser pull-down menu. For a listing of all Sterling Connect:Direct for HP NonStop commands and statements, enter ALL after the HELP command.

Enter the HELP command without a parameter to display the format and optional parameters for the HELP command.

Format

Following is the HELP command format:

```
HElp                    ALL
                        command
                        messageid
```

Required Parameters

The HELP command has no required parameters.

Optional Parameters

Optional parameters for the HELP command are:

Parameter	Description
ALL	Specifies that you want a list of all commands and Process statements.
command	Specifies the command for which you want help information.
messageid	Specifies that you want message text displayed for the message ID supplied.

Examples

The following command displays the syntax and required and optional parameters for the INSERT USER command:

```
CD.2.>HELP INSERT USER
```

Following is a sample display:

```
CD.2.>help ins user
SCMD016H:
INSert
USER

Insert User commands insert a user record
in the C:D Authorization file.

/*****************************************
 **  Command Syntax                     **
 *****************************************/
<command syntax follows>

CD.3.>
```

Displaying Previous Commands

Use the HISTORY command to display up to the last 100 commands issued during the session.

Format

Following is the HISTORY command format:

```
HIstory                 nnn
```

Required Parameters

The HISTORY command has no required parameters.

Optional Parameters

The HISTORY command has the following optional parameter:

Parameter	Description
nnn	Indicates the number of commands you want to display. The default is 10 commands.

Examples

A sample listing of previously issued commands follows:

```
  1.. OPEN $NDMJV
  2.. TIME
  3.. ENV
  4.. SUB PROC TODALLAS
  5.. SEL PROC PNAME=TODALLAS DETAIL
  6.. DEL PROC WHERE PNAME=TODALLAS
  7.. SUB PROC TOAUSTIN
  8.. SEL PROC PNAME=TOAUSTIN DETAIL
  9.. CH PROC PNAME=TOAUSTIN DEST=DALLAS
  10.. SEL PROC PNAME=TOAUSTIN DETAIL
  11.. SUB PROC TOBOSTON
  12.. SEL NET NODE=DENVER LU=LU2
  13.. UPD NET ADJACENT.NODE=DENVER MAXRETRY=15
  14.. HISTORY 15
```

Displaying Edit File Contents

Use the LIST command to display the contents of an edit file.

Format

Following is the LIST command format:

```
LIST                    \system.$volume.subvol.filename
```

Required Parameters

The LIST command has the following required parameter:

Parameter	Description
\system.$volume.subvol.filename	Specifies the system, volume, subvolume, and file name of the edit file. The fully qualified file name can contain 1–34 characters. The system name is a maximum of 8 characters, including the backslash; volume name is a maximum of 8 characters, including the dollar sign; and subvolume is a maximum of 8 characters. The file name portion of the parameter is 1–8 characters in length and must begin with an alphabetic character. **Note:** If you specify the system name, the volume name can only be a maximum of 7 characters, including the $. If you do not specify the system name, the volume name can be up to 8 characters. This limitation is a HP NonStop restriction.

Optional Parameters

The LIST command has no optional parameters.

Examples

The following command displays the contents of the file JAN on the BACKUP subvolume in the $B volume.

```
CD.3.>LIST $B.BACKUP.JAN
FILE=$B.ACCT.DATA
DSN=MVS.ACCT.JAN
SNODE=MVS.NODE.NAME
3 RECORDS TRANSFERRED
```

Signing On as Another User within NDMCOM

Use the LOGON command from an NDMCOM prompt to sign on as another user. If the new user is defined in the authorization file (AUTHFILE), the values assigned to that user ID override those of the previous user.

If the new user is not defined in the authorization file, but a default user record exists (NDM.DEFAULT), the new user is added to the authorization file with the default attributes defined in the default record.

Format

Following is the LOGON command format:

```
LOgon                  (group.user|alias) , password
```

Required Parameters

The LOGON command has no required parameters.

Optional Parameters

Optional parameters for the LOGON command are:

Parameter	Description
group.user	Specifies the group name and user ID you are using to sign on to Sterling Connect:Direct for HP NonStop. If you do not specify this parameter, Sterling Connect:Direct for HP NonStop uses the current user ID for the HP NonStop session. The maximum length is 17 characters, including the period (.) separating your group name and user ID. If you do not enter the group.user, the current group.user is assumed.
alias	Specifies the user records to select in the AUTHFILE. You can enter 1–17 alphanumeric characters including underscores, hyphens, and periods. The first character *must* be alphanumeric.
password	Specifies your password. The maximum length is 8 characters, beginning with an alphabetic character. Passwords are case-sensitive. If you do not enter the password and NDMCOM is running in interactive mode, Sterling Connect:Direct for HP NonStop prompts you for your password. Sterling Connect:Direct for HP NonStop encrypts the password as it is entered. If you are running in background mode, ensure that you are defined as a user in the AUTHFILE.

Examples

The following example shows a LOGON command with both the group.user and password values specified. The values are separated with a comma (,).

```
CD.3.>logon SUPER.OPER,password
  SAPI114I: (RC=0, FDBK="0")
LOGON successful.
CD.4.>
```

The following example shows a LOGON command with only group.user values specified. Sterling Connect:Direct for HP NonStop responds with a prompt for the password. If you are entering a password interactively, the cursor does not move, and the password is not displayed.

```
CD.4.>logon SUPER.OPER
Password :
  SAPI114I: (RC=0, FDBK="0")
LOGON successful.
CD.5.>
```

The following example shows a LOGON command with both alias and password values specified. The values are separated with a comma (,).

```
CD.3.>logon this_is_an_alias,password
  SAPI114I: (RC=0, FDBK="0")
LOGON successful.
CD.4.>
```

Executing the Obey Command

Use the OBEY command to execute a series of commands in an edit file. The file can contain any combination of the following:

- Any Sterling Connect:Direct for HP NonStop command, except the FC command
- Environment commands
- HP NonStop commands if preceded by the RUN command

Note: If you do not fully qualify the file name, by including the system, volume, and subvolume names, Sterling Connect:Direct for HP NonStop expands the file name using the obeyvolume value as specified in the AUTHFILE. If the obeyvolume value is not set (blank), Sterling Connect:Direct for HP NonStop expands the file name from the current volume and subvolume.

Format

Following is the OBEY command format:

```
Obey                    \system.$volume.subvol.filename
```

Required Parameters

The OBEY command has the following required parameter:

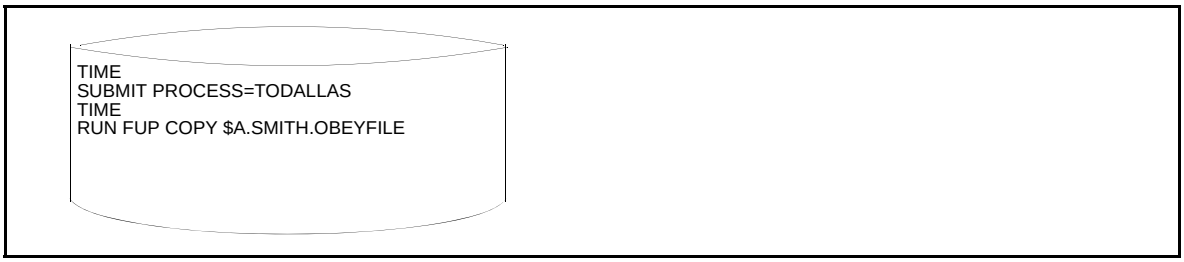
Parameter	Description
\system.$volume.subvol.filename	Specifies the system, volume, subvolume, and file name of the obey file. The fully qualified file name can contain 1–34 characters. The system name is a maximum of 8 characters, including the backslash; volume name is a maximum of 8 characters, including the dollar sign; and subvolume is a maximum of 8 characters. The file name portion of the parameter is 1–8 characters in length and must begin with an alphabetic character. **Note:** If you specify the system name, the volume name is a maximum of 7 characters, including the $. If you do not specify the system name, the volume name is up to 8 characters. This limitation is a HP NonStop restriction.

Optional Parameters

The OBEY command has no optional parameters.

Examples

An example of records inside an obey file named OBEYFILE follows:



Assume that you issued the command to run OBEYFILE. The following example shows the commands that are automatically issued against this file:

```
CD.1.>OBEY OBEYFILE
CD.2.>TIME
     Tuesday - October 13, 2003- 14:00:36:640
CD.3.>SUBMIT PROCESS=TODALLAS
     Tuesday - October 13, 2003 - 14:00:43.870
     SSRV101I:(RC=O,FDBK="0")
Process submitted successfully.  Process number: 188
CD.4.>TIME
     Tuesday - October 13, 2003- 14:01:45:600
CD.5.>RUN FUP COPY $A.SMITH.OBEYFILE
     TIME
     SUBMIT PROCESS=TODALLAS
     TIME
     RUN FUP COPY $A.SMITH.OBEYFILE
     4 records transferred
CD.6.>
```

An explanation follows:

- At the CD.1.> prompt, you issued the OBEY command.
- At the CD.2.> prompt, Sterling Connect:Direct for HP NonStop echoes the first record read from OBEYFILE and then invokes the TIME command.
- At the CD.3.> prompt, Sterling Connect:Direct for HP NonStop reads and displays the second record, which invokes the SUBMIT command.
- At the CD.4.> prompt, Sterling Connect:Direct for HP NonStop reads and displays the third record, which invokes the TIME command.
- At the CD.5.> prompt, Sterling Connect:Direct for HP NonStop reads and displays the fourth record, which invokes the RUN command.

Defining the Default Obey Volume

Use the OBEYVOLUME command to define the default obey volume used for expansion of the obey file name. If you issue the OBEYVOLUME command without specifying a system, volume, or subvolume, Sterling Connect:Direct for HP NonStop expands the file name from the saved volume. The saved volume is the volume.subvolume from where you executed NDMCOM.

Note: The OBEYVOLUME command is a temporary command and is reset after stopping and restarting Sterling Connect:Direct for HP NonStop. To maintain the setting, issue the UPDATE USER command, and specify an obey volume.

Format

Following is the OBEYVOLUME command format:

```
OBEYVOLume              \system.$volume.subvol
```

Required Parameters

The OBEYVOLUME command has no required parameters.

Optional Parameters

Optional parameters for the OBEYVOLUME command are:

Parameter	Description
\system.$volume.subvol	Specifies the system, volume, and subvolume for the obeyvolume. The system name is a maximum of 8 characters, including the backslash; volume name is a maximum of 8 characters, including the dollar sign; and subvolume is a maximum of 8 characters. **Note:** If you specify the system name, the volume name is a maximum of 7 characters, including the $. If you do not specify the system name, the volume name is up to 8 characters. This limitation is a HP NonStop restriction.

Examples

The following command changes the OBEYVOLUME to the specified volume:

```
CD.17.>obeyvolume $system.batch
  SAPI136I: (RC=0, FDBK="0")
OBEYVOLUME changed to \ESCAPE.$SYSTEM.BATCH
CD.18.>
```

The following command sets the OBEYVOLUME to the saved volume:

```
CD.18.>obeyvolume
  SAPI136I: (RC=0, FDBK="0")
OBEYVOLUME changed to $DSMSCM.T3206CNT
CD.19.>
```

Opening the Server Process

Use the OPEN command to open the server process. The server must be running to execute any other Sterling Connect:Direct for HP NonStop commands. If the server that you are attempting to access during the invocation of NDMCOM is not running, then issue the OPEN command to choose a server currently running. You do not have to exit Sterling Connect:Direct for HP NonStop. Refer to *Issuing Commands through NDMCOM* on page 26 for information on invoking NDMCOM.

Format

Following is the OPEN command format:

```
OPen                    ndmsrvr-name
```

Required Parameters

The OPEN command has the following required parameter:

Parameter	Description
ndmsrvr-name	Specifies the processname of the Sterling Connect:Direct for HP NonStop server process.

Optional Parameters

The OPEN command has no optional parameters.

Examples

Assume that you issued the command to run NDMCOM and open the server $NDMJ. Sterling Connect:Direct for HP NonStop displays the product name and its release, version, modification, and maintenance level, respectively.

Sterling Connect:Direct for HP NonStop automatically issues the OPEN command for the specified server. Because it does not exist, Sterling Connect:Direct for HP NonStop displays a message that is followed by the

Sterling Connect:Direct for HP NonStop prompt. You can then issue the OPEN command to attempt to open another server.

```
TACL>NDMCOM $NDMJ
Connect:Direct (TM) 3.3.0.0
COPYRIGHT (C) 1988–2003 IBM
CD.1.>OPEN $NDMJ
NDM server process “$NDMJ” does not exist
CD.2.>OPEN $NDMJV
  SAPI125I:(RC=0,FDBK=“0")
NDM server opened.
```

Changing the Output File

Use the OUT command to change the output file during the current session. The default is your home terminal.

Enter the OUT command without a parameter to return to the output file at startup, typically your home terminal.

Format

Following is the OUT command format:

```
OUt                    filename
```

Required Parameters

The OUT command has no required parameters.

Optional Parameter

The OUT command has the following optional parameter:

Parameter	Description
filename	Specifies the name of the file where Sterling Connect:Direct for HP NonStop appends the output. If the specified data file does not exist, Sterling Connect:Direct for HP NonStop creates an edit file of the same name.

Examples

The following command redirects the output from terminal location $SCOR.#L05 to $S.#EXAMPLE, a spooler file. $SCOR.#L05 was the most recent value for output (STDOUT) during the session.

```
CD.23.>out $s.#comout
CD.24.>
```

The following command shows the results when you issue the OUT command without a parameter. Sterling Connect:Direct for HP NonStop returns the value of STDOUT to the startup value, which was $SCOR.#L05 (home terminal).

```
CD.24.>out
  SAPI213I: (RC=0, FDBK="0")
OUTPUT file \ESCAPE.$S.#COMOUT closed.
  SAPI215I: (RC=0, FDBK="0")
OUTPUT file is \ESCAPE.$ZNTC0.#WINCW0
CD.25.>
```

Defining Print File Names

Use the PRINTER command to define print file names. Issue this command to change the default printer defined in your initialization parameters file. Recycle the server to return the print file to the setting in the initialization parameters file.

Format

Following is the PRINTER command format:

```
PRInter                printer
```

Required Parameter

The PRINTER command has the following required parameter:

Parameter	Description
printer	Specifies the name of the print file (spooler). If you omit this value, Sterling Connect:Direct for HP NonStop displays an error message.

Optional Parameters

The PRINTER command has no optional parameters.

Examples

The following command changes the default printer name in the initialization parameters file to $S.#PRINT:

```
CD.25.>printer $s.#print
  SAPI140I: (RC=0, FDBK="0")
Default printer changed to "$S.#PRINT"
CD.26.>
```

Defining the Default Volume For Expansion of Process File Names

Use the PROCVOLUME command to define the default volume for expansion of Process file names. If you do not set the procvolume value and leave it blank, Sterling Connect:Direct for HP NonStop expands the file name from the saved volume. If you change procvolume during the session and enter the PROCVOLUME command without a parameter, you set your procvolume to your saved volume.

Note: The PROCVOLUME command is a temporary command and is reset after stopping and restarting Sterling Connect:Direct for HP NonStop. To maintain the setting, issue the UPDATE USER command, and change the default procvolume.

Format

Following is the PROCVOLUME command format:

```
PROCVOLume              \system.$volume.subvol
```

Required Parameters

The PROCVOLUME command has no required parameters.

Optional Parameters

The PROCVOLUME command has the following optional parameter:

Parameter	Description
\system.$volume.subvol	Specifies the system, volume, and subvolume for the Process volume. The system name is a maximum of 8 characters, including the backslash (****); volume name is a maximum of 8 characters, including the $; and subvolume is a maximum of 8 characters. **Note:** If you specify the system name, the volume name can only be a maximum of 7 characters, including the $. If you do not specify the system name, the volume name can be up to 8 characters. This limitation is a HP NonStop restriction.

Examples

The following command defines the default volume for Processes:

```
CD.26.>procvol $system.userproc
  SAPI137I: (RC=0, FDBK="0")
PROCVOLUME changed to \ESCAPE.$SYSTEM.USERPROC
CD.27.>
```

The following command sets the default volume for Processes to the saved volume:

```
CD.27.>procvol
  SAPI137I: (RC=0, FDBK="0")
PROCVOLUME changed to $DSMSCM.T3206CNT
CD.28.>
```

Executing Programs without Exiting NDMCOM

Use the RUN command to execute programs on HP NonStop without exiting NDMCOM. Examples of the programs are FUP, SCF, INSTALL, PERUSE, or any user-written programs. After terminating execution of these programs, Sterling Connect:Direct for HP NonStop passes control to NDMCOM and displays the Sterling Connect:Direct for HP NonStop prompt.

Format

Following is the RUN command format:

```
RUn                     program
                         /run-options/
                        parameters
```

Required Parameter

The RUN command has the following required parameter:

Parameter	Description
program	Specifies the fully qualified name including system, volume, subvolume, and file name of the program.

Optional Parameters

Optional parameters for the RUN command are:

Parameter	Description
/run-options/	Specifies the options you want to execute with the RUN command. Refer to the HP NonStop Operating System documentation for valid options.
parameters	Specifies one or more program parameters to pass to the program in the startup message. Refer to the HP NonStop Operating System documentation for valid parameters.

Examples

The following command executes SCF and lists devices:

```
RUN SCF LISTDEV
```

Following is a sample display:

```
CD.28.>run scf listdev
SCF - T9082G02 - (14JAN02) (03JAN02) - 07/23/2004 11:42:41 System \ESCAPE
Copyright Compaq Computer Corporation 1986 - 2002

LDev Name      PPID    BPID   Type    RSize Pri Program
   0  $0        0,5     1,5     ( 1,0 )   102 201 \ESCAPE.$SYSTEM.SYS03.OSIMAGE
   1  $NCP      0,17    1,14    (62,0 )     1 199 \ESCAPE.$SYSTEM.SYS03.NCPOBJ
   3  $YMIOP    0,256   1,256   ( 6,4 )    80 205 \ESCAPE.$SYSTEM.SYS03.OSIMAGE
   5  $Z0       0,7     1,7     ( 1,2 )   102 200 \ESCAPE.$SYSTEM.SYS03.OSIMAGE

  <remaing text not displayed>

255  $BK       1,463   0,0     (46,0 )  6144 155 \ESCAPE.$SYSTEM.SYSTEM.PCMGR
 291  $BDST     1,398   0,0     ( 1,30)   132 154 \ESCAPE.$SYSTEM.SYS03.EMSDIST

Total Errors = 0    Total Warnings = 0
CD.29.>
```

Managing Symbols

Use SYMBOL commands to insert, delete, or display symbols in the Sterling Connect:Direct for HP NonStop environment. You cannot modify existing symbols. To change a symbol, you must delete the original and insert a new symbol.

Symbols are stored in memory for the duration of NDMCOM. You can create an obey file containing all of your symbols and execute it after you enter NDMCOM, or you can incorporate the symbols in the NDMRUN and NDMSTART macros. The symbols are then established as part of your Sterling Connect:Direct for HP NonStop environment every time you run the NDMRUN macro to enter NDMCOM. Refer to *Using Sterling Connect:Direct for HP NonStop Macros* on page 28 for a description and implementation instructions for macros.

To use a symbol in the Sterling Connect:Direct for HP NonStop environment, place an ampersand (&) in front of the symbol. If Sterling Connect:Direct for HP NonStop encounters an ampersand plus 1–17 alphanumeric characters, it substitutes the string represented by that ampersand and the alphanumeric characters.

For example, if you define the symbol spp for the SELECT PROCESS PNUMBER, when you issue the command &spp 12, Sterling Connect:Direct for HP NonStop displays a status report for Process number 12.

To separate two symbols with a period (.), you must use two periods. For example, if the value of the symbol VOL is $B and the value of symbol SUBVOL is NDM, then &VOL..&SUBVOL results in $B.NDM.

Note: All examples in this section refer to the sample display of symbols in *Examining Symbols* on page 58.

Inserting Symbols

Use the INSERT SYMBOL command to insert symbols in the Sterling Connect:Direct for HP NonStop environment.

Format

Following is the INSERT SYMBOL command format:

```
INSert SYMbol           symbol-name symbol-value
```

Required Parameter

The INSERT SYMBOL command has the following required parameter:

Parameter	Description
symbol-name	Specifies the 1–17 alphanumeric character name of the symbol.

Optional Parameter

The INSERT SYMBOL command has the following optional parameter:

Parameter	Description
symbol-value	Specifies the symbolic substitution value. The value can be a maximum of 256 alphanumeric characters. This value defaults to null.

Examples

The following command inserts the symbol FROMDSN for $data04.archive.file1:

```
CD.12.>insert symbol FROMDSN $data04.archive.file1
CD.13.>
```

Deleting Symbols

Use the DELETE SYMBOL command to delete symbols from your Sterling Connect:Direct for HP NonStop environment.

Format

Following is the DELETE SYMBOL command format:

```
DELete SYMbol           symbol-name
```

Required Parameter

The DELETE SYMBOL command has the following required parameter:

Parameter	Description
symbol-name	Specifies the 1–17 alphanumeric character name of the symbol.

Optional Parameters

The DELETE SYMBOL command has no optional parameters.

Examples

The following command deletes the symbol FROMDSN:

```
CD.33.>del symbol FROMDSN
CD.34.>
```

Examining Symbols

Use the SELECT SYMBOL command to examine symbols in the Sterling Connect:Direct for HP NonStop environment. Issue this command without a symbol-name parameter to display all the symbols for the environment.

Format

Following is the SELECT SYMBOL command format:

```
SELect  SYMbol          OUT=filename
                        PRINT
                        symbol-name
```

Required Parameters

The SELECT SYMBOL command has no required parameters.

Optional Parameters

Optional parameters for the SELECT SYMBOL command are:

Parameter	Description
OUT=filename	Directs the symbol information to the specified output file.
PRINT	Directs the output to the printer.
symbol-name	Specifies the 1–17 alphanumeric character name of the symbol.

Examples

The following command displays the current Sterling Connect:Direct for HP NonStop symbols.

```
CD.3.>sel symbol
```

A sample display follows:

```
CD.3.>sel symbol

SYMBOLS                 PARAMETERS
-----------------------------------------------------------------------
FUP                     RUN FUP
IS                      INSERT SYMBOL
P                       RUN PERUSE
SCF                     RUN SCF
SEC                     SELECT SECURITY
SN                      SELECT NETMAP
SPP                     SELECT PROCESS PNUMBER
SS                      SELECT STATISTICS
ST                      SELECT TYPE
SYM                     SELECT SYMBOL

CD.4.>
```

Chapter 5

Viewing System Information

Use the environment commands to retrieve system information. You can issue these commands at any time during Sterling Connect:Direct for HP NonStop operation.

This chapter explains the function, format, and parameters of environment commands that retrieve system information. The commands are presented in alphabetical order. An example of each command follows the parameter descriptions.

Note: Some Sterling Connect:Direct for HP NonStop environment commands are familiar to users of the HP NonStop operating system. For more information on those commands, refer to the HP NonStop Operating System documentation.

Displaying the Status of Sterling Connect:Direct for HP NonStop Components

Use the STATUS command to display the status of the following components in your Sterling Connect:Direct for HP NonStop system:

- Nodes
- LUs
- Processes in the CALL, WAIT, and TIMER queues
- TCP listen ports

Format

Following is the STATUS command format:

```
STATus                  LU*|lu-name
                        NODE*|node-name
                        q w
                        q c
                        q t
                        tcp
```

Required Parameters

The STATUS command has no required parameters.

Optional Parameters

Optional parameters for the STATUS command are:

Parameter	Description
lu*|lu-name	Specifies the LUs whose status you want to see. STATUS LU *—Specifies all LUs. STATUS LU lu-name—Indicates a specific LU.
node*|node-name	Specifies the nodes whose status you want to see. STATUS NODE node*—Specifies all nodes. STATUS NODE node-name—Indicates a specific node.
q w	Retrieves the status of all Processes in the WAIT queue.
q c	Retrieves the status of all Processes in the CALL queue.
q t	Retrieves the status of all Processes in the TIMER queue.
tcp	Retrieves the status of all TCP listen ports.

Examples

The following command displays the status of the LU named TCP01.

```
CD.7.>status lu tcp01
```

Following is the sample output from the STATUS LU TCP01 command:

```
================================================================================
           STATUS of Connect:Direct HP NonStop version 3.5.00
================================================================================
** HEAP SIZE : 147456
LU     => \NONSTP.TCP01                Logmode=> TANLOG    Type   => TCP.S
Tracefile => NONE
SM Trace  => OFF
Snode     =>                           Class  => 0         P/Snode=>
TCP Procs =>        $ZTC0               $ZTC1               $ZSAM1
STATE  => STOP      ProcNum=> 0         ProcName>
SM name=>           File Num> 0         Term   => \NONSTP.$ZTN0.#WINJS8
writes => 0         &PQE   => 0         &SNODEB=> 0         PS     => 1
AVAIL  => N         BUSY   => N         QUIESCE=> Y
ERROR  => N         RETRY  => N         USE    => A
MAXSES => 0         SESLIM => 0         SESCNT => 0
SNODE NAME          SNODE NAME          SNODE NAME          SNODE NAME
CD.DEV.SABCD1       CD45A               CSG.PROD390         GLOBAL
IT.USER2.34         IT.USER2.35         ADJ_NODE-TW         ADJ_NODE2ND
NONSTOP.USER1.34    NSTOP.USER1.343     OLLIE.USER1.360     OS400.USER1.351
OS400.USER1.360     OS400.USER1.361     Q2A.ZOS.V4700       QA160SUN3600
QAOPTSOL3800        S7.USER1.343        S7.USER1.35         SC.DUB.MABCD1
TANDEM.GLOBAL       TESTADAPTER-1       TSC4.USER1.340      TSC4.USER1.341
TSC4.USER1.350      TSC5.USER1.332      TSC5.USER1.340      TSC5.USER1.341
TSC5.USER1.350      WINLT.USER1.440
```

The following command displays the status of the node named s7.USER1.35:

```
CD.11.>status node s7.USER1.35
```

Following is the sample output from the STATUS NODE S7.USER1.35 command:

```
================================================================================
           STATUS of Connect:Direct HP NonStop version 3.5.00
================================================================================
** HEAP SIZE : 147456
SNODE  => S7.USER1.35         APPLID => JSS735    PARSES => 0
APINODE=> N                   CRC    => N         DELETE => N
DOMAIN => N                   PLEX   =>          QUIESCE=> N
DYN DNS=> N
IPADDR 1 => fd00:0:0:20a0::35   PORTNUM => 7132
LU list=> LU NAME                        RUNNING   DELETE    CLASS STATUS
          \NONSTP.$LU0TNDM.#LU012        N         N         1     STOP
          \NONSTP.$LU0TNDM.#LU013        N         N         2     STOP
          \NONSTP.TCP01                  N         N         3     STOP
          \NONSTP.TCP02                  N         N         4     STOP
          \NONSTP.TCP03                  N         N         5     STOP
          \NONSTP.TCP04                  N         N         6     STOP
          \NONSTP.TCP30D                 N         N         7     STOP
          \NONSTP.TCP31D                 N         N         8     STOP
          \NONSTP.TCP32D                 N         N         9     STOP
          \NONSTP.TCP33D                 N         N         10    STOP
          \NONSTP.TCP34D                 N         N         11    STOP
          \NONSTP.TCP35D                 N         N         12    STOP
          \NONSTP.TCP36D                 N         N         13    STOP
          \NONSTP.TCP37D                 N         N         14    STOP
          \NONSTP.TCP38D                 N         N         15    STOP
          \NONSTP.TCP39D                 N         N         16    STOP
```

The following command displays the status of all TCP listen ports:

```
CD.7.>status tcp
```

Following is the sample output from the STATUS TCP command:

```
================================================================================
          STATUS of Connect:Direct HP NonStop version 3.5.00
================================================================================
** HEAP SIZE : 98304
** TIME : 07/16/2008 12:53:41.16

TCPBUFFSIZE 8740

---------------------- TCP LISTEN PROCESSES / PORTS -----------------------
\NONSTP.$ZTC0 , IPv4, Port 11364 : Available   ; Accept posted
IP = 10.20.161.34
\NONSTP.$ZTC0 , IPv4, Port 17132 : Available   ; Accept posted
IP = 10.20.161.34
\NONSTP.$ZSAM1, IPv6, Port 17132 : Available   ; Accept posted
IP = 10.20.160.34
IP = fd00::20a0:a00:8eff:fe05:fd02
IP = fd00:0:0:20a0::34
\NONSTP.$ZSAM1, IPv6, Port 11364 : Available   ; Accept posted
IP = 10.20.160.34
IP = fd00::20a0:a00:8eff:fe05:fd02
IP = fd00:0:0:20a0::34
\NONSTP.$ZTC1 , IPv6, Port 17132 : Available   ; Accept posted
IP = 10.20.160.33
\NONSTP.$ZTC1 , IPv6, Port 11364 : Available   ; Accept posted
IP = 10.20.160.33
\NONSTP.$ZSAM2, IPv6, Port 17132 : Available   ; Accept posted
IP = fd00:0:0:20a1::34
\NONSTP.$ZSAM2, IPv6, Port 11364 : Available   ; Accept posted
IP = fd00:0:0:20a1::34
\NONSTP.$ZTC0 , IPv4, Port  2002 : Available   ; Accept posted
IP = 10.20.161.34
\NONSTP.$ZTC0 , IPv4, Port  2001 : Available   ; Accept posted
IP = 10.20.161.34
\NONSTP.$ZTC0 , IPv4, Port  2010 : Available   ; Accept posted
IP = 10.20.161.34
\NONSTP.$ZTC0 , IPv4, Port  2011 : Available   ; Accept posted
IP = 10.20.161.34
```

Displaying Logging Information

Use the DISPLAY LOGGING command to display the following:

- Setting for EMS, which controls whether events are logged to EMS
- Setting for STATS, which controls whether events are logged to the Sterling Connect:Direct for HP NonStop statistics file
- Name of the collector process

The optional parameters for DISPLAY LOGGING allow you to determine how the information is presented. Unless otherwise specified, Sterling Connect:Direct for HP NonStop displays the output. You can direct the output to a HP NonStop file or to a printer.

Format

Following is the DISPLAY LOGGING command format:

```
DISplay LOGging          FILE
                         OUT=filename
                         PRint
```

Required Parameters

The DISPLAY LOGGING command has no required parameters.

Optional Parameters

Optional parameters for the DISPLAY LOGGING command are:

Parameter	Description
FILE	Specifies that Sterling Connect:Direct for HP NonStop passes back the selected unformatted control block (CB) logging records.
OUT=filename	Specifies the file where Sterling Connect:Direct for HP NonStop routes the output.
PRint	Specifies that Sterling Connect:Direct for HP NonStop routes the output of the DISPLAY LOGGING command to the default printer. Printed output is in tabular format.

Examples

The following command displays output to the home terminal:

```
DISPLAY LOGGING
```

Following is the sample output from the DISPLAY LOGGING command:

```
CD.2.>display logging
================================================================================
07/26/2008                        L O G G I N G                        16:05:20
================================================================================
STATISTICS ====> ON             EMS ====> OFF         COLLECTOR ====> $0

CD.3.>
```

In this example, all records written to the Sterling Connect:Direct for HP NonStop statistics file are also written to EMS. The default EMS collector, $0, is the collector to use for generating event-messages.

Monitoring Statistics File Information

Use the DISPLAY STATINFO command to monitor the following information in a statistics file:

- File size
- Number of extents allocated and available
- Percentage of the file used
- Settings for the following:
  - STATCRITERIA (deletion criteria)
  - STATMIDNITE (midnight processing)
  - STATPERCENT (maximum allowable percentage the statistics files is utilized before NDMSTDL is created)

Sterling Connect:Direct for HP NonStop displays the most recent time and date that NDMSTDL executed.

If you issue the DISPLAY STATINFO command without one of the optional parameters, detailed information about the statistics files is displayed.

Note: The statistics files are key-sequenced files. After the NDMSTDL program runs, the statistics from the DISPLAY STATINFO command may not show a change in the Percentage used or End of File fields, because of the structure of HP NonStop key-sequenced files.

Use the UPDATE STATISTICS command to update settings for STATCRITERIA, STATMIDNITE, and STATPERCENT. For syntax and parameter descriptions for the UPDATE STATISTICS command, refer to the *Optimizing Performance* chapter in the *IBM Sterling Connect:Direct for HP NonStop Administration Guide*.

Format

Following is the DISPLAY STATINFO command format:

```
DISplay STATinfo        FILE
                        OUT=filename
                        PRINT
                        SHORT
```

Required Parameters

The DISPLAY STATINFO command has no required parameters.

Optional Parameters

Optional parameters for the DISPLAY STATINFO command are:

Parameter	Description
FILE	Specifies that Sterling Connect:Direct for HP NonStop passes unformatted settings for STATCRITERIA, STATMIDNITE, and STATPERCENT to the designated output file. If you do not specify a file name for the OUT parameter, Sterling Connect:Direct for HP NonStop routes the records to the output file at startup, typically your home terminal.
OUT=filename	Directs the statistics file information to the specified output file.
PRINT	Directs the output to the printer. The print file is defined by the PRINTER command, an environment command described in *Defining Print File Names* on page 53.
SHORT	Displays only the settings for the deletion criteria, midnight flag, and maximum percentage of the file capacity. Sterling Connect:Direct for HP NonStop also displays the last time that NDMSTDL executed.

Examples

The command DISPLAY STATINFO SHORT displays the following:

- Deletion criteria
- Midnight flag
- Maximum percentage of the file capacity
- Last time that NDMSTDL executed

A sample of the display follows:

```
CD.3.>display statinfo short
================================================================================
07/26/2008                      S T A T I N F O                      16:06:37
================================================================================
STATCRITERIA ====> 8D        STATPERCENT ====> 50%        STATMIDNITE ====> ON
________________________________________________________________________________
                    *********************************
                    * NDMSTDL has not executed since *
                    *   the Server was initialized   *
                    *********************************

________________________________________________________________________________
CD.4.>
```

The following command displays complete details about the statistics files:

```
DISPLAY STATINFO
```

A sample of the display follows:

```
CD.4.>display statinfo
================================================================================
07/26/2008                      S T A T I N F O                       16:07:11
================================================================================
STATCRITERIA ====> 8D        STATPERCENT ====> 50%        STATMIDNITE ====> ON
________________________________________________________________________________

                    *********************************
                    * NDMSTDL has not executed since *
                    *   the Server was initialized   *
                    *********************************

________________________________________________________________________________
               FILEINFO for file "\ESCAPE.$work02.ndm34.STATFILE"
Primary   Extent Size ==>          100             Maximum Ext.   ==> 100
Secondary Extent Size ==>          100             Ext. Allocated ==> 44
Maximum File Size     ==>     20480000             End of File    ==> 1507328
Percentage Used       ==>    7.74%
________________________________________________________________________________
               FILEINFO for file "\ESCAPE.$work02.ndm34.STATSRCH"
Primary   Extent Size ==>          120             Maximum Ext.   ==> 100
Secondary Extent Size ==>          120             Ext. Allocated ==> 5
Maximum File Size     ==>     45056000             End of File    ==> 2334720
Percentage Used       ==>    3.18%
________________________________________________________________________________
               FILEINFO for file "\ESCAPE.$WORK02.ndm34.STATSRC0"
Primary   Extent Size ==>          120             Maximum Ext.   ==> 100
Secondary Extent Size ==>          120             Ext. Allocated ==> 12
Maximum File Size     ==>     24576000             End of File    ==> 2768896
Percentage Used       ==>    11.65%
________________________________________________________________________________

CD.5.>
```

Displaying Initialization Parameters

Use the DISPLAY PARMS command to display the current settings of the initialization parameters and to permanently save changes made using the UPDATE PARM command to the initialization parameters file.

Format

Following is the DISPLAY PARMS command format:

```
DISplay Parms       FILE
                    OUT=filename
                    PRint
```

Required Parameters

The DISPLAY PARMS command has no required parameters.

Optional Parameters

Optional parameters for the DISPLAY PARMS command are as follows:

Parameter	Description
FILE	Specifies that Sterling Connect:Direct for HP NonStop saves the initialization settings to an output file.
OUT=filename	Specifies the output file where Sterling Connect:Direct for HP NonStop creates the new initialization parameters file.
PRint	Specifies that Sterling Connect:Direct for HP NonStop routes the output of the DISPLAY PARMS command to the default printer. Printed output is in tabular format.

Saving Changes to the Initialization Parameters File

To modify initialization parameters and save them to the initialization parameters file:

1. Use the DISPLAY PARMS command to review your current settings.
2. Update the initialization parameters using the UPDATE PARM command. For more information about the UPDATE PARMS command, see *Starting and Stopping Sterling Connect:Direct for HP NonStop* in the *IBM Sterling Connect:Direct for HP NonStop Installation Guide*.

Caution: Although the changes made using the UPDATE PARM command take effect immediately, they are not saved to the initialization parameters file. If you restart Sterling Connect:Direct before your changes are saved to the initialization parameters file, the old settings are used.

3. To make these changes permanent, use the DISPLAY PARMS command with the OUT or FILE option to create a new initialization parameters file with the changed values.

Examples

The following command displays the current initialization parameter settings:

```
CD.4.>DISPLAY PARMS
```

Following is the output from the DISPLAY PARMS command:

```
*================================================================================
*08/07/2008                    I N I T  P A R M S                     12:51:09
*================================================================================
*Server $js350, started on Thursday - August 7,2008 at 12:31:15.080
ALLOC-RETRY-INT      300
ALLOC-RETRY-MAX      3
API                  OFF
APIMGR               $DEV.j3500OBJ.APIMGR
APINAME              $AM
APIOUT               $d.#API
AUTHFILE             \NONSTP.$DEV.js35.AUTHFILE
CDLOBJ               \NONSTP.$DEV.j3500DAT.NDMCDL
CKPTFILE             \NONSTP.$DEV.js35.CKPTFILE
CKITVL               0K
CMPRLEVEL            6
COLLECTOR            $0
CRC                  ON
CRCOVERRIDE          YES
DEFAULTS             \NONSTP.$DEV.J3500OBJ
DOMAINSERVER         YES
EMS                  ON
FILENAMEEXT          NO
INFOFILE             \NONSTP.$DEV.js35.INFOFILE
LNODE                NSTOP.TEST.350
LOG-TCP-CONN-RQ      YES
MEMLEVEL             8
MSGFILE              \NONSTP.$DEV.j3500DAT.MSGFILE
NDMSMGR              $DEV.J3500OBJ.NDMSMGR
NDMSTDL              $DEV.j3500OBJ.NDMSTDL
NETFILE              \NONSTP.$DEV.JS35.NETFILE
NETMAPCHECK          NO
OSSFILES             YES
PORTNUM              11364
PRINTER              $d.#SM
PRTYDEF              10
QUIESCE              YES
RUNTASKMSGID         SRTT010I
```

```
SECFILE             \NONSTP.$DEV.JS35.SECFILE
SECUREPL            \NONSTP.$DEV.j3500SPL
SENDNULLRECS        NO
SENDOPENFILE        WARN
SMNAME              $JH
SMOUT               $d.#SMOUT
STATCRITERIA        10D
STATFILE            \NONSTP.$DEV.JS35.STATFILE
STATMIDNITE         ON
STATPERCENT         50
STATS               ON
STATSRCH            \NONSTP.$DEV.JS35.STATSRCH
STDIN               \NONSTP.$DEV.JS35.NDMINIT
STDOUT              \NONSTP.$D.#JS350
STUTIL              $DEV.j3500OBJ.STUTIL
TCPBUFFSIZE         16000
TCPNAME             $ZTC0
TCQ                 WARM
TCQFILE             \NONSTP.$DEV.js35.TCQHFILE
TCQXFILE            \NONSTP.$DEV.js35.TCQXFILE
TYPEFILE            \NONSTP.$DEV.JS35.TYPEFILE
WINDOWSIZE          15
WTRETRIES           00:03:00
XLFILE              \NONSTP.$DEV.JS35.XLFILE
TCPLISTEN1          $ZTC0 17132
TCPLISTEN2          $ZSAM1 17132
TCPLISTEN3          $ZSAM1 11364
TCPLISTEN4          $ZTC1 17132
TCPLISTEN5          $ZTC1 11364
TCPLISTEN6          $ZSAM2 17132
TCPLISTEN7          $ZSAM2 11364
```

Displaying the Current Sterling Connect:Direct for HP NonStop Environment

Use the ENVIRONMENT command to display the current Sterling Connect:Direct for HP NonStop environment, including the current volume, default system, current obey volume and default Sterling Connect:Direct for HP NonStop Process volume, as set up in the authorization file (AUTHFILE).

Format

Following is the ENVIRONMENT command format:

```
ENVironment
```

Required Parameters

The ENVIRONMENT command has no required parameters.

Optional Parameters

The ENVIRONMENT command has no optional parameters.

Examples

The following command displays the current Sterling Connect:Direct for HP NonStop environment:

```
CD.2>ENVIRONMENT
```

A sample Sterling Connect:Direct for HP NonStop environment follows. The display includes global and user-defined symbols:

```
CD.2.>env
System       : \ESCAPE
Volume       : $DSMSCM.NDM34
Saved volume : $DSMSCM.NDM34
Obey  volume : $DSMSCM.NDM34
Proc  volume : \ESCAPE.$DSMSCM.NDMPROC
Printer      : $S.#SM
NDMCDL file  : \ESCAPE.$work02.NDMOBJ.NDMCDL
USER id      : NDM.USER
NDM Server   : \ESCAPE.$CDV34

Global Symbols :

SYMBOLS                         PARAMETERS
-----------------------------------------------------------
DEFAULTS                       $DSMSCM.NDM34
LOCALNODE                      S7.LOCAL.34
OBEYVOL                        $DSMSCM.NDM34
PROCVOL                        \ESCAPE.$DSMSCM.NDMPROC
STDIN                          \ESCAPE.$ZNTC0.#WINCD0
STDOUT                         \ESCAPE.$ZNTC0.#WINCD0
USERNAME                       NDM.USER
USERNUMBER                     157.214

User Symbols :

SYMBOLS                         PARAMETERS
-----------------------------------------------------------
++ the symbolic variable list is EMPTY
CD.3.>
```

Modify global symbols with the various environment commands described in the following table:

Symbol	Definition	Command to Change Value
DEFAULTS	Displays the current volume.	VOLUME
LOCAL NODE	Displays the local node.	Cannot change the value of the local node. You must delete the local node and use the INSERT NETMAP LOCAL.NODE command to create a new local node with the new name.
OBEYVOL	Displays the default volume used for expansion of the obey file name.	OBEYVOLUME

Symbol	Definition	Command to Change Value
PROCVOL	Displays the default volume used for expansion of the Process file name.	PROCVOL
STDIN	Displays the standard input file.	Cannot change the value of STDIN
STDOUT	Displays the standard output file.	Cannot change the value of STDOUT
USERNAME	Displays the user name used to logon.	LOGON
USERNUMBER	Displays the user number used to logon.	LOGON

Obtaining the Current System Time

Use the TIME command to retrieve the current day, date, and time from the system.

Format

Following is the TIME command format:

```
TIME
```

Required Parameters

The TIME command has no required parameters.

Optional Parameters

The TIME command has no optional parameters.

Example

The following command displays the day, date, and time stamp:

```
CD.2.>time
Monday - July 26, 2008 - 16:15:24.770
CD.3.>
```

Obtaining the Current NDMCOM Version

Use the VERSION command in NDMCOM to retrieve the version, release, and maintenance level of the currently running NDMCOM executable. To identify versions of other executables such as NDMSMGR, use the VPROC utility at a TACL prompt.

```
> VPROC NDMSMGR
```

Format

Following is the VERSION command format:

```
VERsion
```

Required Parameters

The VERSION command has no required parameters.

Optional Parameters

The VERSION command has no optional parameters.

Example

The following command displays release information:

```
CD.52.>ver
Connect:Direct HP NonStop version 3.5.00
COPYRIGHT (C) 1991, 2008  IBM

CD.53.>
```

Defining the Current Volume

Use the VOLUME command to define the current volume during the Sterling Connect:Direct for HP NonStop session. If you do not specify a parameter, Sterling Connect:Direct for HP NonStop sets the current volume to the HP NonStop volume at startup.

Format

Following is the VOLUME command format:

```
VOLume                  \system.$volume.subvol
```

Required Parameters

The VOLUME command has no required parameters.

Optional Parameter

The VOLUME command has the following optional parameter:

Parameter	Description
\system.$volume.subvol	Specifies the system, volume, and subvolume for the Sterling Connect:Direct for HP NonStop volume. The system name is a maximum of 8 characters, including the backslash (\); volume name is a maximum of 8 characters, including the $; and subvolume is a maximum of 8 characters. **Note:** If you specify the system name, the volume name is a maximum of 7 characters, including the $. If you do not specify the system name, the volume name is up to 8 characters. This limitation is a HP NonStop restriction.

Example

The following command defines the actual working volume for the current session:

```
CD.2.>volume $audit.ndmproc
  SAPI138I: (RC=0, FDBK="0")
Current default VOLUME changed to \ESCAPE.$AUDIT.NDMPROC
CD.3.>
```

Chapter 6

Managing Processes

This chapter details format and parameters for Process control commands. *User and Administrator Commands* on page 21 provides a list of the commands with a summary of the tasks each command can perform. These commands are presented in alphabetical order. An example of each command follows the parameter descriptions.

Note: You can also use the Sterling Connect:Direct Browser User Interface to build, submit, and monitor Sterling Connect:Direct Processes from an Internet browser, such as Microsoft Internet Explorer. See the documentation for that product for more information.

Changing Processes

Use the CHANGE PROCESS command to modify Process priority and queue status or to change such job characteristics as destination node, start time, and start date of a nonexecuting Process.

To create a valid command, you must specify *at least one* of the following parameters: LASTPNUMBER, PNAME, PNUMBER, or SUBMITTER. LASTPNUMBER is exclusive of all other required parameters.

Format

Following is the CHANGE PROCESS command format:

```
CHange PROCess          LAstpnumber†
                        PNAME=name|(list)†
                        PNUMber=number|(list)†
                        SUBmitter=(nodeid,group.user)|(nodeid,alias
                        DEST=destination node
                        HOLD=Yes|No|Call
                        CLASS=n
                        PLEXCLASS=string
                        PRTY=n
                        RETAIN=Yes|No|Initial
                        STARTT=([date|day][,hh:mm:ssXM])
                        RELEASE
```

Required Parameters

Required parameters for the CHANGE PROCESS command are:

Parameter	Description
LAstpnumber	Enables you to change the last Process submitted during the current NDMCOM session.
PNAME=name|(list)	Specifies the name of the Process or a list of Process names. Enclose the list in parentheses, and separate each value with a space or comma (,).
PNUMber=number|(list)	Specifies the number of the Process or a list of Process numbers. Enclose the list in parentheses, and separate each value with a space or comma (,). The range is 1–99999.
SUBmitter=(nodeid, group.user) |(nodeid, alias)	Specifies the node ID and guardian userid of the submitting user, or the node ID and alias of the submitting user. **Note:** You cannot use a wildcard with this parameter.

Optional Parameters

Optional parameters for the CHANGE PROCESS command are:

Parameter	Description
CLASS=n	Enables you to change the class of the specified Process in the TCQ. Processes remain in the TCQ until a Session Manager with a class greater than or equal to the class of the Process becomes available. If no such Session Manager becomes available, the Process remains pending in the TCQ. Use the CLASS parameter to delay or expedite the execution of a Process that has already been submitted.
DEST=destination-node	Enables you to change the destination node (SNODE) of a Process in the TCQ.
HOLD=Yes|No|Call	Specifies that Sterling Connect:Direct for HP NonStop places the Process in the Hold queue. Refer to *Sterling Connect:Direct for HP NonStop Components* on page 11 for a description of the TCQ. Yes—Specifies that the Process remains in the Hold queue until one of the following events occur: • A CHANGE PROCESS command releases the Process. • A DELETE PROCESS command deletes the Process. If you specify both HOLD=Yes and a STARTT value, the HOLD specification takes precedence. Therefore, Sterling Connect:Direct for HP NonStop places a Process submitted with HOLD=Yes on the Hold queue, even if you specify a start time. No—Specifies that the Process is executed as soon as possible. Call—Specifies that Sterling Connect:Direct for HP NonStop holds the Process until the specified node starts a Process with the HP NonStop node. **Note:** Sterling Connect:Direct for HP NonStop ignores the HOLD parameter when you specify RETAIN=Yes with HOLD=No or Call.
PLEXCLASS=string	Specifies a user-defined class containing up to 8 characters associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment. This represents a type of server to which you want to submit a Process, for example, TAPE. You may want to modify the PLEXCLASS attribute of a job in the TCQ if the SNODE application rejected the initial process execution because the PLEXCLASS value specified was incorrect.

Parameter	Description
PRTY=n	Specifies a new Process priority in the TCQ. High numbers indicate high priorities; low numbers indicate low priorities. Sterling Connect:Direct for HP NonStop uses the PRTY parameter for Process selection and not for determining the priority during transmission. The range is from 0–15.
RETAIN=Yes|No|Initial	Specifies whether Sterling Connect:Direct for HP NonStop retains a copy of the Process in the TCQ for re-execution after the Process is executed. Yes—Specifies that the system retains the Process after execution. Define RETAIN=Yes in conjunction with the STARTT parameter to specify the day and time to re-execute the Process. **Note:** Do not define a date value in the STARTT parameter when you specify RETAIN=Yes. No—Specifies that the system deletes the Process after execution. Initial—Specifies that the system retains the Process in the TCQ for automatic execution every time Sterling Connect:Direct for HP NonStop is initialized. **Note:** Do not define the STARTT parameter when you specify RETAIN=Initial.
STARTT=([date|day] [,hh:mm:ssXM])	Specifies that the Process is executed on the specified date, day, or time. The date, day, and time are positional parameters. If you do not specify the date or day, a comma (,) must precede the time. **Note:** Do not define the STARTT parameter when you specify RETAIN=Initial. When you do not use delimiters (/ or .), you must specify single-digit days and months in double-digit format. Without delimiters, January 5, 1997 is represented as 01051997 or 19970105. If you only specify the date, the time defaults to 00:00. **Note:** Do not define a date in the STARTT parameter when you specify RETAIN=Yes. date—Specifies the day (dd), month (mm), year (yy), and century (cc). day—Specifies the day of the week. Valid names are MOnday, TUesday, WEdnesday, THursday, FRiday, SAturday, and SUnday. If you specify the day of the week with RETAIN=Yes— the Process is executed the same day every week. hh:mm:ssXM—Indicates the time of day in hours (hh), minutes (mm), and seconds (ss) that the Process is released for execution. XM can be set to AM or PM. Express the hour in either 12- or 24-hour format. If you use the 12-hour format, then you must specify AM or PM. The default is the 24-hour format. You can also specify the relative values TODAY or TOMORROW and NOON or MIDNIGHT. For more information, see *Date Formats* on page 79.
RELEASE	Specifies that a held, retained, or suspended Process is moved to the Wait queue for execution.

Date Formats

Define the date in one of the following formats:

Order	Format
year,month,day	ccyymmdd ccyy/mm/dd ccyy.mm.dd

Order	Format
month,day,year	mmddyy mm/dd/yy mm.dd.yy mmddccyy mm/dd/ccyy mm.dd.ccyy
Julian dates	yyddd (Julian date) yy/ddd (Julian date) yy.ddd (Julian date) ccyyddd (Julian date) ccyy/ddd (Julian date) ccyy.ddd (Julian date)

Examples

The following command changes the Process named ACCTPROC to a new destination node called mvsnode.b. CUPERTINO. The Process is scheduled for execution at 11:00 pm on December 12, 2008:

```
CD.17.>change process pname accntproc startt=(12/12/2008,23:00:00) dest=mvsnode.b
      SSRV135I: (RC=0, FDBK="0")
Process 77401 changed
  SAPI204I: (RC=0, FDBK="0")
CHange command successfully completed.
CD.18.>
```

The following command moves Process number 37 from the Hold or Timer queue to the Wait queue for execution:

```
CD.12.>ch proc pnum 37 release
  SSRV135I: (RC=0, FDBK="0")
Process 37 changed
  SAPI204I: (RC=0, FDBK="0")
CHange command successfully completed.
CD.13.>
```

The following command changes a Process submitter class from 4 to 2.

```
CD.7.>SEL PROC DETAIL
================================================================================
3.5.00                    S E L E C T    P R O C E S S
================================================================================
Process Name    => S75CRC     Submitter=> NSTOP.TEST.350   NDM.USER
Process Number  => 36140      Snode    => S7.TEST.35       Queue   => Timer
Submitter Class => 4          PlexClass=>                  Priority=> 10
Process File    => \NONSTP.$DEV.JSPROC.S75SMALL            Retain  =>
________________________________________________________________________________
CD.8.>CHange PROC PNUM 36140 CLASS=2
  SSRV135I: (RC=0, FDBK="0")
Process 36140 changed
  SAPI204I: (RC=0, FDBK="0")
CHange command successfully completed.
CD.9.>sel proc detail
================================================================================
3.5.00                    S E L E C T    P R O C E S S
================================================================================
Process Name    => S75CRC     Submitter=> NSTOP.TEST.350   NDM.USER
Process Number  => 36140      Snode    => S7.TEST.35       Queue   => Timer
Submitter Class => 2          PlexClass=>                  Priority=> 10
Process File    => \NONSTP.$DEV.JSPROC.S75SMALL            Retain  =>
________________________________________________________________________________
```

Deleting Processes

Use the DELETE PROCESS command to remove a nonexecuting Process from the TCQ. To create a valid command, you must specify *at least one* of the parameters LASTPNUMER, PNAME, PNUMBER, SUBMITTER, or DESTINATION. LASTPNUMBER is exclusive of all other required parameters.

Format

Following is the DELETE PROCESS command format:

```
DELete PROCess          LAstpnumber†
                        PNAME=name|(list)†
                        PNUMber=number|(list)†
                        SUBmitter=(nodeid,group.user)|(nodeid,alias)
                        DESTination=nodeid|(list)
```

Required Parameters

Required parameters for the DELETE PROCESS command are as follows:

Parameter	Description
LAstpnumber	Enables you to delete the last Process submitted during the current NDMCOM session.
PNAME=name|(list)	Specifies the name of the Process or a list of Process names. Enclose the list in parentheses, and separate each value with a space or comma (,).
PNUMber=number|(list)	Specifies the number of the Process or a list of Process numbers. Enclose the list in parentheses, and separate each value with a space or comma (,). The range is from 1–99999.
SUBmitter=nodeid,group.user)|(nodeid,alias)	Specifies the node ID and guardian user ID of the submitting user, or the node ID and alias of the submitting user. **Note:** You cannot use a wildcard with this parameter.
DESTination | SNODE=nodeid|(list)	Enables you to delete the Process or list of Processes for a specific SNODE from the Transmission Control Queue (TCQ) with one command. Enclose the list in parentheses, and separate each value with a space or comma (,). DESTination is an alias for SNODE; you can use either to delete Process(es) for a specific SNODE. **Note:** SEL PROC is only one letter away from DEL PROC and the letters S and D are adjacent on the US keyboard. Be careful when selecting Processes for display that you not accidentally delete them.

Optional Parameters

The DELETE PROCESS command has no optional parameters.

Example

Delete Processes by PNAME

The following command deletes all non-executing Processes with the name FN131A:

```
CD.19.>del proc pname fn131a
  SSRV133I: (RC=0, FDBK="0")
Process 77407 deleted
  SSRV133I: (RC=0, FDBK="0")
Process 77408 deleted
  SSRV133I: (RC=0, FDBK="0")
Process 77409 deleted
  SAPI205I: (RC=0, FDBK="0")
DELete command successfully completed.
CD.20.>
```

Delete Processes by SNODE

The following command deletes all non-executing Processes on the SNODE OS400.test.361. Note that the DELete PROCess command specifies SNODE as the keyword.

```
CD.3.>sel proc detail
================================================================================
3.5.00                    S E L E C T    P R O C E S S
================================================================================
Process Name    => TO400      Submitter=> NSTOP.TEST.350   DEV.USER
Process Number  => 36088      Snode    => OS400.TEST.361   Queue   => Hold
Submitter Class => NONE       PlexClass=>                  Priority=> 10
Process File    => \NONSTP.$DEV.T5PROC.TO400               Retain  =>
CD.4.>del proc snode OS400.test.361
  SSRV133I: (RC=0, FDBK="0")
Process 36088 deleted
  SAPI205I: (RC=0, FDBK="0")
DELete command successfully completed.
```

Deleting an Executing Process

Use the FLUSH PROCESS command to delete an executing Process. If you submit a Process with the parameter RETAIN=Yes, the flushed Process remains on the TCQ for execution at the next scheduled time. If you submit the Process with the parameter RETAIN=No, Sterling Connect:Direct for HP NonStop removes the flushed Process from the TCQ and you must resubmit it for execution. Refer to *Understanding the Transmission Control Queue* on page 35 for a description of the TCQ.

To create a valid command, you must fully qualify *at least one* of the following parameters: LASTPNUMBER, PNAME, PNUMBER, or SUBMITTER.

Format

Following is the FLUSH PROCESS command format:

```
FLUSH PROCess          LAstpnumber†
                       PNAME=name|(list)†
                       PNUMber=number|(list)†
                       SUBmitter=(nodeid,group.user)|(nodeid,alias)†
                       FORCE
```

Required Parameters

The required parameters for the FLUSH PROCESS command are:

Parameter	Description
LAstpnumber	Enables you to flush the last Process submitted during the current NDMCOM session. LASTPNUMBER is exclusive of all other required parameters.
PNAME=name|(list)	Specifies the name of the Process or a list of Process names. Enclose the list in parentheses, and separate each value with a space or comma (,).

Parameter	Description
PNUMber=number|(list)	Specifies the number of the Process or a list of Process numbers. Enclose the list in parentheses, and separate each value with a space or comma (,). The range is 1–99999.
SUBmitter=(nodeid,group.user) |(nodeid,alias)	Specifies the node ID and guardian userid of the submitting user, or the node ID and alias of the submitting user. **Note:** You cannot use a wildcard in conjunction with this parameter.

Optional Parameter

The FLUSH PROCESS command has the following optional parameter:

Parameter	Description
FORCE	Enables you to flush a Process that is waiting for unavailable resources.

Example

The following command flushes Process PNUM 7002.

```
CD.42.>flush proc pnum 7002
  SSRV130I: (RC=0, FDBK="0")
Process 7002 flushed
  SAPI206I: (RC=0, FDBK="0")
FLUSH command successfully completed.
CD.43.>
```

Determining the Number of the Last Submitted Process

Use the LASTPNUMBER command to determine quickly the number of the last Process submitted during the current NDMCOM session.

Format

Following is the LASTPNUMBER command format:

```
LAstpnumber
```

Required Parameters

The LASTPNUMBER command has no required parameters.

Optional Parameters

The LASTPNUMBER command has no optional parameters.

Example

The following example shows the output from issuing the LASTPNUMBER command:

```
CD.77.>lastp
Last Process Number Submitted: 1312
CD.78.>
```

Resetting the Last Process Number in the TCQ

The SETPNUM utility is a batch program supplied with the Sterling Connect:Direct for HP NonStop installation file set. It may be used to reset the LASTPNUMBER value stored in the TCQ header file. Process numbers are normally assigned sequentially and increment from 1 to 99999, but the SETPNUM utility can change the current value at the user's discretion. The program is normally run from a TACL prompt. It is not necessary to stop Sterling Connect:Direct for HP NonStop to run SETPNUM.

Format

Following is the SETPNUM command format:

```
[RUN] SETPNUM tcqxfile nnnnn
```

Required Parameters

Following are the SETPNUM command required parameters.

Parameter	Description
tcqxfile	The name of the TCQ header file (the one with an alternate key file).
nnnnn	The new value to be assigned to LASTPNUMBER.

Optional Parameters

The SETPNUM command has no optional parameters.

Example

The following example illustrates the SETPNUM command. After the utility executes, the next Process submitted on the local node would be assigned Process number 5001.

```
$WORK02 NDM34 378> setpnum tcqxfile 5000
PID: 1,392 $SYSTEM.SYSTEM.SETPNUM

  Updating the TCQ Header File \ESCAPE.$WORK02.NDM34.tcqxfile.

  The LAST PNUMBER is currently set to the value 79399.

  The LAST PNUMBER has been successfully updated to the value 5000.

  Normal Termination ...

$WORK02 NDM34 379>
```

Monitoring Processes

Use the SELECT PROCESS command to monitor both executing Processes and Processes waiting for execution. Sterling Connect:Direct for HP NonStop generates a report that includes the Process name and number, submitter node and ID, destination node, and the queue based on the selection criteria specified. You can print or display the report online.

Format

Following is the SELECT PROCESS command format:

```
SELect PROCess          DEST=node|(list)
                        PNAME=name|(list)
                        PNUMber=number|(list)
                        SUBmitter=(nodeid,group.user)|(nodeid,alias)
                        QUEUE=ALL|BAD|CALL|EXEC|HOLD|INITIAL|PENDING|RETAIN|SUSPEND|
                              TIMER|WAIT|RETTIMER
                        OUT=filename
                        PRint
                        FILE
                        DETail
                        LAstpnumber
                        SOURCE
```

Required Parameters

The SELECT PROCESS command has no required parameters.

Note: If you do not specify an optional parameter, Sterling Connect:Direct for HP NonStop selects all Processes executing or waiting for execution.

Optional Parameters

Optional parameters for the SELECT PROCESS command are:

Parameter	Description
DEST=node|(list)	Specifies that Sterling Connect:Direct for HP NonStop search for the Process by destination node name. You can specify a list of destinations. Enclose the list in parentheses, and separate each value with a space or comma (,).
PNAME=name|(list)	Specifies the name of the Process or a list of Process names. Enclose the list in parentheses, and separate each value with a space or comma (,).
PNUMber=number|(list)	Specifies the number of the Process or a list of Process numbers. Enclose the list in parentheses, and separate each value with a space or comma (,). The range is from 1–99999.
SUBmitter= (nodeid,group.user) |(nodeid,alias)	Specifies the node name and user ID in group.user format or node name and alias of the Process submitter. **Note:** You cannot use a wildcard with this parameter.
QUEUE=ALL| BAD|CALL | EXEC| HOLD | INITIAL| PENDING | RETAIN | SUSPEND | TIMER | WAIT | RETTIMER	Specifies to select all Processes on a certain queue. If you do not specify the QUEUE parameter, Sterling Connect:Direct for HP NonStop includes all queues in the report. Refer to Chapter 3, *Queuing Processes*, for a description of each queue. **Note:** You can also enter the first letter of a Queue status as a shortcut, such as QUEUE=H to select all Processes being held.
OUT=filename	Specifies the file where Sterling Connect:Direct for HP NonStop routes the output.
PRint	Specifies that Sterling Connect:Direct for HP NonStop route the output of the SELECT PROCESS command to the default printer. Printed output is in tabular format.
FILE	Specifies that Sterling Connect:Direct for HP NonStop pass back the selected unformatted control block (CB) records.
DETail	Specifies that Sterling Connect:Direct for HP NonStop generate a detailed report of the selected Process(es). Refer to the section *Detailed Report* on page 89 for a sample detailed report.
LAstpnumber	Specifies to select the last Process submitted.
SOURCE	Recreates the original Process script as it was submitted to create the entry in the Transmission Control Queue (TCQ). This is useful if the source of the original Process is no longer available. The SOURCE keyword produces the Process from the selected TCQ entry. Use with the OUT parameter to route the Process script output to a specified file. If OUT is not specified, the Process script is routed to the requesting terminal. For an example, see *Script Source Recovery* on page 88. **Note:** Passwords are not recovered from the TCQ: they show as XXXXXXXX.

Example

Script Source Recovery

In this example, assume that the following script is contained in a file called test01 and has been submitted and run from the RETAIN queue for some time:

```
test01 PROCESS SNODE=FRAN.3600  snodeid=(CDDV3500,CDDV3500) CLASS = 1
       SYMBOL     &FROM= /home/tmp/fromtand.txt
       SYMBOL     &TO1 = \NONSTP.$dev.jsdata.UNIXTST3 -
nstp34ps COPY FROM (ioexit=abc sql=abc dbparms=123 -
                    PNODE DISP=(SHR,KEEP,KEEP)) -
              TO   (ioexit=(abc, parm1) dbparms=987 sql=cde -
                    SNODE DISP=(shr,keep,keep)
```

Now, you need to modify the Process but have no idea where the original Process script is. To recover the script and not have to start from scratch, use the SOURCE parameter in the SELECT PROCESS command. To save the output in a file which you can edit, specify the OUT parameter and call the output file *newtest01*. To accomplish this, you execute the following command:

```
SEL PROC TEST01 SOURCE OUT=NEWTEST01
```

The output is as follows:

```
TEST01        PROCESS SNODE=FRAN.3600        -
                      SNODEID=(CDDV3500,XXXXXXXX) -
                      PNODEID=(DEV.USER,XXXXXXXX) -
                      CLASS=1
NSTP34PS      COPY FROM (PNODE -
                      DISP=(S,K,K) -
                      IOEXIT=\NONSTP.$DEV.SFDATA.ABC -
                      SQL=(ABC ) -
                      DBPARMS=(123 ))-
                    TO (SNODE -
                      DISP=(S,K,K) -
                      IOEXIT=(ABC,PARM1) -
                      SQL=(CDE ) -
                      DBPARMS=(987 ))
```

Note that passwords are not recovered; they display as X’s.

Short Report

The following command displays a short report for the specified Process number.

```
SELECT PROCESS PNUMBER=1
```

Output from the preceding command follows:

```
CD.5.>sel proc pnum=1
================================================================================
PNAME    PNUM   SUBMITTER NODE    SUBMITTER ID      OTHER NODE        QUEUE
================================================================================
DALLAS   1      S74.DALLAS        OPR.SMITH         IBM.MVS           Wait
CD.6.>
```

The following table contains a description of each field in the report:

Parameter	Description
PNAME	Specifies the label on the PROCESS statement.
PNUMBER	Specifies the Process number Sterling Connect:Direct for HP NonStop or an adjacent node assigns when the Process is successfully submitted.
SUBMITTER NODE	Specifies the name of the node submitting the Process.
SUBMITTER ID	Specifies the HP NonStop user name of the submitter.
OTHER NODE	Specifies the name of the other node participating in the transmission.
QUEUE	Indicates the state of the submitted Process(es).

Detailed Report

The following command displays a detailed report for a specified Process number:

```
SELECT PROCESS PNUMBER=1 DETAIL
```

Output from the preceding command follows:

```
CD.13.>sel proc pnum=1 detail
================================================================================
3.5.00                    S E L E C T    P R O C E S S
================================================================================
Process Name    => DALLAS     Submitter=> S74.DALLAS       OPR.SMITH
Process Number  => 1          Snode    => IBM.MVS          Queue   => Exec
Submitted Class => NONE       PlexClass=> TAPE             Priority=> 10
Schedule time   => 09:18:15.0 Date/Day => 07.27.2004
Process File    => \ESCAPE.$A.NDMPROCX.DALLAS              Retain  =>
Executing LU    => \ESCAPE.$L1.#L02
CRC Check       => ON
Step Name       => PULL       Function => COPY           Exec node =>
Execution Class => 1          State    => Exec Prc+PC\Recv data_ru
--->=SENDING
FROM FILE => BARTON.DATA.ACH
TO FILE   => \ESCAPE.$DATA04.ACHDATA.TODAY
FILE SIZE  => 819200
Rcvd:Bytes=> 102400           Recs=> 128
Xmit Bytes=> 114688           RUs => 28
________________________________________________________________________________
CD.14.>
```

The following table contains a description of each field in the report:

Parameter	Description
Process Name	Specifies the label on the PROCESS statement.
Submitter	Specifies the name of the node submitting the Process. In this example, OPR.SMITH is the HP NonStop user name of the submitter.
Process Number	Specifies the number Sterling Connect:Direct for HP NonStop assigns when the Process is successfully submitted.
Snode	Specifies the name of the other node participating in the transmission.
Queue	Indicates the state of the submitted Process.
Submitted Class	Defines the class of the submitted Process.
PlexClass	Specifies a user-defined class associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment, for example, TAPE.
Priority	Indicates the priority of the Process in the TCQ. This priority, used for Process selection, does not affect HP NonStop priority.
Schedule time	Indicates the time a Process is scheduled for execution. This field is only used if a Process is submitted with a STARTT parameter.
Date/Day	Indicates the day or date or both that a Process is scheduled for execution. This field is only used if a Process is submitted with a STARTT parameter.
Process File	Specifies the name of the file containing the submitted Process.
Retain	Indicates that the Process was submitted with the RETAIN parameter, which keeps a copy of a Process in the TCQ after it is executed.
Executing LU	Specifies the name assigned to the executing SNAX, TCP LU, or ICE LU.
CRC Check	Indicates whether Cyclic Redundancy Checking (CRC) checking is enabled.
Step Name	Specifies the name of the label in the Process that is currently being executed.
Function	Describes the Sterling Connect:Direct for HP NonStop internal task being performed.
Exec node	Specifies a node on which to perform the function specified in the Process being executed.
Execution Class	Defines the session used for the transfer.
State	Specifies the stage of Process execution.
SENDING	Defines the direction of the data transmission.
FROM FILE	Specifies the name of the file being transmitted.
TO FILE	Specifies the name of the file to receive the transmission.
FILE SIZE	Indicates the size of the file.
Rcvd:Bytes	Indicates the number of bytes received during the session.
Rcvd:Recs	Indicates the number of records received.
Xmit Bytes	Indicates the number of bytes transmitted during the session (including Sterling Connect:Direct for HP NonStop control information and access method overhead).
Xmit:RUs	Indicates the number of request units transmitted.

Submitting a Process for Execution

Use the SUBMIT command to submit a Process to the TCQ for execution. Optional parameters specified on the SUBMIT command override any corresponding parameters specified on the PROCESS statement.

Format

Following is the SUBMIT command format:

```
SUBMIT                  DSN=filename†
                        FILE=filename†
                        PROC=filename†
                        CLASS=n
                        HOLD=Yes|No|Call
                        NEWNAME=newname
                        PACCT='pnode-accounting-data'
                        PLEXCLASS=string
                        PNODE=primary-node-name
                        PNODEID=(id,pswd)
                        PRTY=n
                        RETAIN=Yes|No|Initial
                        SACCT='snode-accounting-data'
                        SNODE=secondary-node-name
                        SNODEID=(id|alias[,pswd][,newpswd])
                        STARTT=([date|day][,hh:mm:ssXM])
                        &symbolic_name_1=variable-string-1
                        &symbolic_name_2=variable-string-2
                        .
                        .
                        .
                        &symbolic_name_n=variable-string-n
```

† To create a valid command, you must fully qualify *at least one* of the following required parameters: PROC, DSN, or FILE.

Required Parameters

Required parameters for the SUBMIT command are:

Parameter	Description
DSN=filename	Specifies the name of the file that contains the Process. If the name is not fully qualified, Sterling Connect:Direct for HP NonStop searches for the file name in the procvolume (PROCVOL) set in the environment. If it is not located, Sterling Connect:Direct for HP NonStop searches for the file name in the current volume and subvolume.
FILE=filename	Specifies the name of the file that contains the Process. If the name is not fully qualified, Sterling Connect:Direct for HP NonStop searches for the file name in the procvolume (PROCVOL) set in the environment. If it is not located, Sterling Connect:Direct for HP NonStop searches for the file name in the current volume and subvolume.
PROC=filename	Specifies the name of the file that contains the Process. If the name is not fully qualified, Sterling Connect:Direct for HP NonStop searches for the file name in the procvolume (PROCVOL) set in the environment. If it is not located, Sterling Connect:Direct for HP NonStop searches for the file name in the current volume and subvolume.

Optional Parameters

Optional parameters for the SUBMIT command are:

Parameter	Description
CLASS=n	Determines the node-to-node session on which a Process can execute. Each LU has an assigned default class value that enables 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 you specify a class of 1, a Process runs on the first available LU. If you do not specify a CLASS value in the PROCESS statement or in this command, CLASS defaults to the default class specified in the PARSESS parameter of the adjacent node network map record.
HOLD=Yes|No|Call	Specifies that Sterling Connect:Direct for HP NonStop place the Process in the Hold queue. Yes—Specifies that the Process remain in the Hold queue until a CHANGE PROCESS command releases the Process or a DELETE PROCESS command deletes the Process. If you specify both HOLD=Yes and a STARTT value, the HOLD specification takes precedence. Therefore, Sterling Connect:Direct for HP NonStop places a Process submitted with HOLD=Yes on the Hold queue, even if you specify a start time. No—Specifies that the Process is executed as soon as possible. This is the default. Call—Specifies that Sterling Connect:Direct for HP NonStop hold the Process until the specified node starts a Process with the HP NonStop node.
NEWNAME=newname	Specifies the new name given to the Process. The default is the label on the PROCESS statement.
PACCT='pnode-accounting-data'	Specifies the accounting data for the PNODE. The maximum length of the accounting data is 256 characters. If special characters are part of the accounting data, enclose the string in single quotation marks.
PLEXCLASS=string	Specifies a user-defined class containing up to 8 characters associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment. This represents a type of server to which you want to submit a Process, for example, TAPE.
PNODE=primary-node-name	Specifies the 1–16 alphanumeric character name of the primary node. The PNODE controls the execution of the Process. **Note:** The PNODE must be the same as the submitter node. The default value for PNODE is the value defined in the PROCESS statement.
PNODEID=(id|alias,pswd)	Specifies security user IDs and passwords at the PNODE. id—Specifies the HP NonStop group number and user number. These numbers can range from 0–255 and are separated by a period (.). Other operating environments limit the security ID to 1–8 alphanumeric characters. alias—Specifies the user records to select in the AUTHFILE. You can enter 1–17 alphanumeric characters including underscores, hyphens, and periods. The first character *must* be alphabetic. pswd—Specifies the current security password. This parameter is used by the security exit to validate the current security password and is 1–8 alphabetic characters.

Parameter	Description
PRTY=n	Specifies the Process priority in the TCQ. High numbers indicate high priorities; low numbers indicate low priorities. Sterling Connect:Direct for HP NonStop uses the PRTY parameter for Process selection and not for determining the priority during transmission. The range is from 0–15. If you do not specify PRTY, the default is the priority defined during Sterling Connect:Direct for HP NonStop installation.
RETAIN=Yes|No| Initial	Specifies whether Sterling Connect:Direct for HP NonStop retains a copy of the Process in the TCQ for reexecution after the Process is executed. Yes—Specifies that the system retains the Process after execution. Define RETAIN=Yes in conjunction with the STARTT parameter to specify the day and time to reexecute the Process. If you specify RETAIN=Yes, Sterling Connect:Direct for HP NonStop automatically holds the Process until you release it, unless you include the STARTT parameter in your Process. **Note:** Do not define a date value in the STARTT parameter when you specify RETAIN=Yes. No—Specifies that the system deletes the Process after execution. Initial—Specifies that the system retains the Process in the TCQ for automatic execution every time Sterling Connect:Direct for HP NonStop is initialized. This is the default. **Note:** Do not define the STARTT parameter when you specify RETAIN=Initial.
SACCT='snode-accounting-data'	Specifies the accounting data for the SNODE. The maximum length of the accounting data is 256 characters. If you include special characters in the accounting data, enclose the string in single quotation marks.
SNODE=secondary-node-name	Specifies a 1–16 alphanumeric character name is the node name of the secondary node.
SNODEID=(id|alias [,pswd] [,newpswd])	Specifies security USERIDs and security passwords at the SNODE. **Note:** For Sterling Connect:Direct for HP NonStop, the security USERIDs and passwords are case sensitive. id—Specifies the HP NonStop group number and user number. These numbers can range from 0–255 and are separated by a period (.). Other operating environments limit the security ID to 1–8 alphanumeric characters. alias—Specifies the user records to select in the AUTHFILE. You can enter 1–17 alphanumeric characters including underscores, hyphens, and periods. The first character *must* be alphabetic. pswd—Specifies the current security password. The security exit uses this parameter to validate the current security password. The password can range from 1–8 alphanumeric characters. **Note:** The VSE (prior to release 2.1.00) nodes and VM nodes only recognize passwords specified in 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 (1–8 alphanumeric characters). You can only change the password on the HP NonStop node if SAFEGUARD is running. **Note:** If the SNODE is an i5/OS node, Sterling Connect:Direct for HP NonStop ignores this subparameter.

Parameter	Description
STARTT=([date|day][,hh:mm:ssXM])	Specifies the date, day, or time to begin the Process. The date, day, and time are positional parameters. If you do not specify the date or day, a comma (,) must precede the time. **Note:** Do not define the STARTT parameter when you specify RETAIN=Initial. date—Specifies the day (dd), month (mm), year (yy), and century (cc). When you do not use delimiters (/ or.), you must specify single-digit days and months in double-digit format. Without delimiters, January 5, 1997 is represented as 01051997 or 19970105. If you only specify the date, the time defaults to 00:00. **Note:** Do not define a date in the STARTT parameter when you specify RETAIN=Yes. day—Specifies the day of the week. Valid names are MOnday, TUesday, WEdnesday, THursday, FRiday, SAturday, and SUnday. If you specify the day of the week with RETAIN=Yes, the Process is executed the same day every week. If you specify only the day value, the time defaults to 00:00. For example, if you submit a Process on Monday, with Monday as the only STARTT parameter, the Process does not run until the following Monday. hh:mm:ssXM—Indicates the time of day in hours (hh), minutes (mm), and seconds (ss). You can set XM to AM or PM. You can express the hour in either 12- or 24-hour format. If you use 12-hour format, then you must specify AM or PM. The default is the 24-hour format. If you define hh:mm:ssXM with RETAIN=Yes, the Process is executed the same time every day. Minutes and seconds are not required. You can also specify the relative values TODAY or TOMORROW and NOON or MIDNIGHT. For more information, see *Date Formats* on page 79.
&symbolic_name_1=variable-string-1 &symbolic_name_2=variable-string-2 . . . &symbolic_name_n=variable-string-n	Specifies the default value to substitute for the symbolic parameter in the Process. You can specify a null value when the equal (=) sign is immediately followed by a comma (,). Enclose a symbolic parameter containing special characters in single quotation marks.

Examples

The following command submits the Process named PAYROLL. Because the RETAIN=Yes parameter is specified, the Process is retained after execution. Process accounting data is specified for the PNODE:

```
CD.31.>sub proc=payroll retain=y pacct='1959,DEPT-27'
Tuesday - July 27, 2008 - 09:26:04.020
  SSRV101I: (RC=0, FDBK="0")
Process submitted successfully. Process number : 612
File name    : \ESCAPE.$A.NDMPROCX.PAYROLL
Process name : PAYROLL    Submit time : 07/27/2008 09:26:03.75
CD.32.>
```

The following command submits the Process named COPYSEQ, which copies the file, MYFILE, to Chicago. The value for &DSN (MYFILE) is substituted in the Process. Here is the command followed by the output:

```
CD.43.>sub proc=copyseq snode=chicago &dsn=myfile
Tuesday - July 27, 2008 - 10:12:15.137
  SSRV101I: (RC=0, FDBK="0")
Process submitted successfully. Process number : 637
File name    : \ESCAPE.$A.NDMPROCX.COPYSEQ
Process name : COPYSEQ    Submit time : 07/27/2008 10:12:15.14
CD.44.>
```

Moving an Executing Process to the Hold Queue

Use the SUSPEND PROCESS command to place an executing Process on the Hold queue. Release the held Process with the command CHANGE PROCESS RELEASE.

Format

Following is the SUSPEND PROCESS command format:

```
SUSpend PROCess          LAstpnumber†
                         PNAME=name|(list)†
                         PNUMber=number|(list)†
                         SUBmitter=(nodeid,group.user)|(nodeid,alias)†
                         FORCE
```

† To create a valid command, you must specify *at least one* of the following parameters: LAstpnumber, PNAME, PNUMber, or SUBmitter.

Required Parameters

Required parameters for the SUSPEND PROCESS command are:

Parameter	Description
LAstpnumber	Enables you to suspend the last Process submitted. LAstpnumber is exclusive of all other required parameters.
PNAME=name|(list)	Specifies the name of the Process or a list of Process names. Enclose the list in parentheses, and separate each value with a space or comma (,).
PNUMber=number|(list)	Specifies the number of the Process or a list of Process numbers. Enclose the list in parentheses, and separate each value with a space or comma (,). The range is from 1–99999.
SUBmitter=(nodeid,group.user) |(nodeid,alias)	Specifies the node ID and guardian user ID of the submitting user, or the node ID and alias of the submitting user. **Note:** You cannot use a wildcard with this parameter.

Optional Parameter

The SUSPEND PROCESS command has the following optional parameter:

Parameter	Description
FORCE	Enables you to suspend a Process that is waiting for unavailable resources.

Examples

Following is an example of a SUSPEND command, using the Process number as the selection criterion.

```
CD.11.>suspend process pnum=5004
  SSRV131I: (RC=0, FDBK="0")
Process 5004 suspended
  SAPI209I: (RC=0, FDBK="0")
SUSpend command successfully completed.
CD.12.>
```

Chapter 7

Viewing System Files

This chapter details the formats and parameters required to view certain system files. *User and Administrator Commands* on page 21 provides a list of the user and administrative commands with a summary of the tasks each command can perform. These commands are presented in alphabetical order. An example of each command follows the parameter descriptions.

Referencing the Network Map

Use the SELECT NETMAP command to reference the network map for definitions of local and adjacent nodes, API managers, LUs, or LOGMODES you are authorized to use.

You can specify whether the output from this command is displayed, printed, or sent to a file.

Note: Fields without information are excluded from the output.

Format

Following is the SELECT NETMAP command format:

```
SELect NETmap           ADJacent=*|generic|(list)
                        NODE=*|generic|(list)
                        AMGR=*|generic|(list)
                        LU=*|generic|(list)
                        LOGMODE=name|generic|(list)
                        SOURCE
                        FILE
                        PRint
                        OUT=filename
```

Required Parameters

The SELECT NETMAP command has no required parameters. If a specific node or LU is not specified, Sterling Connect:Direct for HP NonStop selects all network map entries, including nodes, API managers, LUs, and LOGMODES.

Optional Parameters

Optional parameters for the SELECT NETMAP command are:

Parameter	Description
ADJacent=*|generic|(list)	Specifies that only adjacent nodes are to be selected in the network map. *—Specifies all adjacent nodes. **Note:** If you specify only an asterisk (*), the system displays (or prints) a report of the adjacent nodes you are authorized to use. generic—Specifies generic selection of node names for a partial match. To specify node names generically, type a 1–7 alphanumeric string plus an asterisk (*). For example, if your network includes nodes named PHOENIX, SANDIEGO, SANFRAN, and TUCSON, a specification of SAN* provides information about the SANDIEGO and SANFRAN nodes. list—Specifies multiple node names. Enclose the list in parentheses, and separate each value with a space or comma (,). You can also specify wildcards for generic operands. For example: sel net adj (a*, f*, denver)
NODE=*|generic|(list)	Specifies the node names to be selected in the network map. *—Specifies all nodes. **Note:** If you specify only an asterisk (*), the system displays (or prints) a report of the nodes you are authorized to use. generic—Specifies generic selection of node names for a partial match. To specify node names generically, type a 1–16 alphanumeric string plus an asterisk (*) with the first character alphabetic. list—Specifies multiple node names. Enclose the list in parentheses, and separate each value with a space or comma (,). You can also specify wildcards for generic operands. For example: sel net adj (a*, f*, denver)
AMGR=*|generic|(list)	Specifies that only API manager records are to be selected in the network map. *—Specifies all API manager records. **Note:** If you specify only an asterisk (*), the system displays (or prints) a report of the AMGRs you are authorized to use. generic—Specifies generic selection of API manager records for a partial match. To specify AMGRs generically, type a 1–25 alphanumeric string plus an asterisk (*) with the first character alphabetic. list—Specifies multiple AMGRs. Enclose the list in parentheses, and separate each value with a space or comma (,). You can also specify wildcards for generic operands. For example: sel net adj (a*, f*, denver)
LU=*|generic|(list)	Specifies the LUs to select in the network map. *—Specifies all LU records. **Note:** If you specify only an asterisk (*), the system displays (or prints) a report of the LUs you are authorized to use. generic—Specifies generic selection of LU records for a partial match. To specify LUs generically, type a 1–25 alphanumeric string plus an asterisk (*). You can fully qualify the name, which includes the system name if it differs from the home system. list—Specifies multiple LUs. Enclose the list in parentheses, and separate each value with a space or comma (,). You can also specify wildcards for generic operands. For example: sel net adj (a*, f*, denver)

Parameter	Description
LOGMODE=*|generic|(list)	Specifies the LOGMODEs in the network map to select. *—Specifies all LOGMODEs. **Note:** If you specify only an asterisk (*), the system displays (or prints) a report of the LOGMODEs you are authorized to use. generic—Specifies generic selection of LOGMODE records for a partial match. To specify LOGMODEs generically, type a 1–7 alphanumeric string plus an asterisk (*) with the first character alphabetic. You can fully qualify the name, which includes the system name if it differs from the home system. The system displays (or prints) a report of the LUs you are authorized to use. list—Specifies multiple LOGMODE names. Enclose the list in parentheses, and separate each value with a space or comma (,). You can also specify wildcards for generic operands. For example: sel net adj (a*, f*, denver)
SOURCE	Specifies that Sterling Connect:Direct for HP NonStop generates source statements from the network map.
FILE	Specifies that Sterling Connect:Direct for HP NonStop pass back the selected unformatted control block (CB) network map records.
PRint	Specifies that Sterling Connect:Direct for HP NonStop routes the output of the SELECT NETMAP command to the default printer. Printed output is in tabular format.
OUT=filename	Specifies the file where Sterling Connect:Direct for HP NonStop routes the output.

Examples

The following command displays the adjacent nodes with which HPNONSTOP.NODE can communicate. The asterisk specification lists all adjacent nodes in the network map. Sterling Connect:Direct for HP NonStop directs the output to the ALLNODES file in the current volume and subvolume.

```
CD.17.>SELECT NETMAP NODE=* OUT=ALLNODES
```

Output from the preceding command follows:

```
CD.17.> sel net node=*
================================================================================
3.5.00               S E L E C T    N E T W O R K    M A P
================================================================================
Local Node    => HPNONSTOP.NODE
________________________________________________________________________________
Adjacent Node => CCAPI
Node Type     => NDM.API
Maxretry      => 7
IPaddr        => 10.20.4.131
API Mgr List  => \ESCAPE.CCENTER
________________________________________________________________________________
Adjacent Node => CD.OS390.1STBANK
Node Type     => NDM.zOS
Maxretry      => 7
Applid        => M1CDD7F7
IPaddr        => 10.20.129.145
Portnum       => 8039
Secure        => PAYROLL
CRC Check     => ON
TCPNAME       => $ZTC0
LU List       => \ESCAPE.$TKN6.#LU24082      \ESCAPE.$TKN6.#LU24083
                 \ESCAPE.TCP01               \ESCAPE.TCP02
________________________________________________________________________________
Adjacent Node => K2000.TEST.NODE
Node Type     => NDM.NonStop
Maxretry      => 3
Def Ses Class => 5
IPaddr        => k2002
Portnum       => 6132
LU List       => \ESCAPE.TCP03               \ESCAPE.TCP04
________________________________________________________________________________
Adjacent Node => CATCH.ALL
Node Type     => NDM.DOMAIN
Maxretry      => 7
IPaddr        => 10.23.0.0
IPMask        => 255.255.0.0
LU List       => \ESCAPE.$TCP.#L24
________________________________________________________________________________
CD.18.>
```

The following command uses the SOURCE parameter to scan the network map and automatically generate an HP NonStop obey file. The generated file contains INSert NETmap and RELate NETmap commands that are necessary to rebuild the network map. Use this command to convert and reload your netmap if you are converting from any currently supported release of Sterling Connect:Direct for HP NonStop.

```
SEL NET SOURCE OUT=name of obey file to be generated
```

Examining User Records in the Security File

Use the SELECT SECURITY command to examine user records in the security file.

The parameters used with the SELECT SECURITY command allow you to determine search criteria and the format of the information presented. You can specify search criteria by SNODE (adjacent node name) or USER (USERID on the adjacent node). You cannot select security records by the local USERID.

If you do not specify an optional parameter, Sterling Connect:Direct for HP NonStop displays the contents of the security file.

Format

Following is the SELECT SECURITY command format:

```
SELect SECurity          FILE
                         OUT=filename
                         PRint
                         SNODE=adjacent-nodename|(list)
                         USER=adjacent-node-userid|(list)
```

Required Parameters

The SELECT SECURITY command has no required parameters.

Optional Parameters

Optional parameters for the SELECT SECURITY command are:

Parameter	Description
FILE	Specifies that Sterling Connect:Direct for HP NonStop pass back the selected unformatted control block (CB) security records.
OUT=filename	Specifies the file where Sterling Connect:Direct for HP NonStop routes the output.
PRint	Specifies that Sterling Connect:Direct for HP NonStop print rather than display the output of the SELECT SECURITY command. Printed output is in tabular format. Sterling Connect:Direct for HP NonStop routes the output to the default printer.
SNODE=adjacent-nodename|(list)	Specifies to select security records by adjacent (secondary) node name. adjacent-nodename—Specifies the name of the adjacent node and is a maximum of 16 characters. list—Specifies multiple adjacent node names. Enclose the list in parentheses, and separate each value with a space or comma (,).
USER=adjacent-node-USERID|(list)	Specifies to select security records by the USERID at the adjacent node. adjacent-node-USERID—Specifies the USERID at the adjacent node and is a maximum of 17 characters. list—Specifies multiple adjacent node USERIDs. Enclose the list in parentheses, and separate each value with a space or comma (,).

Examples

The following command displays all user records in the security file:

```
CD.25.>SELECT SECURITY
```

The following command selects security records by SNODE and displays all user records for the adjacent node named BOSTON:

```
CD.26.>SELECT SECURITY SNODE=BOSTON
```

The following command selects all security records where the USERID is SMITH in the adjacent node:

```
CD.30.>SELECT SECURITY USER=SMITH
```

The following command selects all security records where the USERID is JONES or SMITH in the adjacent node:

```
CD.27.>SELECT SECURITY USER=(JONES,SMITH)
```

Output from the preceding command follows:

```
CD.27.>sel sec user=(JONES,SMITH)
================================================================================
3.5.00             S E C U R I T Y   I N F O R M A T I O N
                                  (by USER)
================================================================================
Other User ID  => JONES
Other Node     => BOSTON
Local User ID  => OPR.JOHN
________________________________________________________________________________
Other User ID  => SMITH
Other Node     => CHICAGO
Local User ID  => OPR.BOB
________________________________________________________________________________
CD.28.>
```

Examining Statistics Records

Use the SELECT STATISTICS command to examine statistics for Processes and to get information regarding LU status and internal messages. The type of information in the statistics report includes such data as date, Process name and number, PNODE, SNODE, return code, message ID, feedback, file name, short message text, and LU name. An example of a statistics log is displayed in the SELECT Statistics sample output on page 107. An explanation of each record follows the log.

The parameters used with the SELECT STATISTICS command allow you to determine search criteria and the format of the information presented. Unless otherwise specified, Sterling Connect:Direct for HP NonStop displays the output. You can also direct the output to an HP NonStop file or route it to a printer.

If you do not indicate a search requirement with an optional parameter, Sterling Connect:Direct for HP NonStop selects all statistics records. The volume of all records can be excessive.

Format

Following is the SELECT STATISTICS command format:

```
SELect STATistics       CCODE=(condition,completion code)
                        EXCLUDE=MSG|NOTMSG|NOTCMD
                        INCLUDE=CMD
                        FILE
                        LAstpnumber
                        OUT=filename
                        PNAME=name | <partial name>*
                        PNUMber=number
                        PRint
                        SNODE=secondary-node-name | <partial name>*
                        STARTT=([date|day] [,hh:mm:ssXM])
                        STEPend
                        STOPT=([date|day][,hh:mm:ssXM])
                        SUBmitter=nodeid,(group.user|alias)
                        SHORT
```

Required Parameters

The SELECT STATISTICS command has no required parameters.

Optional Parameters

Optional parameters for the SELECT STATISTICS command are as follows:

Parameter	Description
CCODE=(condition, completion code)	Specifies that Sterling Connect:Direct for HP NonStop searches for statistics records by completion code. condition—Specifies a relationship to the completion code given in the subsequent positional parameter. The options for specifying condition are GT (greater than), LT (less than), EQ (equal to), NE (not equal to), GE (greater than or equal to), or LE (less than or equal to). completion code—Specifies a completion code value, which can range from 0–2,147,483,647 to allow for all values that can be passed after execution of the various Process statements. This last value represents a maximum 31-bit binary number. For example, if you specify CCODE=(GT,0), the selected statistics records are those in which the step completion code is greater than zero, as long as the records also meet other specified criteria.
EXCLUDE=MSG | NOTMSG | NOTCMD	Specifies whether Sterling Connect:Direct for HP NonStop includes message panels, operator commands, and statistical information in the statistics log. MSG—Exclude all messages leaving only statistics in the statistics report. NOTMSG—Exclude all statistics leaving only messages in the statistics report. NOTCMD—Exclude all statistics leaving only commands in the statistics report.
INCLUDE=CMD	Specifies that Sterling Connect:Direct for HP NonStop include previously executed commands along with statistical information in the statistics log. The INCLUDE=CMD option works with SEL STAT commands that return a range of time, such as SEL STAT by itself or with the STARTT or STOPTT options. It does not work with other qualifiers, such as PNUM or PNAME. It does not include any parameters, but it does identify the user, command, terminal and, usually, the target of the command.

Parameter	Description
FILE	Specifies that Sterling Connect:Direct for HP NonStop passes back the selected unformatted control block (CB) statistics records.
LAstpnumber	Specifies to select statistics records for the last Process submitted.
OUT=filename	Specifies the file where Sterling Connect:Direct for HP NonStop routes the output.
PNAME=name | <partial name>*	Specifies the name of the Process. You can specify the full name or use the wildcard character, *, to specify a partial name of the Process. Specify * to indicate all Processes. Specify the leading letters and numbers of a Process name followed by * to indicate a partial Process name.
PNUMber=number	Specifies the number of the Process. The range is from 1–99999.
PRint	Specifies that Sterling Connect:Direct for HP NonStop route the output of the SELECT STATISTICS command to the default printer. Printed output is in tabular format.
SHORT	Displays a summary statistics report.
SNODE=secondary-node-name | <partial name>*	Indicates that Sterling Connect:Direct for HP NonStop searches for statistics for the specified secondary node (SNODE). You can specify the full name or use the wildcard character, *, to specify a partial name of the SNODE. Specify * to indicate all SNODEs. Specify the leading letters and numbers of an SNODE name followed by * to indicate a partial SNODE name.
STARTT=([date|day] [,hh:mm:ssXM])	Specifies that Sterling Connect:Direct for HP NonStop search for statistics records starting with a designated starting date, day, and time. The date, day, and time are positional parameters. If you do not specify the date or day, a comma (,) must precede the time. If you do not specify the STARTT parameter, the search criterion consists of any time before the value you specify for the STOPT parameter. date—Specifies the day (dd), month (mm), year (yy), and century (cc). When you do not use delimiters (/ or .), you must specify single-digit days and months in double-digit format. Without delimiters, January 5, 1997 is 01051997 or 19970105. If you only specify the date, the time defaults to 00:00. day—Specifies the day of the week. Valid names are MOnday, TUesday, WEdnesday, THursday, FRiday, SAturday, and SUnday. If you specify only the day value, the time defaults to 00:00. hh:mm:ssXM—Indicates the time of day in hours (hh), minutes (mm), and seconds (ss). You can set XM to AM or PM. The hour is expressed in either 12- or 24-hour format. If you use 12-hour format, then you must specify AM or PM. The default is the 24-hour format. You can also specify the relative values TODAY or TOMORROW and NOON or MIDNIGHT. For more information, see *Date Formats* on page 79.
STEPend	Specifies that Sterling Connect:Direct for HP NonStop only selects STEPEND records.

Parameter	Description
STOPT=([date|day] [,hh:mm:ssXM])	Specifies that Sterling Connect:Direct for HP NonStop search for statistics records up to and including the designated date, day, and time positional parameters. If you do not specify the date or day, a comma (,) must precede the time. If you do not specify the STOPT parameter, Sterling Connect:Direct for HP NonStop selects statistics until the present time. If you only specify time of day (not date) in the STOPT parameter, Sterling Connect:Direct for HP NonStop selects all statistics through the most recent entry for that time of day. date—Specifies the day (dd), month (mm), year (yy), and century (cc) When you do not use delimiters (/ or .), you must specify single-digit days and months in double-digit format. Without delimiters, January 5, 1997 is 01051997 or 19970105. If you only specify the date, the time defaults to 00:00. day—Specifies the day of the week. Valid names are MOnday, TUesday, WEdnesday, THursday, FRiday, SAturday, and SUnday. If you specify only the day value, the time defaults to 00:00. hh:mm:ssXM—Indicates the time of day in hours (hh), minutes (mm), and seconds (ss). You can set XM to AM or PM. The hour is expressed in either 12- or 24-hour format. If you use 12-hour format, then you must specify AM or PM. The default is the 24-hour format. You can also specify the relative values TODAY or TOMORROW and NOON or MIDNIGHT. For more information, see *Date Formats* on page 79.
SUBmitter=(nodeid,group.user) |(nodeid,alias)	Specifies the nodeid and group name (or number), USERID (or number), and alias of the Process submitter. group.*—Searches all users of a specific group. *.* —Searches all users of all groups. alias—Specifies the user records to select in the AUTHFILE. Enter 1–17 alphanumeric characters including underscores, hyphens, and periods. The first character *must* be alphabetic.
SHORT	Displays a summary statistics report.

Examples

The following command searches for statistics records based on the partial Process name s75*:

```
CD.11.>SELECT STATISTICS PNAME s75* SHORT
```

Sample output from the preceding command follows:

```
CD.11.>SELECT STATISTICS PNAME s75* SHORT
================================================================================
3.5.00                LU NAME or
   DATE      TIME    PNUM   PNAME     EVENT          DESCRIPTION
================================================================================
06.23.2008 14:07:12 36076  S75CRC   PROCSTART
06.23.2008 14:07:13 36076  S75CRC   STEPSTART  S75CRC1  COPY
06.23.2008 14:07:13 36076  S75CRC   STEPEND    S75CRC1  Completed successfully
06.23.2008 14:07:14 \ESCAPE.TCP01   MSG  CPU S+ Handshake 0.83 secs, S+
06.23.2008 14:07:14 \ESCAPE.TCP01   MSG  FMH7404 received, ending proces
06.23.2008 14:07:14 36076  S75CRC   PROCEND    Process finished successfully
```

The following command searches for STEPEND statistics records for the last Process submitted:

```
CD.22.>SELECT STATISTICS STEPEND LASTPNUMBER
```

The following command searches only for commands previously executed.

```
CD.5.>sel stat exclude notcmd
```

This command generates the output shown in the following sample. This type of report, which excludes all statistical information leaving only commands entered by the operator, can be used to create an audit trail of events.

```
================================================================================
3.5.00                  S E L E C T    S T A T I S T I C S
================================================================================
Date    => 07.14.2008  Time      => 14:11:53.35   COMMAND - CMDSTAT
User    => OPR.SMITH         \NONSTP.$ZTN0.#WINJS0    Command   => UPD_NETMAP
LU/Amgr => TCP01
________________________________________________________________________________
Date    => 07.15.2008  Time      => 08:01:37.52   COMMAND - CMDSTAT
User    => OPR.SMITH         \NONSTP.$ZTN0.#WINJS0    Command   => UPD_NETMAP
LU/Amgr => TCP01
________________________________________________________________________________
Date    => 07.15.2008  Time      => 08:21:17.79   COMMAND - CMDSTAT
User    => OPR.SMITH         \NONSTP.$ZTN0.#WINJS0    Command   => MODIFY
LU/Amgr => TCP01             RESUME
_____________________________________________________________________________
Date    => 07.15.2008  Time      => 12:05:47.51   COMMAND - CMDSTAT
User    => OPR.SMITH         \NONSTP.$ZTN0.#WINJS0    Command   => MODIFY
LU/Amgr => TCP01             RESUME
Trace=>    T:D:F:L:O\$TRACE
________________________________________________________________________________
Date    => 07.15.2008  Time      => 12:05:57.64   COMMAND - CMDSTAT
User    => OPR.SMITH         \NONSTP.$ZTN0.#WINJS0    Command   => MODIFY
LU/Amgr => TCP01             QUIESCE
________________________________________________________________________________
Date    => 07.15.2008  Time      => 12:07:16.87   COMMAND - CMDSTAT
User    => OPR.SMITH         \NONSTP.$ZTN0.#WINJS0    Command   => MODIFY
LU/Amgr => TCP01             QUIESCE
________________________________________________________________________________
Date    => 07.15.2008  Time      => 12:08:18.81   COMMAND - CMDSTAT
User    => OPR.SMITH         \NONSTP.$ZTN0.#WINJS0    Command   => MODIFY
LU/Amgr => TCP01             QUIESCE
```

The following command searches for statistics records based on the Process number. The output is printed.

```
CD.37.>SELECT STATISTICS PNUM=1 PRINT
```

Sample output from the preceding command followed by an explanation of the records and their associated fields follows:

```
CD.37.>SEL STAT PNUM=1
================================================================================
3.5.00                  S E L E C T    S T A T I S T I C S
================================================================================
Date    => 07.27.2008  Time      => 10:33:54.12   PROCESS - SUBMIT
Pnumber => 1           Node      => IBM.390           PlexClass =>
Pname   => DALLAS      Submitter => S74.DALLAS        OPR.SMITH
Rtncd   => 0           Message ID=> SSRV101I          Feedback  => 0
File    => \ESCAPE.$A.NDMPROCX.DALLAS
  SSRV101I: (RC=0, FDBK="0")
Process submitted successfully. Process number : 1
File name    : \ESCAPE.$A.NDMPROCX.DALLAS
Process name : DALLAS      Submit time : 07/27/2008 10:33:54.11
________________________________________________________________________________
Date    => 07.27.2008  Time      => 10:33:54.54   PROCESS - PROCSTART
Pnumber => 1           Snode     => IBM.390           Xnode     => P
Pname   => DALLAS      Submitter => S74.DALLAS        OPR.SMITH
Class   => 1           PlexClass =>                   CRC Check => ON
LU Name => \ESCAPE.TCP01
Portnum => 9041
IPaddr  => 10.20.201.2
________________________________________________________________________________
Date    => 07.27.2008  Time      => 10:33:55.05   PROCESS - STEPSTART
Pnumber => 1           Snode     => IBM.390           Xnode     => P
Pname   => DALLAS      Submitter => S74.DALLAS        OPR.SMITH
Function=> COPY        Step Name => PULL
From Snode  DSN= PROJX1.DATA.REC800
To   Pnode  DSN= \ESCAPE.$DATA03.PROJX1.REC800
________________________________________________________________________________
```

Continued

Continued

```
Date    => 07.27.2008  Time      => 10:33:57.98   PROCESS - STEPEND
Pnumber => 1           Xlate     =>                   Start Date=> 07.27.2008
Pname   => DALLAS      Compress  => NO                End Date  => 07.27.2008
Msgid   => SCPA000I    Restart   => NO                Start Time=> 10:33:55.04
Rtncd   => 0           Link Stat => OK                End time  => 10:33:57.68
FDBK    => 0           Snode     => IBM.390           Direction => RECEIVING
Step    => PULL        Submitter => S74.DALLAS        OPR.SMITH
From Snode  DSN= PROJX1.DATA.REC800
     FILE SIZE => 819200
     I/O Bytes=> 800000          Xmit Bytes=> 802000          RUsize=>4096
     I/O Recs => 1000            Xmit RUs  =>                 Comp%=> 0.00
To   Pnode  DSN= \ESCAPE.$DATA03.PROJX1.REC800
     I/O Bytes=> 800000          Xmit Bytes=> 802000
     I/O Recs => 1000            Xmit RUs  => 196             Comp%=> 0.00
                                 Bytes/Sec => 343347.6
  SCPA000I: (RC=0, FDBK="0")
Copy operation successful.
A copy operation completed successfully.

SYSTEM ACTION:

RESPONSE:      None.
................................................................................
Date    => 07.27.2008  Time      => 10:33:58.25   PROCESS - STEPSTART
Pnumber => 1           Snode     => IBM.390           Xnode     => P
Pname   => DALLAS      Submitter => S74.DALLAS        OPR.SMITH
Function=> RUNTASK     Step Name => REPORT
________________________________________________________________________________
Date    => 07.27.2008  Time      => 10:34:00.65   PROCESS - STEPEND
Pnumber => 1           Node      => IBM.390           PlexClass =>
Pname   => DALLAS      Submitter => S74.DALLAS        OPR.SMITH
Rtncd   => 0           Message ID=> SRTT010I          Feedback  => 0
Program => \ESCAPE.$SYSTEM.SYSTEM.PUTMSG
  SRTT010I: (RC=0, FDBK="0")

Run Task Process $Z6962 terminated normally.
________________________________________________________________________________
Date    => 07.27.2008  Time      => 10:34:00.83   MESSAGE - MSG
Pnumber => 1           Node      => IBM.390           PlexClass =>
Pname   => DALLAS      Submitter => S74.DALLAS        OPR.SMITH
LU Name => \ESCAPE.TCP01
Exit step, ending process execution - (execute_process)
________________________________________________________________________________
Date    => 07.27.2008  Time      => 10:34:01.14   PROCESS - PROCEND
Pnumber => 1           Snode     => IBM.390           Xnode     => P
Pname   => DALLAS      Submitter => S74.DALLAS        OPR.SMITH
Rtncd   => 0           Message ID=> SSMT000I          Feedback  => 0
  SSMT000I: (RC=0, FDBK="0")
End of C:D Process.
________________________________________________________________________________
CD.38.>
```

The various elements of the statistics log are divided into eight records: SUBMIT, PROCSTART, STEPSTART and STEPEND for the COPY function, STEPSTART and STEPEND for the RUNTASK function, MSG, and PROCEND. Other records not included in the sample output include: SESSSTART, SESSEND, and COMMAND.

PROCESS-SUBMIT Record

The PROCESS-SUBMIT record provides statistics detailing the submittal of the Process. The following table contains a description of each line in the record:

Line	Description
Date	Indicates the date the Process is submitted to the TCQ.
Time	Indicates the time the Process is submitted to the TCQ.
PROCESS-SUBMIT	Specifies the label describing this phase of the submitted Process.
Pnumber	Specifies the Process number Sterling Connect:Direct for HP NonStop assigns when the Process is submitted successfully.
Node	Specifies the secondary node name.
PlexClass	Specifies a user-defined class associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment, for example, TAPE.
Pname	Specifies the label on the PROCESS statement.
Submitter	Specifies the name of the node submitting the Process. In this example OPR.SMITH is the HP NonStop user name of the submitter.
Rtncd	Specifies the completion code for the step. Zero (0) indicates successful completion of a step.
Message ID	Specifies the identification number of the message in the online message file.
Feedback	Specifies optional information for diagnostic purposes.
File	Specifies the name of the file containing the Process being submitted.
SSRV101I	Specifies the identification number of the message in the online message file. The text is displayed below the message ID number. In this case, the Process was submitted successfully. The return code and feedback are repeated as part of the message text.
Process number 1	Repeated as part of the message text and is the Process number Sterling Connect:Direct for HP NonStop assigns when the Process is submitted successfully.
File name	Specifies the name of the file containing the Process being submitted.
Process name	Specifies the label on the PROCESS statement.
Submit time	Indicates the date and time the Process is submitted to the TCQ.

PROCESS-PROCSTART Record

The PROCESS-PROCSTART record provides statistics about the start of the Process. The following table contains a description of each line in the record:

Line	Description
Date	Indicates the date the Process started running.
Time	Indicates the time the Process started running.
PROCESS-PROCSTART	Specifies the label describing this phase of the submitted Process.

Line	Description
Pnumber	Specifies the Process number Sterling Connect:Direct for HP NonStop assigns when the Process is submitted successfully.
Snode	Specifies the secondary node name.
Xnode	Indicates the node with Process control. In this example, the Xnode is the PNODE.
Pname	Specifies the label on the PROCESS statement.
Submitter	Specifies the name of the node submitting the Process. In this example, OPR.SMITH is the HP NonStop user name of the submitter.
Class	Defines the session used.
PlexClass	Specifies a user-defined class associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment, for example, TAPE.
CRC Check	Indicates whether Cyclic Redundancy Checking (CRC) is enabled.
LU Name	Specifies the name assigned to the LU in the network map file.
Portnum	Indicates the TCP/IP port number used in the session.
IPaddr	Indicates the IP address used in the session.

PROCESS-STEPSTART Record

The PROCESS-STEPSTART record provides statistics detailing the start of a step of a Process. The following table contains a description of each line in the record for the PULL step of the COPY function:

Line	Description
Date	Indicates the date the particular step of a Process started running.
Time	Indicates the time the particular step of a Process started running.
PROCESS-STEPSTART	Specifies the label describing this phase of the submitted Process.
Pnumber	Specifies the Process number Sterling Connect:Direct for HP NonStop assigns when the Process is submitted successfully.
Snode	Specifies the secondary nodename.
Xnode	Indicates the node transmitting the data during this step. In this example, the Xnode is the PNODE.
Pname	Specifies the label on the PROCESS statement.
Submitter	Specifies the name of the node submitting the Process. In this example, OPR.SMITH is the HP NonStop user name of the submitter.
Function	Specifies the subroutine name for the particular step in the Process. This name is part of the internals of Sterling Connect:Direct for HP NonStop and is used for diagnostic purposes. In this case, it identifies the COPY statement entered as part of the Process.
Step Name	Specifies the label in the Process.

Line	Description
From Snode DSN	Specifies the name of the data set or file from which the data is being transmitted. In this example, the Process is being submitted from the SNODE. May include a file name extension to indicate the type of data contained in the file.
To Pnode DSN	Specifies the name of the data set or file that is receiving the transmission. In this example, the Process is being sent to the PNODE. May include a file name extension to indicate the type of data contained in the file.

PROCESS-STEPEND Record

The PROCESS-STEPEND record provides statistics detailing the end of a step of a Process. The following table contains a description of each line in the record for the PULL step of the COPY function:

Line	Description
Date	Indicates the date the particular step of a Process stopped running.
Time	Indicates the time the particular step of a Process stopped running.
PROCESS-STEPEND	Specifies the label describing this phase of the submitted Process.
Pnumber	Specifies the Process number Sterling Connect:Direct for HP NonStop assigns when the Process is submitted successfully.
Xlate	Indicates translation from ASCII to EBCDIC or EBCDIC to ASCII. If the field is blank, no translation occurred.
Start Date	Indicates the date the Process started running.
Pname	Specifies the label on the PROCESS statement.
Compress	Indicates whether you requested compression of the transmitted data.
End Date	Specifies the ending date for the particular step in the Process.
Msgid	Specifies the identification number of the message in the online message file.
Restart	Indicates whether there was a breakdown in the transmission and the Process was restarted.
Start Time	Indicates the time the Process started running.
Rtncd	Specifies the completion code for the step. Zero (0) indicates successful completion of a step.
Link Stat	Indicates the status of the communications link to the node to which you are transmitting. Values for this field are OK and failed.
End time	Specifies the ending time for the particular step in the Process.
FDBK	Specifies optional feedback information for diagnostic purposes.
Snode	Specifies the secondary node name.
Direction	Specifies the direction of the file transfer. Values for this field are SEND and RECEIVE.
Step	Specifies the label name as assigned in the Process.
Submitter	Specifies the name of the node submitting the Process. In this example, OPR.SMITH is the USERID of the submitter.

Line	Description
From Snode DSN=	Specifies the name of the data set or file from which the data is being transmitted. In this example, the Process is being submitted from the SNODE. May include a file name extension to indicate the type of data contained in the file.
FILE SIZE	Indicates the size of the file.
I/O Bytes	Indicates the number of bytes read or written from disk.
Xmit Bytes	Indicates the number of bytes sent or received during the session, including Sterling Connect:Direct for HP NonStop control information.
RU size	Specifies the amount of data that can be sent and received at one time.
I/O Recs	Indicates the number of actual records read or written.
Xmit RUs	Indicates the number of request units transmitted.
Comp%	Indicates the compression percentage.
To Pnode DSN=	Specifies the name of the data set or file that is receiving the transmission. In this example, the Process is being sent to the PNODE. May include a file name extension to indicate the type of data contained in the file.
I/O Bytes	Indicates the number of bytes read or written from disk.
Xmit Bytes	Indicates the number of bytes sent or received during the session, including Sterling Connect:Direct for HP NonStop control information.
I/O Recs	Indicates the number of actual records read or written.
Xmit RUs	Indicates the number of request units transmitted.
Comp%	Indicates the compression percentage.
Bytes/sec	Indicates the transmission speed of bytes per second. **Note:** For backup or restore operations, the bytes-per-second field in the stepend record does not accurately reflect the speed at which data is transmitted across the communication line. The time that enables you to calculate this rate includes overhead that is inherent in the backup or restore operation.
SCPA000I	Specifies the identification number of the message in the online message file. The text is displayed below the message ID number. In this example, the COPY finished successfully.

PROCESS-STEPSTART Record

The PROCESS-STEPSTART record provides statistics detailing the start of a step of a Process. The following table contains a description of each line in the record for the REPORT step of the RUNTASK function:

Line	Description
Date	Indicates the date the particular step of a Process started running.
Time	Indicates the time a particular Process step started running.
PROCESS-STEPSTART	Specifies the label describing this phase of the submitted Process.
Pnumber	Specifies the Process number Sterling Connect:Direct for HP NonStop assigns when the Process is submitted successfully.

Line	Description
Snode	Specifies the secondary node name.
Xnode	Indicates the node that is transmitting the data during this step. In this example, the Xnode is the PNODE.
Pname	Specifies the label on the PROCESS statement.
Submitter	Specifies the name of the node submitting the Process. In this example, OPR.SMITH is the HP NonStop user name of the submitter.
Function	Specifies the subroutine name for the particular step in the Process. This name is part of the internals of Sterling Connect:Direct for HP NonStop and is used for diagnostic purposes. In this example, it identifies the RUN TASK statement entered as part of the Process.
Step Name	Specifies the label in the Process.

PROCESS-STEPEND Record

The PROCESS-STEPEND record provides statistics detailing the end of a step of a Process. The following table contains a description of each line in the record for the REPORT step of the RUNTASK function:

Line	Description
Date	Indicates the date the particular step of a Process stopped running.
Time	Indicates the time a particular Process step stopped running.
PROCESS-STEPEND	Describes this phase of the submitted Process.
Pnumber	Specifies the Process number Sterling Connect:Direct for HP NonStop assigns when the Process is submitted successfully.
Node	Specifies the secondary node name.
PlexClass	Specifies a user-defined class associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment, for example, TAPE.
Pname	Specifies the label on the PROCESS statement.
Submitter	Specifies the name of the node submitting the Process. In this example, OPR.SMITH is the HP NonStop user name of the submitter.
Rtncd	Specifies the completion code for the step. Zero (0) indicates successful completion of a step.
Message ID	Specifies the identification number of the message in the online message file.
Feedback	Specifies optional feedback information for diagnostic purposes.
Program	Specifies the name of the HP NonStop program that you want to run.
SRTT010I	Specifies the identification number of the message in the online message file. The text is displayed below the message ID number. In this example, a WAITed RUN TASK completed successfully.

MESSAGE-MSG Record

The MESSAGE-MSG record provides statistics detailing informational messages. The following table contains a description of each line in the record:

Line	Description
Date	Indicates the date of the message.
Time	Indicates the time of the message.
MESSAGE-MSG	Describes this phase of the submitted Process.
Pnumber	Specifies the Process number Sterling Connect:Direct for HP NonStop assigns when the Process is submitted successfully.
Node	Specifies the secondary node name.
PlexClass	Specifies a user-defined class associated with a Sterling Connect:Direct/Server in a Sterling Connect:Direct/Plex environment, for example, TAPE.
Pname	Specifies the label on the PROCESS statement.
Submitter	Specifies the name of the node submitting the Process. In this example, OPR.SMITH is the HP NonStop user name of the submitter.
LU Name	Specifies the name assigned to the LU in the network map file.
Exit step, ending process execution - (execute_process)	Specifies the message that execution is complete. **Note:** If the LOGCPUTIME initialization parameter is specified, both general CPU usage statistics and statistics for Sterling Connect:Direct Secure Plus activities such as handshake and encryption are included in the MSG record, for example, CPU S+ Handshake 0.04 secs, S+ Crypting 0.09 secs, total 0.13 secs. **Note:** If the LOG-TCP-CONN-RQ initialization parameter is specified, all connection attempts from trading partners as well as attempts to connect to adjacent nodes are logged and included in the MSG record, for example, TCPPROC \NONSTP.$ZTC0, IP fd00::20a0:209:6bff:fe65:9a73 error Invalid function

PROCESS-PROCEND Record

The PROCESS-PROCEND record provides statistics detailing the end of the Process. The following table contains a description of each line in the record:

Line	Description
Date	Indicates the date the Process ended.
Time	Indicates the time the Process ended.
PROCESS-PROCEND	Specifies the label describing this phase of the submitted Process.

Line	Description
Pnumber	Specifies the Process number Sterling Connect:Direct for HP NonStop assigns when the Process is submitted successfully.
Snode	Specifies the secondary node name.
Xnode	Indicates the node transmitting the data during this step. In this example, the Xnode is the PNODE.
Pname	Specifies the label on the PROCESS statement.
Submitter	Specifies the name of the node submitting the Process. In this example, OPR.SMITH the HP NonStop user name of the submitter.
Rtncd	Specifies the completion code for the step. Zero (0) indicates successful completion of a step.
Message ID	Specifies the identification number of the message in the online message file.
Feedback	Specifies optional information for diagnostic purposes.
SSMT000I	Specifies the identification number of the message in the online message file. In this example, the message indicates that it is the end of the Process.

Examining Type File Records

Use the SELECT TYPE command to examine a given record in the type file. The type file contains records that define the file attributes for new files. Sterling Connect:Direct for HP NonStop uses these attributes when you specify a particular typekey as part of a COPY statement in a Process.

The parameters used with the SELECT TYPE command allow you to determine search criteria and the form in which the information is presented.

If you do not specify the TYPEKEY parameter, all type records are selected.

Format

Following is the SELECT TYPE command format:

```
SELect TYPE             FILE
                        OUT=filename
                        PRint
                        TYPEKEY=typekey|generic|(list)
```

Required Parameters

The SELECT TYPE command has no required parameters.

Optional Parameters

Optional parameters for the SELECT TYPE command are:

Parameter	Description
FILE	Specifies that Sterling Connect:Direct for HP NonStop pass back the selected unformatted control block (CB) type records.
OUT=filename	Specifies the file where Sterling Connect:Direct for HP NonStop routes the output.
PRint	Specifies that Sterling Connect:Direct for HP NonStop route the output of the SELECT TYPE command to the default printer. Printed output is in tabular format.
TYPEKEY=typekey|generic|(list)	Specifies the type record being selected. typekey—Specifies a 1–8 alphanumeric character string, with the first character alphabetic. generic—Specifies generic selection of type records. To specify type records generically, type a 1–7 alphanumeric character string plus an asterisk (*). The first character must be alphabetic. For example, if your network includes the type records SENDDAY, SENDMO, SENDWK, a specification of SEN* provides information about those keys. If you specify only an asterisk (*), the system selects all members of the type file. list—Specifies multiple type records. Enclose the list in parentheses, and separate each value with a space or comma (,).

Examples

The following command selects and displays the type record, TEXT, from the type file. Because FILE or PRINT was not specified, the output is displayed upon successful completion of the command:

```
CD.59.>SELECT TYPE TYPEKEY=TEXT
```

Following is the output from the SELECT TYPE command:

```
CD.59.>sel type typekey text
================================================================================
3.5.00               T Y P E K E Y    I N F O R M A T I O N
================================================================================
TYPEKEY     => TEXT            Model File       =>
File Type   => UNSTRUCTURED    Bufsize          => 4096  Code   => 101
Like Type   =>                 Fast Load        => NO    Reclen => 133
Extents     => (32   ,32   )   Fast Load Sorted => NO    Block  => 4096
Maxextents  => 64              Fast Load Cpu    =>       Keyoff => 0
Xlate       => NO              Fast Load Pri    =>       Keylen => 0
NOCOMPRESS                     NOAUDIT                   NOREFRESH
NODCOMPRESS                    NOICOMPRESS               NOPARTONLY
NOBUFFERED                     NOAUDITCOMPRESS           ALTCREATE
NOVERIFIEDWRITES               NOSERIALWRITES
BLOCKIO                        LARGEIO                   Shared => NO
________________________________________________________________________________
CD.60.>
```

Examining Authorization File Records

Use the SELECT USER command to examine records in the authorization file (AUTHFILE). You can specify the search criteria and the format of the information presented.

If you do not specify search criteria, Sterling Connect:Direct for HP NonStop selects all user records.

Note: Fields without information are excluded from the output.

Format

Following is the SELECT USER command format:

```
SELect USER             FILE
                        OUT=filename
                        PRint
                        USERID=group.user|generic|alias|(list)
```

Required Parameters

The SELECT USER command has no required parameters.

Optional Parameters

Optional parameters for the SELECT USER command are:

Line	Description
FILE	Specifies that Sterling Connect:Direct for HP NonStop pass back the selected unformatted control block (CB) user records.
OUT=filename	Specifies the file where Sterling Connect:Direct for HP NonStop routes the output.
PRint	Specifies that Sterling Connect:Direct for HP NonStop route the output of the SELECT USER command to the default printer. Printed output is in tabular format.
USERID=group.user |generic|alias|(list)	Specifies the user records to select in the AUTHFILE. group.user—Specifies the group name (or number) and USERID (or number) of the user. generic—Specifies generic selection of users. To specify users generically, type a 1–7 alphanumeric character string plus an asterisk (*). The first character must be alphabetic. For example, if you specify a USERID of B, user records beginning with B are selected. If you specify only an asterisk (*), all user records in the AUTHFILE are selected. alias—Specifies the user records to select in the AUTHFILE. You can enter 1–17 alphanumeric characters including underscores, hyphens, and periods. The first character *must* be alphabetic. list—Specifies a list of users. Enclose the list in parentheses, and separate each value with a space or comma (,).

Examples

The following command searches for user DALLAS.WILLIAM at the local (default) node:

```
CD.38.>SELECT USER USERID=DALLAS.WILLIAM
```

Following is the output from the SELECT USER command:

```
================================================================================
                            U S E R   I N F O R M A T I O N
================================================================================

USERID            =>    DALLAS.WILLIAM (202, 192)
NAME              =>    William Jones
PHONE             =>    ext.1111
VOLUME            =>    $DEV1.DATA
OBEYVOLUME        =>    $DEV1.NDMOBEY
PROCVOLUME        =>    $DEV1.PRODUCT

DEFAULT.AUTHORITY =>    A
SUBMIT            =>    Y       MODIFY              =>        Y
STOP.ALL          =>    N       STATISTICS          =>        A
UPDATE.LOGGING    =>    Y       UPDATE.STATISTICS   =>        Y

U S E R COMMANDS: Select   =>A   Insert =>A Delete =>A  Update => A
T Y P E COMMANDS: Select   =>Y   Insert =>Y Delete =>Y  Update => Y
S E C . COMMANDS: Select   =>Y   Insert =>Y Delete =>Y  Update => Y
PROCESS COMMANDS:Select    =>A   Delete =>A Change =>A  Flush  => A  Suspend => A
NETMAP  COMMANDS:Select    =>Y   Insert=> Y Delete=> Y   Update => Y   Relate  => Y
```

Following is an example of the SELECT USER command with an alias specified:

```
CD.61.>SELECT USER USERID=this_is_an_alias
```

The following command uses the SOURCE parameter to scan the authorization file and automatically generate an HP NonStop obey file. The generated file contains the INSert USERS command that is necessary to rebuild the AUTHFILE. Use this command to convert and reload your AUTHFILE file if you are converting from any currently supported release of Sterling Connect:Direct for HP NonStop.

```
SEL USER SOURCE OUT=name of obey file to rebuild the authorization file
```

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Glossary

A

Adjacent Node

An adjacent node is an entry in the Network Map that defines a Sterling Connect:Direct for HP NonStop node with which the local Sterling Connect:Direct for HP NonStop node can communicate. The adjacent node is also called a remote node.

AIMS

The automated installation and management system (AIMS) is a menu-driven system that guides you through the installation procedure for Sterling Connect:Direct for HP NonStop.

Application Programming Interface (API)

The Application Programming Interface (API) is a Sterling Connect:Direct for HP NonStop component that accepts commands and places them in an executable format.

API Manager

An API manager is a network map entity, that handles communications sessions between Sterling Connect:Direct for HP NonStop and external applications on a TCP/IP network. After the API manager has been set up, users of these other IBM products can configure, control, and operate Sterling Connect:Direct for HP NonStop from any host on a TCP/IP network.

AUTHFILE

The authorization file contains records of user attribute defaults. Each record defines the features of Sterling Connect:Direct for HP NonStop that you can access.

B

Background Mode

The background mode enables you to execute NDMCOM using a disk file containing Sterling Connect:Direct for HP NonStop commands as input. All Sterling Connect:Direct for HP NonStop commands, except the FC command, are used in this mode.

C

CB Function

The CB (Control Block) function is a group of statements that performs a specific task and often returns a value to the statement that calls it.

C-string Control Block

The C-string control block (CB) is the data format that returns output generated by Sterling Connect:Direct for HP NonStop Processes and commands to the API. A C-string control block consists of two or more fields.

C-string Control Structure

The C-string control structure groups one or more related C-string control blocks.

Checkpoint Restart

The checkpoint restart feature eliminates the need to retransmit an entire file in the event of a transmission failure. If a copy procedure is interrupted, Sterling Connect:Direct for HP NonStop restarts that copy at the last checkpoint.

Command Line Interface

The command line interface is a Sterling Connect:Direct for HP NonStop interface that enables you to submit Sterling Connect:Direct for HP NonStop Processes and commands from your native command line environment.

Commands

Sterling Connect:Direct for HP NonStop commands initiate and monitor activity within the Sterling Connect:Direct for HP NonStop system.

Cyclic Redundancy Checking (CRC)

CRC is a method used to validate data integrity during data transfers between Sterling Connect:Direct nodes across a TCP/IP network. CRC can be controlled using any of the following options:

- A global initialization parameter
- An adjacent node definition
- A Process statement parameter
- A SUBMIT command parameter

D

Domain Server

Sterling Connect:Direct for HP NonStop can be configured to handle inbound connection requests from a TCP domain, that is, a range of IP addresses, using the ADJ NODE record type NDM.DOMAIN. This allows the application to recognize connection requests from IP addresses that are not explicitly configured in the network map, as long as they fall within one of the defined domains.

Downstream Connection

See Receiving Connection.

Dynamic LUs

Sterling Connect:Direct for HP NonStop starts dynamic LUs as needed and automatically stops them upon Process completion. Dynamic LUs are options when using TCP/IP.

E

EMS Filters

The EMS filters provide a programmatic method for selecting events for processing.

Environment Commands

These commands enable you to perform various Sterling Connect:Direct for HP NonStop functions, such as displaying environment values and invoking TEDIT. Some environment commands allow you to set specific environment parameter values in NDMCOM. These values remain in effect only for the duration of the current session, unless they are changed by you or another user logs on to the same NDMCOM.

ERR Control Block

The ERR control block is the first control block of an error control structure (ERRCS). The beginning and ending fields are: CB ! ERR ! and CBEND ! ERR !. The two other required fields in the ERR control block are: *N* (number) field and *T* (top message) field. *N* specifies the number of messages in the ERRCS; *T* specifies the number of the most important message.

Error Control Structure (ERRCS)

The error control structure (ERRCS) is a particular C-string control structure designed to identify the messages occurring when executing Sterling Connect:Direct for HP NonStop Processes and commands.

Event Management Service (EMS)

Event management performs event-collection, logging, and distribution in the distributed systems management (DSM) environment.

F

FASTLOAD

This Sterling Connect:Direct for HP NonStop function can reduce disk I/O overhead. It is used when the Sterling Connect:Direct for HP NonStop node is the destination. With FASTLOAD, Sterling Connect:Direct for HP NonStop passes data through SPI to FUP to load into a destination data file. The feature is particularly useful for key-sequenced files, but it is also supported for entry-sequenced and relative record files.

Field

A field is two null-terminated strings—key and data. Two or more fields make up a C-string control block.

I

I/O Exit Support

This support provides exit points for user-written programs to serve as application interfaces for data transfers.

Interactive Mode

This mode enables you to issue commands through NDMCOM and receive an immediate response.

L

Local Node

The local node is the Sterling Connect:Direct for HP NonStop server.

M

Message Commands

The message commands allow you to display, add, delete, modify, and print Sterling Connect:Direct for HP NonStop messages from the command interpreter (TACL).

Message Control Blocks

Message control blocks are part of an ERRCS. These blocks are sequenced as they occur. The fields in a message control block are CB ! En !, FDBK ! fb !, RC ! rc !, MSGID ! msgid !, and OK ! od ! (optional keyword ! optional data !).

N

NDMCOM

NDMCOM is the Sterling Connect:Direct for HP NonStop user interface.

NDMMON

The monitor Process (NDMMON) ensures nonstop operation of Sterling Connect:Direct for HP NonStop.

NDMSTDL

The statistics deletion program (NDMSTDL) ensures sufficient space is available to write statistics records in the statistics files. It deletes records from STATFILE and STATSRCH based on user-specified deletion criteria and maximum percentage of file capacity.

Network Map

The network map (netmap) is a file that identifies all valid Sterling Connect:Direct nodes in the network. One network map is associated with each Sterling Connect:Direct for HP NonStop local node. The netmap has one entry for each of the other Sterling Connect:Direct nodes to which the local Sterling Connect:Direct for HP

NonStop node communicates. The netmap entries also contain the rules or protocol that the nodes adhere to when communicating.

Node

A node is any site in a network from which information distribution is initiated.

P

Primary Node

The primary node (PNODE) is the Sterling Connect:Direct for HP NonStop node on which the Process is submitted. The primary node is also referred to as the controlling node or initiating node, but is not necessarily interpreted as the sending node, because PNODE can be the receiver. In every Process, one PNODE and one SNODE are specified. The submitter of a Process is always the PNODE.

PNODE=SNODE Transmission

This transmission enables you to create a Process to send data to another file on your node. In this type of transmission, your node is both the PNODE and the SNODE.

Primary Logical Unit

The primary logical unit (PLU) is the logical unit that controls an LU to LU session. The PLU formats and sends an NLD request that begins a session.

Process (Source File)

A Process is a series of statements that initiate Sterling Connect:Direct activity, such as copying files, running jobs, and so on.

Process Statements

Process statements are instructions for transferring files, running operating system jobs, executing programs, or submitting other Sterling Connect:Direct for HP NonStop Processes. You use Process statements to build a Sterling Connect:Direct for HP NonStop Process.

R

Receiving Connection

The receiving connection is a connection between Sterling Connect:Direct for HP NonStop and other nodes (i5/OS—TCP only) where the Sterling Connect:Direct for HP NonStop node supports the primary functions of the data link and the HP NonStop LU functions as a primary LU (PLU).

Remote Node

A remote node is an entry in the network map that defines a Sterling Connect:Direct node with which the local Sterling Connect:Direct for HP NonStop node can communicate. The remote node is also called an adjacent node.

Retry Interval

The retry interval is the interval at which retries are performed as a part of the checkpoint-restart feature.

S

SECFILE

The security file (SECFILE) relates the node name and user ID assigned to an incoming Sterling Connect:Direct for HP NonStop operation to an HP NonStop user ID.

Secondary Logical Unit

The secondary logical unit (SLU) is the logical unit that functions under the control of a PLU. The SLU accepts the incoming NLD request from the PLU.

Secondary Node

The secondary node (SNODE) is the Sterling Connect:Direct for HP NonStop node that interacts with the primary node (PNODE) during Process execution. SNODE is also referred to as the participating (non controlling) or partner node. Every Process has one PNODE and one SNODE.

Secure Point of Entry

The secure point of entry enables Processes from other nodes to be written without the use of passwords.

Sending Connection

The sending connection is between HP NonStop and the IBM 370 nodes (z/OS, VM, VSE) where the IBM node supports the primary functions of the data link and the IBM LU functions as a primary LU (PLU).

Server

The server (NDMSRVR) is responsible for processing command requests, communicating with the session manager when work is placed in the transmission control queue, and accepting session establishment requests from remote nodes.

Session Manager

The session manager (NDMSMGR) is responsible for establishing communication sessions, performing standard session management functions, and executing Processes.

SNA (Systems Network Architecture)

A network architecture designed to provide compatibility among a wide variety of hardware and software products that enable you to build complex networks. It defines protocols, standards, and message formats to which different hardware and software products must conform.

SNA Primary

SNA primary defines the LU as a primary LU (PLU).

SNA Secondary

SNA secondary defines the LU as a secondary LU (SLU).

SNAX Passthrough

SNAX passthrough is a function of the SNAX line access software that permits interaction between a host application program and an SNA device connected to an HP NonStop system. The Sterling Connect:Direct for HP NonStop system, which is not a Sterling Connect:Direct for HP NonStop node, appears to the host as a cluster controller.

SNODE

The secondary node (SNODE) is the node participating in Process execution initiated by another node (the PNODE).

Statistics File

The statistics file holds Sterling Connect:Direct for HP NonStop statistics records that document the history of a Process.

Statistics Facility

The Sterling Connect:Direct for HP NonStop statistics facility records Sterling Connect:Direct for HP NonStop activities.

Static LUs

Static LUs are user-controlled and are quiesced and resumed with the MODIFY command. Static LUs are options when using TCP/IP.

Sterling Connect:Direct for HP NonStop Commands

Sterling Connect:Direct for HP NonStop commands use a command structure common to the rest of the Sterling Connect:Direct family of products. The commands are issued three ways: in interactive mode directly from the command line, in background mode by issuing the Sterling Connect:Direct for HP NonStop OBEY command, or through an API.

Sterling Connect:Direct for HP NonStopSpooler Option

The Sterling Connect:Direct for HP NonStop spooler option is a Sterling Connect:Direct for HP NonStop application that permits an installation to transfer output spooler jobs automatically from a Sterling Connect:Direct for HP NonStop node to a disk file on an adjacent node.

Sterling Connect:Direct/Plex

Sterling Connect:Direct/Plex is a Sterling Connect:Direct for zOS system consisting of a Sterling Connect:Direct/Manager and one or more Sterling Connect:Direct/Servers in a TCP/IP environment. Sterling Connect:Direct for HP NonStop can establish sessions with Sterling Connect:Direct/Plex.

T

Transmission Control Queue

The Transmission Control Queue (TCQ) holds information about Sterling Connect:Direct for HP NonStop Processes that are currently executing or scheduled to execute in the future.

TCP/IP Option

TCP/IP is a connectivity option for Sterling Connect:Direct for z/OS, UNIX, OpenVMS, VSE, i5/OS, Stratus VOS, Microsoft Windows, and HP NonStop nodes.

Type File

The type file contains records that define file attributes for new files.

U

Upstream Connection

See Sending Connection.

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