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Preface


Who Should Read this Guide

This guide is designed for those who use NPM on a daily basis to manage a communications network. New operators can use the overview material provided in Part I, “Using NPM” to get started with NPM. Experienced operators and system programmers can use the material provided in Part II, “Reference” when performing advanced NPM operations.

What this Guide Contains

This book contains the following sections:

Part I. Using NPM

Part I contains the following chapters:

- Chapter 1, “Introducing NPM”: Describes basic NPM tasks. It acquaints you with NPM commands, online panels, and PF keys. The chapter also describes how to view information about your NPM environment and how to customize certain aspects to fit the way you use NPM.
- Chapter 2, “Collecting and Analyzing Network Data”: Describes the online panels used in NPM’s network management function.
- Chapter 3, “Collecting and Analyzing Session Data”: Describes the online panels used in NPM’s response times management function.
- Chapter 4, “Collecting and Analyzing RTM Data”: Describes the online panels used in NPM’s response time monitor (RTM) management function.
- Chapter 5, “Collecting and Analyzing LAN Data”: Describes the online panels used in NPM’s local area network (LAN) management function.
- Chapter 6, “Collecting and Analyzing VTAM Statistics Data”: Describes the online panels used in NPM’s virtual telecommunications access method (VTAM) management function.
- Chapter 7, “Collecting and Analyzing NetWare Resources Data”: Provides an overview of the facilities NPM uses to collect NetWare resources performance data.
- Chapter 8, “Collecting and Analyzing Dynamic Data”: Describes the use of the Dynamic Data Display function.
- Chapter 9, “Using NPM Control Functions”: Describes the online panels used in NPM control functions.
Part II. Reference

Part II contains the following chapters:

- Chapter 10, “NPM Commands”
  Describes the online commands that can be issued from online panels and provides an introduction to the system console commands that can be issued from the system console (with the proper authorization).

- Chapter 11, “System Console Commands: ABEND to NSAMDFY”
  Describes the NPM system console commands from ABEND to NSAMDFY in alphabetical sequence. There is a general description and a syntax diagram for every command.

- Chapter 12, “System Console Commands: NSASOLCT to VVRCOLL”
  Describes the NPM system console commands from NSASOLCT to VVRCOLL in alphabetical sequence. There is a general description and a syntax diagram for every command.

Part III. Appendixes

Part III contains the following appendix:

- Appendix A, “Archiving and Rebuilding Data Sets and Files”
  Provides procedures for archiving and rebuilding NPM files.

A glossary and an index are provided at the end of the guide.

Example scenarios about using NPM to help solve common network problems are provided in the NetView Performance Monitor Concepts and Planning.

Publications

This section lists publications in the NPM library and any other related documents. It also describes how to access Tivoli publications online, how to order Tivoli publications, and how to make comments on Tivoli publications.

NPM Library

The following documents are available in the NPM library:

- NetView Performance Monitor Concepts and Planning, GH19-6961
  Provides information about the basic concepts of NPM and helps you plan for installing NPM and migrating from a previous release.

- NetView Performance Monitor Installation and Customization, SH19-6964
  Provides information about installing, customizing, and tuning NPM.

  Explains how to use the graphical interface for NPM.

- NetView Performance Monitor Reference, SH19-6965
  Provides information for operators, system programmers, and system planners who want to produce reports and write applications using data collected by NPM.

- NetView Performance Monitor Messages and Codes, SH19-6966
Provides information to help operators and system programmers understand, interpret, and respond to NPM messages and codes.

  Provides information for new and experienced operators who use NPM on a daily basis to manage a communication network.

- **NetView Performance Monitor Diagnosis**, LY19-6381
  Provides information about analyzing an NPM problem, classifying it as a specific type of failure, collecting data, and describing the problem to the Customer Support.

- **IBM Online Library Omnibus Edition OS/390 Collection Kit**, SK2T-6700 (available December 2001)
  CD containing all OS/390 documentation.

- **IBM Online Library z/OS Software Products® Collection Kit**, SK3T-4270 (available December 2001)
  CD containing all z/OS documentation.

**Related Publications**
A product bibliography is included in the *NetView Performance Monitor Concepts and Planning*.

**Accessing Publications Online**
You can access many Tivoli publications online at the Tivoli Customer Support Web site: http://www.tivoli.com/support/documents/

These publications are available in PDF or HTML format, or both. Translated documents are also available for some products.

**Ordering Publications**
You can order many Tivoli publications online at the following Web site: http://www.ibm.com/shop/publications/order

You can also order by telephone by calling one of these numbers:
- In the United States: 800-879-2755
- In Canada: 800-426-4968
- In other countries, for a list of telephone numbers, see the following Web site: http://www.tivoli.com/inside/store/lit_order.html

**Providing Feedback about Publications**
We are very interested in hearing about your experience with Tivoli products and documentation, and we welcome your suggestions for improvements. If you have comments or suggestions about our products and documentation, contact us in one of the following ways:
- Send an e-mail to pubs@tivoli.com.
- Complete our customer feedback survey at the following Web site: http://www.tivoli.com/support/survey
Contacting Customer Support

If you have a problem with any Tivoli product, you can contact Tivoli Customer Support. See the Tivoli Customer Support Handbook at the following Web site:

http://www.tivoli.com/support/handbook/

The handbook provides information about how to contact Tivoli Customer Support, depending on the severity of your problem, and the following information:

- Registration and eligibility
- Telephone numbers and e-mail addresses, depending on the country you are in
- What information you should gather before contacting support

Note: For Tivoli NetView for OS/390 customers only, additional support is available on the NETVIEW CFORUM (Customer Forum) through the IBMLink™ system. This forum is monitored by NetView developers who answer questions and provide guidance.

When a problem with the code is found, you are asked to open an official problem management record (PMR) to get resolution.

Using LookAt to Look Up Message Explanations

LookAt is an online facility that allows you to look up explanations for z/OS™ messages, system abends, and some codes. Using LookAt to find information is faster than a conventional search because in most cases LookAt goes directly to the explanation.

You can access LookAt from the Internet at:


or from anywhere in z/OS where you can access a TSO command line (for example, TSO prompt, ISPF, z/OS UNIX System Services running OMVS).

To find a message explanation on the Internet, go to the LookAt Web site and simply enter the message identifier (for example, IAT1836 or IAT*).

To use LookAt as a TSO command, LookAt must be installed on your host system. You can obtain the LookAt code for TSO from a disk on your z/OS Collection Kit, SK3T-4269 or from the LookAt Web site. To obtain the code from the LookAt Web site, do the following:

2. Click the News button.
3. Scroll to Download LookAt Code for TSO and VM.
4. Click the ftp link, which will take you to a list of operating systems. Select the appropriate operating system. Then select the appropriate release.
5. Find the lookat.me file and follow its detailed instructions.

To find a message explanation from a TSO command line, simply enter: lookat message-id. LookAt will display the message explanation for the message requested.
Some messages have information in more than one book. For example, IEC1921 has routing and descriptor codes listed in *z/OS MVS Routing and Descriptor Codes*, SA22-7624. For such messages, LookAt prompts you to choose which book to open.

### Conventions Used in this Guide

The term *data set* is used in this guide to refer to members of partitioned data sets.

In NPM panels, statements, and commands, the term *LU* means a terminal. Unlike the SNA definition, this definition of LU does not include applications. In NPM, the abbreviation *APPL* means application program.

The term *z/OS* is used in this book to mean *z/OS* and *OS/390* operating systems. Where the term OS/390 does appear, the related information applies only to OS/390 operating systems.

### Changes for This Edition

The following changes have been made to this guide for NPM Version 2 Release 7:

- NPM version numbers have been updated throughout this guide.
- LookAt information has been added to this preface.
- A new command (SESSAPPL) has been added to the “NPM Commands” chapters.
- Information for the support of 3776X950 counters has been added to Chapter 2, “Collecting and Analyzing Network Data” and Chapter 11, “System Console Commands: ABEND to NSAMDEFY”.

### Changes for the Previous Edition

The following changes were made to this guide for NPM Version 2 Release 6:

- NPM version numbers were updated throughout the guide.
- New PF keys were added to the panels. Details of the new PF keys and how to customize them was added.
- A new chapter, “Collecting and Analyzing Dynamic Data,” was added.
- Cryptic labels in 3270 panels were renamed. For a mapping of the old and new labels, refer to the *NetView Performance Monitor Concepts and Planning* manual.

### Using Syntax Diagrams

This guide uses syntax diagrams to illustrate the required syntax of commands and statements. This section describes how to use these diagrams.

#### Reading Syntax Diagrams

The syntax diagrams start with double arrowheads on the left (►►) and move along the main line until you end with two arrowheads facing each other (►◄). To use a syntax diagram, follow any path from left to right. When you reach the end of a line, go to the beginning of the next line, if there is one. For whatever path you choose, code every item that appears on the path. All spaces, commas, and other characters are significant.
Abbreviating Keywords

In a syntax diagram, keywords are all or partly in uppercase. Where an abbreviation is possible, the abbreviation is shown in uppercase and the rest of the keyword is shown in lowercase. Variable values that you provide are shown in italics.

The previous diagram shows that you can code the SEND command in either of the following ways:

SE 'message text'
SEND 'message text'

Parameters

The following are types of parameters used in syntax diagrams:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required</td>
<td>Required parameters are displayed on the main path.</td>
</tr>
<tr>
<td>Optional</td>
<td>Optional parameters are displayed below the main path.</td>
</tr>
<tr>
<td>Default</td>
<td>Default parameters are displayed above the main path.</td>
</tr>
</tbody>
</table>

Parameters are classified as keywords or variables. Keywords are displayed in uppercase letters and can be typed in uppercase or lowercase. For example, a command is a keyword.

Variables are italicized, appear in lowercase letters, and represent names or values you supply. For example, a file name is a variable.

In the following example, NSASOLCT is a command, the variable parameter is ncp_name, the keyword is CLOCK, and CLOCK’s variable is time. You replace the variables with your own values.

NSASOLCT ncp_name,CLOCK=time

Required Parameters

A stack of parameters with the first parameter on the main path means that you must choose only one from the stack.

In the following example, the required parameters are LU, GROUP, CDRM, or APPL.

SESSCOLL
LU=luname
GROUP=gname
CDRM=cname
APPL=applname

Default and Optional Parameters

Items shown above the main line are defaults. Items shown below the main line are optional.
The previous diagram shows that if you do not specify a host, HOST=LOCAL is used. To send a message to a different host, for example NYC, code the SEND command as follows:

SEND 'message text', HOST=NYC

**Repeating Parameters**

Items that can be repeated are shown as follows:

The previous diagram shows that the following are all valid ways of coding the CRITERIA statement:

- CRITERIA
- CRITERIA 'expression'
- CRITERIA 'expression1','expression2'
- CRITERIA 'expression1','expression2','expression3'
- CRITERIA 'expression1','expression2','expression3','expression4'

and so on.

**Reading Fragments**

Syntax diagrams can contain fragments. A fragment is indicated by vertical bars with the name of the fragment between the bars. The fragment appears after the main diagram, as shown in the following example.

The previous diagram shows that the following are all valid ways of coding the SEND command:
Long Syntax Diagrams

When more than one row is needed for a syntax diagram, the continued line ends with a single arrowhead (▷) and the following line begins with a single arrowhead (◁), as shown in the following example.

```
FILE  NAME=dd_name
   ,BUFND=2
   ,BUFNI=2
   ,COUNT=99999999

,ISTATUS=ACTIVE
   ,MACRF=NSR
   ,USE=OUTPUT
   ,WRAP=NO

,ISTATUS=INACTIVE
   ,MACRF=LSR
   ,USE=READONLY
   ,WRAP=YES
```
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Starting Session Collection (Resource Already Defined to VTAM)

Starting Session Collection (Resource Not Yet Defined to VTAM)

Displaying, Altering, or Stopping an Active Session Collection

Displaying, Altering, or Stopping a Deferred Session Collection

Displaying Dynamic Response Times Data

Displaying IP Detail Analysis Data

Displaying Transit Time Interval Data

Displaying Transit Time Distribution Data

Displaying Interval Volume Data

Displaying Transit Time Summary Data

Displaying LU Detail Analysis Data

Displaying Transit Time Interval Data

Displaying Transit Time Distribution Data

Displaying Interval Volume Data

Displaying Transit Time Summary Data

Displaying Session Analysis Summary Data

Displaying Session Performance Status Information

Completing the Performance Status - Host Application Panel

Completing the Performance Status - Lines Panel

Displaying Lines by Application

Completing the Performance Status - Physical Unit Panel

Displaying Lines by Session Volumes

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Introducing NPM

This chapter introduces the basic capabilities and functions of the NetView Performance Monitor (NPM).

What Is NPM?

NPM is a performance and accounting tool you can use to collect, monitor, and analyze your communication network data. NPM can help you measure network performance, determine the source of a problem, identify potential problems, and plan for growth. NPM also collects accounting data, which you can use to bill network customers.

There are three main tasks you can perform with NPM:
- Collecting data
- Displaying data
- Customizing your NPM environment

An overview of each of these primary tasks is provided in the following sections.

The remainder of this chapter describes basic NPM functions, including:
- Logging on and off
- Using NPM’s online panels
- Using NPM commands
- Reading NPM messages
- Getting help
- Customizing your user profile

Collecting Data

NPM collects data on a variety of resources, including lines, VTAM®, logical units (LUs), and applications. Your NPM might have been set up to collect data automatically. Contact your system programmer for information about which data is collected automatically. This data is grouped into the following categories:

- **Network data** is collected from the network control programs (NCPs) connected to NPM and includes the following:
  - Information about each NCP, including communication control unit (CCU) utilization, NCP buffer counts, and slowdown statistics
  - Message traffic statistics for lines, CCUs, physical units (PUs), LUs, physical links (NCP/token ring interconnect (NTRI) resources) and logical links. These statistics include the number of bytes sent and received, the number of polls, and the number of positive responses to polls.
  - Information about lines, including line utilization, error counts, and retransmissions
What is NPM?

- Message traffic statistics for other network resources, such as frame relay resources, Ethernet local area network (LAN) resources, and outboard data link control (ODLC) LAN resources

  **Session data** is collected from VTAM and includes the following:
  - Operator, host, and network transit times for LUs, LU groups, applications, NCPs, and hosts
  - Volume statistics for LUs, LU groups, applications, NCPs, and hosts, including the number of path information units (PIUs) and bytes sent and received.

  **Note:** NPM can collect data for a complete VTAM through TCP/IP session. This enhanced session collection capability is available for TN3270 and TN3270E servers running OS/390 Version 2 Release 5 or higher.

  **Response time monitor (RTM) data** is collected from the NetView session monitor and includes response time for lines, LUs, PUs, and applications.

  **LAN data** comes through the NetView program from LAN Managers. This data consists of LAN bridge data and LAN segment data and includes the following:
  - Information about a LAN’s detailed configuration
  - The number of broadcast and non-broadcast frames that passed over a bridge during a collection interval
  - The number of frames that were lost on a bridge
  - LAN segment utilization

  **VTAM statistics data** is collected from VTAM and includes the following:
  - Application data, such as the number of active sessions, sessions waiting for an inbound response, and number of advanced program-to-program communication (APPC) sessions
  - Address space data, such as private storage usage and the number of access method control blocks (ACBs) opened by all tasks within the address space
  - Buffer pool data, such as the number of buffers allocated, currently in use, and available for each buffer pool
  - Storage use data, such as the number of expansions and the number of requesters waiting for a buffer pool
  - Performance data about VTAM-controlled resources, such as virtual routes and channel-attached devices
  - Internal VTAM data, such as central processing unit (CPU) usage and allocated common storage area (CSA)
  - VTAM environment data, such as release numbers, operating system mode, start list name, and configuration file name
  - VTAM APPN® data, such as topology and directory services data.
  - CSM data, such as the number of buffer pools in the ECSA or in the data space.
  - MNPS data, such as the number of session bytes written to CF for an application.
  - RTP data, such as the number of path switches that occur for an RTP or the status of an RTP resource.
Network accounting data is collected from the NCPs connected to NPM and includes network gateway and network session accounting statistics for LU sessions.

NetWare resources data is NPM’s name for data collected from resources controlled by Novell’s NetWare product. Agent servers use a part of NPM called the NPM NetWare Agent to collect performance data using NetWare counters. These counters are combined into groups to provide the following information:

- **Communications group**: Gives information about specific IPX and SPX protocol-related information.
- **LAN Board group**: Gives information about communications device drivers.
- **Router Global group**: Gives routing information about the router services (packets information).
- **Server Global group**: Gives a general overview of the Agent server activity, including CPU utilization, connections, disk operation, communications, and other information.
- **Server Volume group**: Gives detailed storage information about all disk volumes on the Agent server.

**SNMP router data** is collected utilizing the Simple Network Management Protocol (SNMP) to retrieve Management Information Base (MIB) data about a router’s performance from:
- Network Hardware Division (NHD) routers
- Generic routers
- Cisco routers
- CS/NT routers

### Displaying NPM Data

You can locate the source of a network problem and identify potential problems by viewing NPM data online.

NPM can display collected data online in the following ways:

- Interval data displays, also called detail data displays, show data for each collection interval.
- Summary data displays show data for an entire period, including average values for that period.
- Monitor event messages indicate data that has exceeded specified thresholds for each collection interval. In some cases, these messages indicate when data values have returned within thresholds.

NPM can also produce a variety of hardcopy reports from collected data for long-term data analysis. See the *NetView Performance Monitor Reference* for information about these reports.

### Customizing Your NPM Environment

You can make your work easier and more efficient by altering certain characteristics of your NPM environment to reflect your daily tasks. These characteristics include language support, function key definitions, date format, and the number of panel lines assigned to the scroll function.
Logging On and Off

Your system programmer needs to assign you an NPM user ID before you log on to NPM for the first time. You might also be assigned a password and profile name, depending on your installation. This information is used to identify you and your authorizations to NPM.

Use the following procedure to log on to NPM:

1. Access the NPM logon panel (FNM0LLOG), shown in Figure 1.

   **Note:** The procedure to access the NPM logon panel varies. Contact your system programmer for information about how to access the NPM logon panel.

   2. Type your NPM user ID in the USER ID field.

   3. Type your NPM password in the PASSWORD field, if your installation requires one.

   4. Type the name of your NPM profile in the PROFILE field, if your installation requires one.

      The PROFILE field is optional. The default NPM profile is used if you leave this field blank.

   5. Press ENTER to display the Primary Options panel (FNM00PRI). See "Using the Primary Options Menu" on page 14 for information about this panel.

To log off of NPM, type LOGOFF in the Command or Select Option field of any NPM panel. The Command field is displayed near the upper left corner of most panels, as shown in Figure 2 on page 9.
Some panels have a Select Option field instead of a Command field. The Select Option field is displayed near the upper left corner of the panel as shown in Figure 3.

You can also log off by pressing the LOGOFF PF key, if it is defined on your NPM panels. The defined PF keys are displayed at the bottom of each NPM panel. The Logoff panel (FNM00CLF), shown in Figure 4, is displayed when you press the LOGOFF PF key. This panel prevents you from accidentally logging off of NPM.

Press ENTER to log off of NPM, or use the END command to cancel the logoff procedure.

Changing Your Password

Use the following procedure to change your NPM password:

1. Access the NPM logon panel (FNM0LLOG), shown in Figure 1 on page 8.
2. Type your user ID in the USER ID field and your password in the PASSWORD field.
3. Type your new password in the NEW PASSWORD field.
4. Press ENTER.
Changing Your Password

**Note:** You can change your password when you log on if your system uses the Resource Access Control Facility (RACF®) for security checking. See your system programmer for information about your system’s security.

Using NPM Panels, Keys, and Commands

This section describes how to use NPM panels, control keys, and commands for performing NPM tasks.

**NPM Panels**

The panel references in this book include a panel ID to help you identify the panels being described. Panel IDs are displayed in the upper left corner of your NPM panels, as shown in Figure 5.

![Figure 5. NPM Panel IDs](image)

If you want to see a panel ID that is not displayed, type PANELID on the Command line or in the Select Option field and press ENTER.

**Note:** Chapters 2 through 7 contain examples of all NPM panels associated with the primary NPM functions. These functions are accessed from the Primary Options panel (FNM00PRI), shown in Figure 7 on page 14.

**NPM input panels** can be grouped into two general categories: panels where you select an option, and panels where you type information into fields. To select a panel option, type the number corresponding to that option in the Select Option field and press ENTER. To enter data on panel fields, use the tab key to move the cursor to the appropriate field and type the necessary information.

Some panel fields permit only specific values or formats. Other fields require values to be in a certain range. If you leave certain fields blank on some panels NPM either uses a default value or prompts you for the missing information.

After you complete a panel and press ENTER, NPM verifies the information you supplied. NPM begins processing the selected task if all the information is valid. Otherwise, NPM redisplay the panel and indicates any entries that are not valid.

**NPM list panels** display the data collected by NPM or the status of a data collection. Most NPM list panels provide the following features:

- Most NPM list panels display data in a sorted order. You can use the SORT command to change the sorting criteria on many NPM display panels to meet your specific requirements. See “Online Commands” on page 215 for more information about the SORT command.

- Many list panels allow the use of the REFRESH command. The REFRESH command displays the most current state of collected data, collection status, and other status messages. See “Online Commands” on page 215 for more information about the REFRESH command.
Many NPM list panels display a “More:” indicator in the upper right corner. The following symbols are used with the More indicator:

- < Indicates there is data to the left of the current display
- > Indicates there is data to the right of the current display
- + Indicates there is data below the current display
- − Indicates there is data above the current display

The BACKWARD and FORWARD commands can be used to quickly move through large amounts of displayed data. The FORWARD command is active until the last line of data is displayed. The BACKWARD command is not active while the first line of data is displayed.

Symbols and Notations in NPM Panels

NPM uses the following symbols to indicate unusual conditions on display panels:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>The value cannot be displayed.</td>
</tr>
<tr>
<td>?</td>
<td>The value is incorrect. It is either negative or too large to display.</td>
</tr>
<tr>
<td>-</td>
<td>The data for this field is not available to NPM.</td>
</tr>
</tbody>
</table>

NPM uses the following special notations to display large numbers on panels:

<table>
<thead>
<tr>
<th>Notation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>The displayed number is divided by 1000.</td>
</tr>
<tr>
<td>M</td>
<td>The displayed number is divided by 1000000.</td>
</tr>
<tr>
<td>Kb</td>
<td>The displayed number is divided by 1024. This number indicates kilobytes of virtual storage.</td>
</tr>
<tr>
<td>Mb</td>
<td>The displayed number is divided by 1048576. This number indicates megabytes of virtual storage.</td>
</tr>
</tbody>
</table>

NPM Commands

There are two types of NPM commands:

- **Online commands** can be issued by any NPM user to manipulate panel data and perform general operating tasks. To use an online command that is not assigned to one of your PF keys, type the command on the Command line or in the Select Option field of any NPM panel and press ENTER. The online commands that you can use this way are listed and described in “Online Commands” on page 215.

  You can issue multiple online commands in a single entry by using semicolons to separate them. The following example command string scrolls up fifteen lines from the end of the current file, then displays the help panel.

  ```
  Command ---> bot;up 15;help
  ```

- **System console commands** are used to perform complex NPM functions, such as starting data collections. These commands are issued from the system console and require specific authority to use. The NPM system console commands are listed and described in Chapter 11, “System Console Commands: ABEND to NSAMDFY” and Chapter 12, “System Console Commands: NSASOLCT to VVRCOLL.”
Control Keys

NPM online commands can be assigned to PF keys to perform such tasks as scrolling through a panel, moving to other panels, and getting help. The online commands that can be assigned to PF keys are described in “Online Commands” on page 215. See “Reassigning PF Keys” on page 16 for information about assigning commands to your PF keys.

Because PF key definitions are installation dependent, specific PF key numbers are not discussed in this book. The initial PF key definitions assigned to each NPM panel are displayed at the bottom of the panels. An example is shown in Figure 6.

Note: You can press the END PF key from any NPM panel to display the previous panel. You can also press the RETURN PF key from any NPM panel to display the Primary Options panel (FNM00PRI).

NPM also uses the following control keys:

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTER</td>
<td>Submits your requests to NPM.</td>
</tr>
<tr>
<td>PA2</td>
<td>Implements the RESHOW command. RESHOW deletes the information on a panel and redisplays the panel as it appeared prior to your input. You can also use the RESHOW command to clear a displayed message. Any queued messages are displayed when you use the RESHOW command.</td>
</tr>
<tr>
<td>CLEAR</td>
<td>Deletes the current message (and all queued messages) and redisplays the current panel.</td>
</tr>
</tbody>
</table>

Understanding NPM Messages

You can receive messages that provide information or alert you to problems as you work with NPM. There are two types of NPM messages:

- **Monitor event messages** alert you when collected data has exceeded or returned within monitor thresholds. These messages are displayed at the top of your NPM panel.

- **Operator messages** alert you to problems about data you entered or about the system. These messages are displayed at the bottom of NPM panels. The severity of the condition is indicated by the color of a message. The following list describes the meaning of each message color:
  - **White**: Information
  - **Yellow**: Warning
  - **Red**: Error
  - **Reverse red**: Severe
  - **Flashing red**: NPM is ending

Note: Three asterisks (***) displayed at the end of an NPM message indicates there are additional (queued) messages. Press the PA2 key to clear the current message and display any queued messages.
Getting Help for Online Panels

You can use NPM’s online help facility to get the following information about NPM panels: Press the HELP PF key to display the online help facility. Note that a help panel can consist of one or more pages. Use the FORWARD, BACKWARD, UP, and DOWN PF keys to scroll through multiple pages of help information.

- An overview of the panel function
- A list of available options
- Descriptions of the input fields and their defaults
- Instructions for processing the panel

You can browse through the online help facility to familiarize yourself with NPM’s features and functions. Use fast path =T to display the NPM Help Facility panel (FNM0G000), and select the category of help you need. See the NetView Performance Monitor Reference for more information about NPM fast paths.

Getting Help for Online Messages

You can get online help for any NPM message. The online message help panels display the following information:

- An explanation of the error or condition
- What NPM does
- What you can do
- What a programmer can do
- Comments

Use the following procedure to view online help information for a message that is currently displayed:

1. Press the HELP PF key to display the message help panel.
2. Press the END PF key when you are finished reading the explanation. The original message is still displayed. If you press the HELP PF key again, help information for the current panel is displayed.
   You can press the PA2 key to clear the current message and display any queued messages.

Note: The CLEAR key removes the current message and any queued messages.

Use the following procedure to view online help information a second time or to view information for a message that is not currently displayed:

1. Type HELPMSG FNMnnnn in the Command or Select Option field, where nnnn is the message number. You need to type only the last three digits for three-digit messages. You do not need to type a leading zero.
2. Press the END PF key when you are finished viewing the information. The panel from which you entered the HELPMSG command is redisplayed.
Using the Primary Options Menu

All NPM functions except NetWare can be started from the Primary Options panel (FNM00PRI), shown in Figure 7. Option 9 is the only choice for NetWare users. The Primary Options panel is displayed immediately after you log on to NPM. The options displayed on this panel are related to the three tasks discussed earlier in this chapter: collecting data, displaying data, and customizing your NPM environment.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 User Profile</td>
<td>Enables you to customize your NPM environment. With this option you can perform such tasks as redefining your PF keys to reflect the commands you most commonly use. See “Customizing Your User Profile” on page 16 for information about performing these tasks.</td>
</tr>
<tr>
<td>1 Network Management</td>
<td>Enables you to collect and analyze network data. “Collecting and Analyzing Network Data” on page 23 describes the panels used in this NPM function.</td>
</tr>
<tr>
<td>2 Response Times</td>
<td>Enables you to collect and analyze session data. “Collecting and Analyzing Session Data” on page 87 describes the panels used in this NPM function.</td>
</tr>
<tr>
<td>3 RTM Management</td>
<td>Enables you to collect and analyze RTM data. “Collecting and Analyzing RTM Data” on page 117 describes the panels used in this NPM function.</td>
</tr>
<tr>
<td>4 LAN Management</td>
<td>Enables you to collect and analyze LAN data. “Collecting and Analyzing LAN Data” on page 125 describes the panels used in this NPM function.</td>
</tr>
<tr>
<td>5 VTAM Management</td>
<td>Enables you to collect and analyze VTAM data. “Collecting and Analyzing VTAM Statistics Data” on page 139 describes the panels used in this NPM function.</td>
</tr>
</tbody>
</table>
9 NPM Control

Enables you to control NPM functions. You can use this option to perform tasks such as managing NPM files, running NPM EXECs, and sending messages to NPM users. Any user can display the NPM control data, but only users with the correct authorization can issue control commands. See "Displaying Your Security Profile" on page 18 for information about displaying your NPM authorization. "Using NPM Control Functions" on page 187 describes the panels used in this NPM function.

P Problem

Accesses the NPM problem determination facility. This option is displayed if you have authorization to use it. Contact your system programmer or see the NetView Performance Monitor Diagnosis for more information about this option.

T Tutorial

Accesses the NPM help facility. Use this option to reach the NPM Help Facility panel (FNM0TPRI), where you can browse through NPM’s help panels.

X Exit

Allows you to exit NPM. You can also type LOGOFF in the Command or Select Option field of any NPM panel and press ENTER.

To use NPM, select the option on the Primary Options panel that relates to the task you want to perform. Online panels are displayed to guide you through the selected NPM task. Information about the panels displayed for each of the NPM primary options is provided in Chapters 2 through 7.

Using NPM Fast Path Commands

You can quickly access many NPM panels by using fast path commands. To use a fast path command to display a panel type an equal sign (=) and the panel’s fast-path number in any Command or Select Option field and press ENTER. See the NetView Performance Monitor Reference for more information about NPM fast paths.

Communicating With Other NPMs

You can issue commands to NPMs running on other hosts. Your local NPM must be bound (connected) to the remote NPM to issue commands. See "Using the Sessions Display and Management Panel" on page 189 for procedures to bind to NPMs running on other hosts.

Assuming you are an authorized user on the remote NPM, you can start data collections and perform other NPM functions just as you can on your local NPM. To direct an NPM command to an NPM running on another host, type the name of the host in the Host Name field, then issue the command.

Note: NPM Version 2 releases are not compatible with NPM Version 1 releases. Error messages are displayed if you attempt to communicate with NPM Version 1 releases using NPM Version 2.
Customizing Your User Profile

Your ability to interact with NPM is determined by your security and user profiles as defined by your system programmer. Although you cannot change your security profile, you can customize some functions in your user profile, such as PF key assignments, to make NPM easier for you to use. Use the following procedure to display the User Profile panel (FNM00PRM):

1. Select option 0 from the Primary Options panel (FNM00PRI) to display the User Profile panel (FNM00PRM), shown in Figure 8. You can also use fast path =0 to display the User Profile panel.

2. Type the number of a user profile option in the Select Option field and press ENTER.

The following sections describe the NPM user profile functions and show you how to use NPM panels to perform these tasks.

Reassigning PF Keys

NPM online commands are assigned to your PF keys when NPM is initialized. These commands can be NPM’s default assignments or assigned by your system programmer. If you frequently use other commands, or if you want to assign commands to different PF key numbers to make your keyboard easier to use, you can redefine any PF key.

You can assign any of the NPM commands listed in "Online Commands" on page 215 to a PF key.

Note: NPM requires that the following PF keys be assigned:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HELP</td>
<td>Accesses the help facility.</td>
</tr>
<tr>
<td>END</td>
<td>Processes your entries and returns to the previous menu.</td>
</tr>
<tr>
<td>RETURN</td>
<td>Returns you to the Primary Options panel (FNM00PRI).</td>
</tr>
<tr>
<td>NCP</td>
<td>Invokes Dynamic Data Display for NCPs.</td>
</tr>
<tr>
<td>ROUTER</td>
<td>Invokes Dynamic Data Display for routers.</td>
</tr>
<tr>
<td>LINE</td>
<td>Invokes Dynamic Data Display for SDLC lines.</td>
</tr>
</tbody>
</table>
To display the PF keys:

1. Select option 0 from the Primary Options panel (FNM00PRI), or use fast path =0, to display the User Profile panel (FNM00PRM).

2. Select option 1 from the User Profile panel to display the Primary Program Function Key Definitions panel (FNM00PF2), shown in Figure 9. It displays PF keys 13 through 24:

3. Press ENTER to display the Alternate Program Function Keys Definitions panel (FNM00PF3), shown in Figure 10.
Modifying Functional Variables

Your user profile defines functional variables that affect the way data is displayed. You can change these variables to fit your specific needs. For example, you might find it easier to view data by scrolling only a half page at a time, instead of the default full page.

You can also instruct NPM to save the data you enter on some NPM panels so that you do not have to retype all the information each time you use NPM.

Use the following procedure to modify these functional variables:

1. Select option 0 from the Primary Options panel (FNM00PRI), or use fast path =0, to display the User Profile panel (FNM00PRM).

2. Select option 2 from the User Profile panel to display the Functional Variables panel (FNM00VAR), shown in Figure 11. You can also use fast path =0.2 to display the Functional Variables panel.

3. Tab to the field next to the variable you want to change.

4. Type an option for the selected variable. See the NetView Performance Monitor Reference for descriptions of these variables and their parameters.

5. Press the END PF key. NPM saves your changes and returns you to the User Profile panel (FNM00PRM).

Displaying Your Security Profile

Your NPM security profile, which is set up during installation, defines the areas of NPM you can access. Depending on your authorization, you might not be able to perform all the tasks described in this book, even if they are displayed on your Primary Options panel.

Use the following procedure to display your security profile:

1. Select option 0 from the Primary Options panel (FNM00PRI), or use fast path =0, to display the User Profile panel (FNM00PRM).
2. Select option 3 from the User Profile panel to display the Security Profile panel (FNM00UPB), shown in Figure 12. You can also use fast path =0.3 to display the Security Profile panel.

**Note:** The information shown in the Security Profile panel (FNM00UPB) defines your current NPM security authorizations. However, these authorizations can be overridden if SECURITY=MINIMAL is coded on the FNMINIT statement. See the *NetView Performance Monitor Installation and Customization* for additional information about the SECURITY keyword.

The user with the example security profile shown in Figure 12 is able to collect and analyze network, session, LAN, VTAM statistics data, and network accounting data. This user is not able to receive system messages or perform NPM control functions, data file management, SMF control functions, or problem determination tasks.

See the *NetView Performance Monitor Reference* for descriptions of these variables and their parameters.

**Displaying Session Accounting Data**

You can display accounting information for your NPM sessions, such as your user ID, NPM profile name, and the number of active sessions.

Use the following procedure to display your session accounting data:

1. Select option 0 from the Primary Options panel (FNM00PRI), or use fast path =0, to display the User Profile panel (FNM00PRM).

2. Select option 4 from the User Profile panel to display the Session Accounting Data panel (FNM00ACC), shown in Figure 13 on page 20. You can also use fast path =0.4 to display the Session Accounting Data panel.

See the *NetView Performance Monitor Reference* for descriptions of these variables and their parameters.
Obtaining National Language Support

You can change the language of NPM’s online panels to any language installed on your system. You can also choose to display your panels in English with all uppercase characters.

Use the following procedure to change the national language displayed on NPM panels:

1. Select option 0 from the Primary Options panel (FNM00PRI), or use fast path =0, to display the User Profile panel (FNM00PRM).

2. Select option 5 from the User Profile panel to display the National Language Selection panel (FNM00LNG), shown in Figure 14. This panel lists the languages available on your system. You can also use fast path =0.5 to display the National Language Selection panel.

3. Tab to the Option field next to the language you want to use and type /.
4. Press the END PF key to save your changes and return to the User Profile panel. NPM panels are now displayed in the selected language.
Collecting and Analyzing Network Data

You can use NPM’s network management function to perform the following tasks:

- Display a list of network resources (Network Control Programs (NCPs), lines, PUs, or LUs) and display their hierarchical relationships
- Start an active or deferred collection on a selected resource
- Stop an active or deferred collection on a selected resource
- Alter an active or deferred collection on a selected resource
- Display a list of collections for a selected resource
- Stop all active collections and DataView collections, but not deferred collections
- Display VSAM data
- Display a list of router network resources
- Start a collection on a selected router resource
- Display a list of collections for a selected router resource
- Stop all collections on a selected router resource.
- Display dynamic data.

Notes:

1. 3746 APPN network nodes appear to NPM exactly the same as NCPs. In this chapter the term NCP is used to mean either an NCP or a 3746 APPN network node.
2. See the NetView Performance Monitor Reference for detailed descriptions of NPM panel fields.

Network Management Panels

Use the following procedures to perform NPM network data collection and analysis:

1. Select option 1 from the Primary Options panel (FNM00PRI) to display the Network Management panel (FNM01NET), shown in Figure 15 on page 24. You can also use fast path =1 to display the Network Management panel:
2. The Network Management panel displays eight options. Before you select an option, use the NCP/Router field to specify whether you want to work with NCP or Router resources. This field is set to N (NCP) by default. Type one of the following option numbers in the Select Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>NCP/Router</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N/R</td>
<td>Lists NCPs or Routers. See “Using the List Option for NCPs” on page 25 or “Using the List Option for Routers” on page 33 for detailed procedures.</td>
</tr>
<tr>
<td>2</td>
<td>N/R</td>
<td>Selects and lists NCP resources or Router resources. See “Using the Select and List Option for NCPs” on page 38 or “Using the Select and List Option for Routers” on page 40 for detailed procedures.</td>
</tr>
<tr>
<td>3</td>
<td>N</td>
<td>Searches for a known resource. Not applicable for Routers. See “Using the Find Resource Option” on page 41 for detailed procedures.</td>
</tr>
<tr>
<td>4</td>
<td>N/R</td>
<td>Starts network data collection for NCP resources or for Router resources. See “Using the Start Collection Option for NCPs” on page 49 or “Using the Start Collection Option for Routers” on page 44 for detailed procedures.</td>
</tr>
<tr>
<td>5</td>
<td>N/R</td>
<td>Alters network data collection for NCP resources or for Router resources. See “Using the Alter Collection Option for NCPs” on page 45 or “Using the Alter Collection Option for Routers” on page 48 for detailed procedures.</td>
</tr>
<tr>
<td>6</td>
<td>N/R</td>
<td>Stops network data collection for NCP resources or for Router resources. See “Using the Stop Collection Option for NCPs” on page 49 or “Using the Stop Collection Option for Routers” on page 50 for detailed procedures.</td>
</tr>
<tr>
<td>7</td>
<td>N/R</td>
<td>Displays network data for NCP resources or for Router resources. See “Using the Review Data Option for NCPs” on page 50 or “Displaying Router Network Collection Data” on page 71 for detailed procedures.</td>
</tr>
</tbody>
</table>
Displays dynamic network data for NCP resources or for Router resources. For detailed procedures, see "Using the Dynamic Data Display Option for NCPs" on page 81 or "Using the Dynamic Data Display Option for Routers" on page 84.

Using the List Option for NCPs

Use the List option for NCPs to perform network data collection and analysis when you do not know the name of an NCP (or its subordinate network resources). You can also use this option to display the hierarchical structure of a network resource.

To perform network data collection and analysis, use the procedures described in "Using the Find Resource Option" on page 41 or "Displaying, Altering, or Stopping a Network Collection" on page 29. If you know the specific resource name, use the procedures described in "Using the Review Data Option for NCPs" on page 50.

Displaying a List of NCP Network Resources

Use the following procedure to display a list of NCP network resources:

1. Accept the default of N in the NCP/Router field and select option 1 from the Network Resource Type Selection panel (FNM01NET) to display the Resource List panel (FNM02RSL), shown in Figure 16. The Resource List panel displays a list of NCPs for the selected host.

2. You can modify the way information is displayed on the Resource List panel. Type one of the following commands on the Command line and press ENTER:

<table>
<thead>
<tr>
<th>Command Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATE &lt;Resource&gt;</td>
</tr>
<tr>
<td>SORT NAME</td>
</tr>
<tr>
<td>SORT TYPE</td>
</tr>
<tr>
<td>SORT STATUS</td>
</tr>
</tbody>
</table>
REFRESH

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Starts collection on the selected resource. See “Starting an Active or Deferred Network Collection” for detailed procedures.</td>
</tr>
<tr>
<td>R</td>
<td>Displays data written to a VSAM file for the selected resource. See “Displaying Network Detail Data” on page 28 for detailed procedures.</td>
</tr>
<tr>
<td>L</td>
<td>Lists all collections for the selected resource. See “Displaying, Altering, or Stopping a Network Collection” on page 29 for detailed procedures.</td>
</tr>
<tr>
<td>X</td>
<td>Displays all resources hierarchically under a selected resource. See “Expanding a Resource List” on page 31 for detailed procedures. Note: Option X (Expand) is available only on the NCP, line, and PU resource lists. It is not active when the LU resource list is displayed, or when the Find Resource option is selected from the Network Resource Type Selection panel (FNM01NET).</td>
</tr>
<tr>
<td>Z</td>
<td>Ends all active collections on the selected resource. See “Stopping All Collections” on page 32 for detailed procedures.</td>
</tr>
</tbody>
</table>

Note: The Valid Options field displays the options that can be selected for each network resource displayed on the Resource List panel. An error message is displayed if you select an option that is not displayed in the Valid Options field.

**Starting an Active or Deferred Network Collection**

Use the following procedure to start an active or deferred network collection from the Resource List panel (FNM02RSL), shown in Figure 16 on page 25:

Note: You must ensure that the NPALU required for the collection is bound to NPM. See “Managing NPALUs” on page 190. You must also verify that the designated destination files for the collected data are not full. See “Managing Data Files” on page 196.

1. Type S in the Option field next to a specific resource on the Resource List panel. Press ENTER to display the first Network Start panel (FNM03STD), shown in Figure 17 on page 27.

Note: The FNM03STD and FNM03STM panels are used in multiple NPM functions. The panel titles are varied automatically by NPM, depending on the type of function being performed (Start, Stop, or Alter).
2. Complete the first Network Start panel. Type the times in the Start Time and Stop Time fields if you want to start or stop the collection at a specific time.

3. Press ENTER to display the second Network Start panel (FNM03STM), shown in Figure 18. Use the FORWARD command to display the additional information on the third Network Start panel (FNM03STM), shown in Figure 19 on page 28.

Note: The monitor criteria displayed on the FNM03STM panels varies, depending on the type of resource you select.
Note: Monitor criteria entered in the HIGH column must be greater than the criteria entered in the LOW column, with one exception. You can enter a zero in the HIGH column, regardless of what is entered in the LOW column. Entering a zero in either the LOW or HIGH fields for a monitor turns off that portion of the monitor.

4. Complete the second and third Network Start panels (FNM03STM) and press ENTER to start collection on the selected resource. The Resource List panel is redisplayed.

You can use the REFRESH command to display the current collection status for the resource.

Displaying Network Detail Data

Use the following procedure to display network detail data from the Resource List panel (FNM02RSL), shown in Figure 16 on page 25.

1. Type R in the Option field next to a specific resource on the Resource List panel. Press ENTER to display the Network Review panel (FNM02RVM), shown in Figure 20 on page 29.

Note: See “Displaying Monitor Event Messages for Network Collections” on page 69 for procedures to display monitor event messages for network collections.
2. Verify that the specific resource name is displayed in the Resource Name field and that NCP is displayed in the Resource Type field.

3. Type DETAIL in the Data Type field.

4. Press ENTER to display detail data for the specified network resource.

Notes:

a. The panel format used to display network review data varies, depending on the type of network resource selected. The various types of network detail data displays are shown in Figure 50 on page 52 through Figure 83 on page 69.

b. For panels accessed through FNM02RVM to see data for NCP and LAN bridge resources only Mode 2 emulator (25×80) is available.

Displaying, Altering, or Stopping a Network Collection

Use the following procedure to display, alter, or stop an active or deferred network collection from the Resource List panel (FNM02RSL), shown in Figure 16 on page 25:

1. Type L in the Option field next to a specific network resource on the Resource List panel. Press ENTER to display the Command List panel (FNM03NCL), shown in Figure 21 on page 30.

The Command List panel displays a list of all the network data collections, active and deferred, for the selected resource. You can alter or stop an active or deferred collection from this panel.
2. To stop a collection, type P in the Option field next to a specific collection. Press ENTER to stop the selected collection.

You can use the REFRESH command to display the current collection status for the resource.

3. To alter a collection, type A in the option field next to a specific collection. Press ENTER to display the first Network Alter panel (FNM03STM), shown in Figure 22. Use the FORWARD command to display the additional information on the second Network Alter panel (FNM03STM), shown in Figure 23 on page 31. These panels are used to alter network collection on any network resource type.
4. Complete these panels and press ENTER to process the collection alteration. The Resource List panel is redisplayed.

You can use the REFRESH command to display the current collection status for the resource.

**Note:** You can alter only the Monitor Criteria and the Data Destinations fields.

### Expanding a Resource List

Use the following procedure to expand a network resource from the Resource List panel (FNM02RSL), shown in **Figure 16 on page 25**:

1. Type X in the Option field next to a specific resource name on the Resource List panel (FNM02RSL). Press ENTER to display a list of all subordinate resources for the selected resource.

**Note:** You can continue to use the X option to expand the displayed resource lists. You can expand the lines list to display a list of PUs under a line, and then expand the PU list to display a list of LUs under a PU.

2. When the specific resource you are looking for is displayed, type one of the following options in the Option field next to the resource and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Starts collection on the selected resource. See “Starting an Active or Deferred Network Collection” on page 24 for detailed procedures.</td>
</tr>
<tr>
<td>R</td>
<td>Reviews data written to a VSAM file for the selected resource. See “Displaying Network Detail Data” on page 28 for detailed procedures.</td>
</tr>
<tr>
<td>L</td>
<td>Lists all collections for the selected resource. See “Displaying, Altering, or Stopping a Network Collection” on page 23 for detailed procedures.</td>
</tr>
<tr>
<td>Z</td>
<td>Stops all active collections on the selected resource. See “Stopping All Collections” on page 32 for detailed procedures.</td>
</tr>
</tbody>
</table>

---

4. Complete these panels and press ENTER to process the collection alteration. The Resource List panel is redisplayed.

You can use the REFRESH command to display the current collection status for the resource.

**Note:** You can alter only the Monitor Criteria and the Data Destinations fields.

### Expanding a Resource List

Use the following procedure to expand a network resource from the Resource List panel (FNM02RSL), shown in **Figure 16 on page 25**:

1. Type X in the Option field next to a specific resource name on the Resource List panel (FNM02RSL). Press ENTER to display a list of all subordinate resources for the selected resource.

**Note:** You can continue to use the X option to expand the displayed resource lists. You can expand the lines list to display a list of PUs under a line, and then expand the PU list to display a list of LUs under a PU.

2. When the specific resource you are looking for is displayed, type one of the following options in the Option field next to the resource and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Starts collection on the selected resource. See “Starting an Active or Deferred Network Collection” on page 24 for detailed procedures.</td>
</tr>
<tr>
<td>R</td>
<td>Reviews data written to a VSAM file for the selected resource. See “Displaying Network Detail Data” on page 28 for detailed procedures.</td>
</tr>
<tr>
<td>L</td>
<td>Lists all collections for the selected resource. See “Displaying, Altering, or Stopping a Network Collection” on page 23 for detailed procedures.</td>
</tr>
<tr>
<td>Z</td>
<td>Stops all active collections on the selected resource. See “Stopping All Collections” on page 32 for detailed procedures.</td>
</tr>
</tbody>
</table>
Stopping All Collections

Type Z next to a resource name on the Resource List panel (FNM02RSL), shown in Figure 16 on page 23. Press ENTER to stop all active collections for that resource, including data forwarding collections.

A message is displayed indicating collection has been stopped for the selected resource.

Note: This option does not affect deferred collections.
Using the List Option for Routers

Use the List option for routers to perform network data collection and analysis when you do not know the name of a router network resource.

Displaying a List of Router Network Resources

Use the following procedure to display a list of router network resources:

1. Type R in the NCP/Router field and select option 1 from the Network Resource Type Selection panel (FNM01NET) to display the Network Router List panel (FNM02RSR), shown in Figure 24.

The Network Router List panel displays a list of router resources for the selected host.

<table>
<thead>
<tr>
<th>Command</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATE &lt;Resource&gt;</td>
<td>Locates a specific resource either by full resource name or by partial resource name.</td>
</tr>
<tr>
<td>SORT NAME</td>
<td>Sorts by resource name.</td>
</tr>
<tr>
<td>SORT TYPE</td>
<td>Sorts by resource type and resource name.</td>
</tr>
<tr>
<td>SORT STATUS</td>
<td>Sorts by collection status, monitor status, and resource name.</td>
</tr>
<tr>
<td>REFRESH</td>
<td>Redisplays the current state of collected data or collection status.</td>
</tr>
</tbody>
</table>

2. You can modify the way information is displayed on the Network Router List panel. Type one of the following commands on the Command line and press ENTER:

<table>
<thead>
<tr>
<th>Command</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATE &lt;Resource&gt;</td>
<td>Locates a specific resource either by full resource name or by partial resource name.</td>
</tr>
<tr>
<td>SORT NAME</td>
<td>Sorts by resource name.</td>
</tr>
<tr>
<td>SORT TYPE</td>
<td>Sorts by resource type and resource name.</td>
</tr>
<tr>
<td>SORT STATUS</td>
<td>Sorts by collection status, monitor status, and resource name.</td>
</tr>
<tr>
<td>REFRESH</td>
<td>Redisplays the current state of collected data or collection status.</td>
</tr>
</tbody>
</table>

3. Type one of the following options in the Option field next to a specific resource displayed on the Network Router List panel and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>Starts collection on the selected router resource. See &quot;Starting a Router Network Collection&quot; on page 35 for detailed procedures.</td>
</tr>
</tbody>
</table>
### Displaying Router Network Resources

<table>
<thead>
<tr>
<th>Option</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Displays details of data written for the selected router (detail or monitor).</td>
</tr>
<tr>
<td>Z</td>
<td>Ends all active collections on the selected router resource.</td>
</tr>
<tr>
<td>D</td>
<td>Displays information for a selected router.</td>
</tr>
</tbody>
</table>

**Note:** The Option: field displays the options that can be selected for each network resource displayed on the Network Router List panel.

An error message is displayed if you select an option that is not displayed in the Option: field.

If the TCP/IP goes down, you can display a list of router network resources. Type one of the following options in the Option field next to a specific resource displayed on the Network Router List panel and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>When the TCP/IP was down this option is disabled.</td>
</tr>
<tr>
<td>R</td>
<td>Displays details of data written for the selected router (detail or monitor).</td>
</tr>
<tr>
<td>Z</td>
<td>When the TCP/IP was down this option is disabled.</td>
</tr>
<tr>
<td>D</td>
<td>Displays information for a selected router.</td>
</tr>
<tr>
<td>L</td>
<td>Lists all collections for the selected resource.</td>
</tr>
</tbody>
</table>

**Note:** You can alter or stop a collection only when the TCP/IP is up and running.
Starting a Router Network Collection

Use the following procedure to start a router network collection from the Resource List panel (FNM02RSR), shown in Figure 24 on page 33.

**Note:** You must ensure that the designated destination files for the collected data are not full. See “Managing Data Files” on page 196.

1. Type $ in the Option field next to a specific resource on the Resource List panel. Press ENTER to display the Network Start panel (FNM03STE), shown in Figure 25.

2. Complete the Network Start panel. Type the times in the Start Time and Stop Time fields if you want to start or stop the collection at a specific time.

3. Press ENTER to display the second router Network Start panel (FNM03SRR), shown in Figure 26.

---

**Figure 25. Network Start Panel for Router (FNM03STE)**

**Figure 26. Network Start Panel for Router (FNM03SRR)**
4. Press ENTER to start collection on the selected resource. The Resource List panel is redisplayed.
You can use the REFRESH command to display the current collection status for the resource.

**Displaying Information for a Selected Router**

Use the following procedure to display information for a selected router from the Resource List panel (FNM02RSR), shown in [Figure 24 on page 33]:

1. Type **D** in the Option field next to a specific resource on the Resource List panel. Press ENTER to display the first Display Router Information panel (FNM03RSD), shown in [Figure 27].

   ![Figure 27. Display Router Information Panel (FNM03RSD)](image)

2. Press **PF8** (FORWARD) to display the second Display Router Information panel (FNM03RSY), shown in [Figure 28].

   ![Figure 28. Display Router Information Panel (FNM03RSY)](image)
Displaying, Altering, or Stopping a Network Collection

Use the following procedure to display, alter, or stop an active or deferred network collection from the Resource List panel (FNM02RSR), shown in Figure 24 on page 33:

1. Type L in the Option field next to a specific network resource on the Resource List panel. Press ENTER to display the Command List panel (FNM03NCR), shown in Figure 29.

The Command List panel displays a list of all the network data collections, active and deferred, for the selected resource. You can alter or stop an active or deferred collection from this panel.

```
FNM03NCR   NPM V2R7   5655-043
NETWORK MANAGEMENT
COMMAND LIST

Command -->

Host Name = LOCAL  Router Name = 69.100.110.254  Router Type = Cisco
Enter Command: REFRESH or Option: A=Alter, P=Stop

Option  Start  Stop  Status  Daily  Int   LOG  VSAM  SMF  LOG  VSAM  SMF  ALERT  GBL
>>  00:00:00  00:00:00  STARTED  NO   1    Y    Y    N    Y    N    Y
>>  16:30:00  17:30:00  DEFERRED NO   1    Y    Y    N    Y    N    N    Y

PF 1=HELP  3=END  8=FORWARD  12=RETURN  15=NCP  16=ROUTER
PF17=LINE  20=APPL  24=TERMINAL
```

Figure 29. Command List Panel for Router (FNM03NCR)

2. To stop a collection, type P in the Option field next to a specific collection. Press ENTER to stop the selected collection.

You can use the REFRESH command to display the current collection status for the resource.

3. To alter a collection, type A in the option field next to a specific collection. Press ENTER to display the Network Alter panel (FNM03SRR) shown in Figure 30 on page 38. You can use this panel to alter network collection on any network resource type.
4. Complete this panel and press ENTER to process the collection alteration. The Resource List panel is redisplayed. You can use the REFRESH command to display the current collection status for the resource.

**Note:** You can alter only the Monitor Criteria and the Data Destinations fields.

**Stopping All Router Collections**

Type Z next to a router resource name on the Resource List panel (FNM02RSR), shown in Figure 24 on page 33. Press ENTER to stop all active collections for that router resource.

A message is displayed indicating collection has been stopped for the selected router resource.

**Using the Select and List Option for NCPs**

Use the Select and List option for NCPs to obtain a list of NCP resources that accepts some search criteria: partial resource name (using the wildcard character) and an optional resource type.

Use the following procedure to select and list NCP resources:

1. Accept the default of N in the NCP/Router field and select option 2 from the Network Resource Type Selection panel (FNM01NET) to display the Select and List panel (FNM02SL1), shown in Figure 31 on page 39. You can also use fast path =1.2 to display the Select and List panel.
2. Type either a full resource name or a partial resource name (using the wildcard character) in the Resource Name field and an optional resource type in the Resource Type field.

3. Press ENTER to obtain a list of resources that satisfy the search criteria. The Resource List panel (FNM02RSL), shown in Figure 32, displays the list of resources.

4. Follow the network data collection procedure described in “Using the List Option for NCPs” on page 25.
Using the Select and List Option for Routers

Use the Select and List option for Routers to obtain a list of Router resources that accepts some search criteria: partial router IP address (using subnet mask) and an optional resource type.

Use the following procedure to select and list Router resources:

1. Type R in the NCP/Router field and select option 2 from the Network Resource Type Selection panel (FNMO1NET) to display the Select and List panel (FNMO2SL2), shown in Figure 33. You can also use fast path =1.2 to display the Select and List panel.

2. Type either a full router address or a partial router address (using the subnet mask) in the IP Address field and an optional resource type in the Resource Type field.

3. Press ENTER to obtain a list of resources that satisfy the search criteria. The Network Router List panel (FNMO2RSR), shown in Figure 34 on page 41, displays the list of resources.

Figure 33. Select and List Panel (FNMO2SL2)
4. Follow the network data collection procedure described in “Using the List Option for Routers” on page 33.

Using the Find Resource Option

Use the Find Resource option to perform network data collection functions when you know the name of a network resource. This option is available only for NCP resources. This option lets you access the Resource List panel (FNM02RSR), shown in Figure 36 on page 42, more efficiently.

Use the following procedure to find the name of a resource using the Find Resource option:

1. Type 3 in the Select Option field on the Network Resource Type Selection panel (FNM01NET), shown in Figure 15 on page 24.

2. Type the full name of a specific resource in the Resource Name field, and press ENTER.
   - If there is more than one resource with the name you entered in your network, the NCP Name Selection panel (FNM02UPL) is displayed. See Figure 35 on page 42.
   - If there is only one resource in your network with the name you specified, the Resource List panel is displayed, shown in Figure 36 on page 42.
Type a slash mark (/) next to the correct NCP name and press ENTER to display the Resource List panel, shown in Figure 36. The Resource List panel displays a hierarchical list of related resources for the resource you specified in step 1.

3. Follow the network data collection procedures described in “Using the List Option for NCPs” on page 25.

Using the Start Collection Option for NCPs

Use the Start Collection option for NCPs to start network data collection when you know the name of an NCP (or a subordinate network resource). Use the following procedure to start a collection on any type of network resource:

1. Accept the default of N in the NCP/Router field and select option 4 from the Network Resource Type Selection panel (FNMO1NET) to display the first Network Start panel.
(FNM03STD), shown in Figure 37. You can also use fast path =1.4 to display the first Network Start panel.

---

**Figure 37. Network Start Panel (FNM03STD)**

2. Complete the first Network Start panel and press ENTER to display the second Network Start panel (FNM03STM), shown in Figure 38. Use the FORWARD command to display the additional information on the third Network Start panel (FNM03STM), shown in Figure 39 on page 44.

---

**Figure 38. Network Start Panel (FNM03STM)**

---

2. Collecting and Analyzing Network Data
3. Complete the second and third Network Start panels and press ENTER to start collection on the selected resource.

   Note: The four monitors that are valid for data collection on an NCP resource are displayed in Figure 38 on page 43. If the Dynamic Resource field is set to YES on the Network Start panel (FNM03STD), the complete set of available network monitors is displayed.

Using the Start Collection Option for Routers

Use the Start Collection option for Routers to start network data collection when you know the name of a Router. Use the following procedure to start a collection on any type of router:

1. Type R in the NCP/Router field and select option 4 from the Network Resource Type Selection panel (FNM01NET) to display the Network Start panel (FNM03STE), shown in Figure 40 on page 45. You can also use fast path =1.4 to display the Network Start panel.
Note: The monitor criteria list changes according to the router type.

2. Complete the Network Start panel. Type the times in the Start Time and Stop Time fields if you want to start or stop the collection at a specific time.

3. Press ENTER to display the second Network Start panel (FNM03SRR), shown in Figure 41.

4. Press ENTER to start the collection on the selected resource.

Using the Alter Collection Option for NCPs

Use the Alter Collection option for NCPs to alter network data collection when you know the name of an NCP (or a subordinate network resource). Use the following procedure to alter a collection on any type of NCP resource:
1. Accept the default of N in the NCP/Router field and select option 5 from the Network Resource Type Selection panel (FNM01NET) to display the first Network Alter panel (FN03STD), shown in Figure 42. You can also use fast path =1.5 to display the first Network Alter panel.

The Network Alter panel is displayed only from the direct path when altering collections. All fields on this panel are input fields. The Interval Number, Resource Name, Start Time, and Stop Time fields are used to identify the collection to be altered to the NCP.

![Network Alter Panel (FN03STD)](image)

Figure 42. Network Alter Panel (FN03STD)

2. Complete this panel and press ENTER to display the second Network Alter panel (FN03STM), shown in Figure 43 on page 47. Use the FORWARD command to display the additional information on the third Network Alter panel (FN03STM), shown in Figure 44 on page 47.

**Note:** NPM verifies 1) that the selected resource is defined to NPM, and 2) that a collection has been started for the resource that matches the criteria entered on the Network Alter panel (FN03STD). An error message is displayed if either verification fails.

NPM does not perform these verifications if you specify a generic resource name, such as ALLLINES.
3. Complete the second and third Network Alter panels and press ENTER to alter the collection.

**Note:** You can alter only the Data Destinations and the Monitor Criteria fields on the second and third Network Alter Panels (FNM03STM).

If you specify a generic resource name, such as ALLLINES, all the valid monitor criteria are displayed as zeros.

**Using the Alter Collection Option for Routers**

Use the Alter Collection option for Routers to alter network data collection when you know the name of a router. Use the following procedure to alter a collection on any type of router:
1. Type R in the NCP/Router field and select option 5 from the Network Resource Type Selection panel (FNM01NET) to display the Network Alter panel (FNM03STE), shown in Figure 45. You can also use fast path =1.5 to display the Network Alter panel.

The Network Alter panel is displayed only from the direct path when altering collections. All fields on this panel are input fields. The Interval Number, Resource Name, Start Time, and Stop Time fields are used to identify the collection to be altered to the NCP.

![Network Alter Panel for Router (FNM03STE)](image)

Note: NPM verifies 1) that the selected resource is defined to NPM, and 2) that a collection has been started for the resource that matches the criteria entered on the Network Alter panel (FNM03STE). An error message is displayed if either verification fails.

2. Complete the Network Alter panel and press ENTER to display the second Network alter panel, shown in Figure 46 on page 49.

Figure 46. Network Alter Panel for Router (FNM03STE)

Note: NPM verifies 1) that the selected resource is defined to NPM, and 2) that a collection has been started for the resource that matches the criteria entered on the Network Alter panel (FNM03STE). An error message is displayed if either verification fails.
3. The new values specified in the Data Destinations fields are used in the current network data collection.

**Using the Stop Collection Option for NCPs**

Use the Stop Collection option for NCPs to stop network data collection when you know the name of an NCP (or a subordinate network resource). Use the following procedure to stop a collection on any type of NCP resource:

1. Accept the default of N in the NCP/Router field and select option 6 from the Network Resource Type Selection panel (FNM01NET) to display the Network Stop panel (FNM03STD), shown in Figure 47. You can also use fast path =1.6 to display the Network Stop panel.

![Figure 46. Network Alter Panel for Router (FNM03SRR)](image1)

![Figure 47. Network Stop Panel (FNM03STD)](image2)
2. Complete the Network Stop panel and press ENTER to stop a collection on the selected resource. The specific collection to be stopped is identified by the Resource Name, NCP Name, Interval Number, Start Time, and Stop Time fields.

Using the Stop Collection Option for Routers

Use the Stop Collection option for Routers to stop network data collection when you know the name of a Router. Use the following procedure to stop a collection on any type of router:

1. Type R in the NCP/Router field and select option 6 from the Network Resource Type Selection panel (FNM01NET) to display the Network Stop panel (FNM03STE), shown in Figure 48. You can also use fast path =1.6 to display the Network Stop panel.

2. Complete the Network Stop panel and press ENTER to stop a collection on the selected resource. The specific collection to be stopped is identified by the Router Name, Interval Number, Start Time, and Stop Time fields.

Using the Review Data Option for NCPs

Use the Review Data option for NCPs to display network data collection when you know the name of an NCP (or a subordinate network resource). You can display:

- Detailed data
- Summarized data
- Monitor event messages

Use the following procedure to display network detail data:

1. Accept N as the default in the NCP/Router field and select option 7 from the Network Resource Type Selection panel (FNM01NET) to display the Network Review panel (FNM02RVM), shown in Figure 49 on page 51. You can also use fast path =1.7 to display the Network Review panel.
2. Type either a full resource name or a partial resource name in the Resource Name field.

3. Type a resource type in the Resource Type field (you can display a list of valid resource types by pressing PF2 (=RESTYPE)).

4. Type DETAIL in the Data Type field.

5. Press ENTER to display detail data for the network resource specified on the Network Review panel (FNM02RVM).

Notes:

a. Press PF9 (=SUMMARY) to display summarized data on the specified network resource.

b. The panel format used to display network detail data varies, depending on the type of resource selected. The various types of network detail data displays are shown in

Displaying ODLC LAN Resources Data for a LAN PU

The Network Review Data for ODLC LAN Resources panel (FNM03RVC) is shown in

The panel is displayed when an outboard data link control (ODLC) LAN physical unit is specified in the Resource Name field on the Network Review panel (FNM02RVM).
Displaying ODLC LAN Resources Data for a LAN Physical Link

The Network Review Data for ODLC LAN Resources panel (FNM03RVZ) is shown in Figure 51. This panel is displayed when an ODLC LAN physical link is specified in the Resource Name field on the Network Review panel (FNM02RVM).

Use the RIGHT command to display additional information about the selected link on the Network Review Data for ODLC LAN Resources panels, (FNM03RVD and FNM03RV8) shown in Figure 52 on page 53 and Figure 53 on page 53.

Figure 50. Network Review Data for ODLC LAN Resources Panel (FNM03RVC)

Figure 51. Network Review Data for ODLC LAN Resources Panel (FNM03RVZ)
Displaying Frame Relay Resources Data for a Physical Station

The Network Review Data for Frame Relay Resources panel (FNM03RVF) is shown in Figure 54 on page 54. This panel is displayed when a frame relay physical station is specified in the Resource Name field on the Network Review panel (FNM02RVM). The panel data includes congestion and message statistics.

Use the RIGHT command to display additional information on the Network Review Data for Frame Relay Resources panel (FNM03RV9), shown in Figure 55 on page 54.
Displaying Frame Relay Resources Data for a Logical Link

The Network Review Data for Frame Relay Resources panel (FNM03RVV) is shown in Figure 56 on page 55. This panel is displayed when a frame relay logical link is specified in the Resource Name field on the Network Review panel (FNM02RVM). The panel data includes congestion and message statistics.

Use the RIGHT command to display additional information on the Network Review Data for Frame Relay Resources panels (FNM03RVB and FNM03R11), shown in Figure 57 on page 55 and Figure 58 on page 56.
Figure 56. Network Review Data for Frame Relay Resources Panel (FNM03RVV)

Figure 57. Network Review Data for Frame Relay Resources Panel (FNM03RVB)
Displaying Frame Relay Resources Data for a Physical Link

The Network Review Data for Frame Relay Resources panel (FNM03RVU) is shown in Figure 59. This panel is displayed when a frame relay physical link is specified in the Resource Name field on the Network Review panel (FNM02RVM). The panel data includes congestion and message statistics.

Use the RIGHT command to display additional information on the Network Review Data for Frame Relay Resources panels (FNM03RVA and FNM03R10), shown in Figure 60 on page 57 and Figure 61 on page 57.
Displaying NEO Resources Data

The Network Review Data for NEO Resources panel (FNM03RVG) is shown in Figure 62 on page 58. This panel is displayed when an NEO resource is specified in the Resource Name field on the Network Review panel (FNM02RVM). The panel data includes line utilization and the number of PDUs and octets transmitted across the resource.

Use the RIGHT command to display additional information on the Network Review Data for NEO Resources panel (FNM03RVS), shown in Figure 63 on page 58.
Displaying Network Detail Data for Lines

The Network Review Data panel (FNM03RVVL) is shown in Figure 64 on page 59. This panel is displayed when a line resource is specified in the Resource Name field on the Network Review panel (FNM02RVM). The panel data includes line utilization and message statistics.

Use the RIGHT command to display additional information on the Network Review Data for Lines panel (FNM03RV1), shown in Figure 65 on page 59.
Displaying Network Detail Data for PU

The Network Review Data panel (FNM03RVY) is shown in Figure 66 on page 60. This panel is displayed when a PU resource is specified in the Resource Name field on the Network Review panel (FNM02RVM). The panel data includes line utilization and message statistics.

Use the RIGHT command to display additional information on the Network Review Data panels (FNM03RVR and FNM03RV2), shown in Figure 67 on page 60 and Figure 68 on page 61.
Review Data for NCPs

Figure 66. Network Review Data Panel (FNM03RVY)

Figure 67. Network Review Data Panel (FNM03RVR)
Displaying NTRI Resources Data for a Logical Link

The Network Review Data for NTRI Resources panel (FNM03RVN) is shown in Figure 69 on page 62. This panel is displayed when an NTRI logical link is specified in the Resource Name field on the Network Review panel (FNM02RVM). This panel displays NTRI review data, such as TIC utilization and message statistics.

Use the SUMMARY command to display a summary of all data found in the review file for the specified NTRI resource and time period.

Use the RIGHT command to display additional information on the Network Review Data for NTRI Resources panels (FNM03RVQ and FNM03RV3), shown in Figure 70 on page 62 and Figure 71 on page 63.
Command ===> Insert DYN to get dynamic (real time) data
Host Name = LOCAL      Resource Name = J0003005 Data Type = LOGLINK DETAIL
Date/Time: from 03/01/99 15:01:00 to 03/01/99 15:04:00

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PF 1=HELP   3=END   5=RIGHT  9=SUMMARY  12=RETURN  15=NCP
PF16=ROUTER 17=LINE 20=APPL  24=TERMINAL

Figure 69. Network Review Data for NTRI Resources Panel (FNM03RVN)

Command ===> Insert DYN to get dynamic (real time) data
Host Name = LOCAL      Resource Name = J0003005 Data Type = LOGLINK DETAIL
Date/Time: from 03/01/99 15:01:00 to 03/01/99 15:04:00

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PF 1=HELP   3=END   4=LEFT   5=RIGHT  9=SUMMARY  12=RETURN  15=NCP
PF15=NCP   16=ROUTER 17=LINE  20=APPL  24=TERMINAL

Figure 70. Network Review Data for NTRI Resources Panel (FNM03RVQ)
Displaying NTRI Resources Data for a Physical Link

The Network Review Data for NTRI Resources panel (FNM03RVS) is shown in Figure 72. This panel is displayed when an NTRI physical link is specified in the Resource Name field on the Network Review panel (FNM02RVM). This panel displays NTRI review data, such as TIC utilization and message statistics.

Use the SUMMARY command to display a summary of all data found in the review file for the specified NTRI resource and time period.

Use the RIGHT command to display additional information on the Network Review Data for NTRI Resources panels (FNM03RVH, FNM03RVO, and FNM03RV4), shown in Figure 73 on page 64, Figure 74 on page 64 and Figure 75 on page 65.

Figure 71. Network Review Data for NTRI Resources Panel (FNM03RV3)

Figure 72. Network Review Data for NTRI Resources Panel (FNM03RVS)
**Figure 73. Network Review Data for NTRI Resources Panel (FNM03RVH)**

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PF 1=HELP 3=END 4=LEFT 5=RIGHT 9=SUMMARY 12=RETURN
PF15=NCP 16=ROUTER 17=LINE 20=APPL 24=TERMINAL

**Figure 74. Network Review Data for NTRI Resources Panel (FNM03RVO)**

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<th>Resource</th>
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<th>IP Bytes</th>
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</table>

PF 1=HELP 3=END 4=LEFT 5=RIGHT 9=SUMMARY 12=RETURN
PF15=NCP 16=ROUTER 17=LINE 20=APPL 24=TERMINAL
**Displaying Network Detail Data for CCUs**

The Network Review Data panel (FNM03RVP) is shown in Figure 76 on page 66. This panel is displayed when a CCU is specified in the Resource Name field on the Network Review panel (FNM02RVM). The panel data includes CCU utilization, slowdown, and buffer information.

Use the RIGHT command to display additional information for the CCUs on the Network Review Data panels (FNM03CU0 and FNM03CU4), shown in Figure 77 on page 66 and Figure 78 on page 67.

Use the RIGHT or LEFT commands to display additional information on the Network Review Data panels (FNM03CU5 through FNM03CUC) (not shown).

Use the RIGHT or LEFT commands to display additional information for the CCUs on the Network Review Data panel (FNM03CUL), shown in Figure 79 on page 67.

---

**Figure 75. Network Review Data for NTRI Resources Panel (FNM03RV4)**

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</table>

| PF 1=HELP 3=END 4=LEFT 9=SUMMARY 12=RETURN 15=NCP |
| PF16=ROUTER 17=LINE 20=APPL 24=TERMINAL |
**Review Data for NCPs**

![Figure 76. Network Review Data Panel (FNM03RVP)](image)

![Figure 77. Network Review Data Panel (FNM03CU0)](image)
Displaying Ethernet Resources Data

The Network Review Data for Ethernet Resources panel (FNM03RV7) is shown in Figure 80 on page 68. This panel is displayed when an Ethernet resource is specified in the Resource Name field on the Network Review panel (FNM02RVM).

Use the RIGHT command to display additional information on the Network Review Data for Ethernet Resources panel (FNM03RV7), shown in Figure 81 on page 68.
Displaying X.25 Resources Data

The Network Review Data for X.25 Resources panel (FNM03RVX) is shown in Figure 82 on page 69. This panel is displayed when an X.25 resource is specified in the Resource Name field on the Network Review panel (FNM02RVM). The panel data includes line utilization and message statistics.

Use the RIGHT command to display additional information on the Network Review Data for X.25 Resources panel (FNM03RV6), shown in Figure 83 on page 69.
Displaying Monitor Event Messages for Network Collections

Use the following procedure to display monitor event messages for network collections:

1. Accept the default of N in the NCP/Router field and select option 7 from the Network Resource Type Selection panel (FNM01NET) to display the Network Review panel (FNM02RVM), shown in Figure 84 on page 70. You can also use fast path =1.7 to display the Network Review panel.
2. Type * in the Resource Name field, ALL in the Resource Type field and MONITOR in the Data Type field of the Network Review panel (FNM02RVM) to review all monitor messages.

If your release of NPM does not support the wildcard function, type MONITOR in the Resource Name field, ALL in the Resource Type field and MONITOR in the Data Type field of the Network Review panel (FNM02RVM) to review all monitor messages.

To review monitor messages for a specific network resource, type the resource name in the Resource Name field, the resource type in the Resource Type field and MONITOR in the Data Type field of the Network Review panel.

3. Press ENTER to display the Review Monitor Event Messages panel (FNM03RVE), shown in Figure 85. The Review Monitor Event Messages panel (FNM03RVE) displays all monitor event messages generated for the specified resource.

Figure 84. Network Review Panel (FNM02RVM)

Figure 85. Review Monitor Event Messages Panel (FNM03RVE)
Displaying Router Network Collection Data

Use the following procedure to display router network collection data from the Resource List panel (FNM02RSR), shown in Figure 24 on page 33:

1. Type R in the Option field next to a specific resource on the Resource List panel. Press ENTER to display the Router Review panel (FNM02RRV), shown in Figure 86.

   ![Figure 86. Router Review Panel (FNM02RRV)](image)

2. Modify any data according to the display required. Press ENTER to display the first Network Review Data panel (FNM03RI1) for the router, shown in Figure 87 on page 72.
3. Press PF5 (RIGHT) to display the second Network Review Data panel (FNM03RI2) for the router, shown in Figure 88.
4. Press PF5 (RIGHT) to display the third Network Review Data panel (FNM03RI3) for the router, shown in Figure 89.
Press PF4 (LEFT) to return to the first Network Review Data panel (FNM03RI1).

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</table>

Figure 89. Network Router Review Data Panel (FNM03RI3)

5. Press PF5 (RIGHT) to display the Network Review Data panel (FNM03RI4):
This panel shows the APPN data for routers.

6. Press PF5 (RIGHT) to display the Network Review Data panel (FNM03RI5):

Figure 90. Network Router Review Data Panel (FNM03RI4)
Command ===> 
Insert DYN to get dynamic (real time) data
Host Name = LOCAL
Resource Name = 69.100.110.254 Router Host Name = cisco-2505-tk0.rom
Resource Type = CISCO
Date/Time from 08/07/00 10:55:59 to 08/07/00 12:02:59
Enter Command: REFRESH
C=CPU Data, MP=Mem. POOL Data, CIP=CIP Data

<table>
<thead>
<tr>
<th>Time</th>
<th>Index</th>
<th>Interface</th>
<th>Unicast Pkts</th>
<th>Multicast Pkts</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:55:59</td>
<td>00:01:00</td>
<td>2</td>
<td>49</td>
<td>61</td>
</tr>
<tr>
<td>10:55:59</td>
<td>00:01:00</td>
<td>3</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>10:55:59</td>
<td>00:01:00</td>
<td>4</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>10:56:59</td>
<td>00:01:00</td>
<td>2</td>
<td>44</td>
<td>58</td>
</tr>
<tr>
<td>10:56:59</td>
<td>00:01:00</td>
<td>3</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>10:56:59</td>
<td>00:01:00</td>
<td>4</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>10:57:59</td>
<td>00:01:00</td>
<td>2</td>
<td>46</td>
<td>58</td>
</tr>
<tr>
<td>10:57:59</td>
<td>00:01:00</td>
<td>3</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>10:57:59</td>
<td>00:01:00</td>
<td>4</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>10:58:59</td>
<td>00:01:00</td>
<td>2</td>
<td>45</td>
<td>58</td>
</tr>
<tr>
<td>10:58:59</td>
<td>00:01:00</td>
<td>3</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>10:58:59</td>
<td>00:01:00</td>
<td>4</td>
<td>0</td>
<td>14</td>
</tr>
</tbody>
</table>

PF 1=HELP 3=END 4=LEFT 5=RIGHT 8=FORWARD 11=BOTTOM
PF12=RETURN 15=NCP 16=ROUTER 17=LINE 20=APPL 24=TERMINAL

Figure 91. Network Review Data Panel for Router (FNM03RI5)
Displaying CPU Information for Cisco Routers

You can display CPU information for Cisco routers from any of the following Network Review Data panels:

- FNM03RI1, shown in Figure 87 on page 72
- FNM03RI2, shown in Figure 88 on page 72
- FNM03RI3, shown in Figure 89 on page 73
- FNM03RI4, shown in Figure 90 on page 74
- FNM03RI5, shown in Figure 91 on page 75

To display CPU information for Cisco routers, enter `C` on the command line and press ENTER. Figure 92 is displayed:

![Network Router Review Data Panel (FNM04CPC)](image)

Figure 92. Network Router Review Data Panel (FNM04CPC)

Displaying CPU Information for IBM Routers

You can display CPU information for IBM® routers from any of the following Network Review Data panels:

- FNM03RI1, shown in Figure 87 on page 72
- FNM03RI2, shown in Figure 88 on page 72
- FNM03RI3, shown in Figure 89 on page 73
- FNM03RI4, shown in Figure 90 on page 74
- FNM03RI5, shown in Figure 91 on page 75
To display CPU information for IBM routers, enter `C` on the command line and press ENTER. Figure 93 is displayed:

```
To display CPU information for IBM routers, enter C on the command line and press ENTER. Figure 93 is displayed:
```

**Displaying Memory Pool Information for Cisco Routers**

You can display memory pool information for Cisco routers from any of the following Network Review Data panels:

- **FNM03RI1**, shown in [Figure 87 on page 72](#)
- **FNM03RI2**, shown in [Figure 88 on page 72](#)
- **FNM03RI3**, shown in [Figure 89 on page 73](#)
- **FNM03RI4**, shown in [Figure 90 on page 74](#)
- **FNM03RI5**, shown in [Figure 91 on page 75](#)

To display memory pool information for Cisco routers, enter `MP` on the command line and press ENTER. Figure 94 on page 78 is displayed:
Displaying Memory Information for IBM Routers

You can display memory information for IBM routers from any of the following Network Review Data panels:

- **FNM03RI1**, shown in [Figure 87 on page 72](#)
- **FNM03RI2**, shown in [Figure 88 on page 72](#)
- **FNM03RI3**, shown in [Figure 89 on page 73](#)
- **FNM03RI4**, shown in [Figure 90 on page 74](#)
- **FNM03RI5**, shown in [Figure 91 on page 75](#)

To display memory information for IBM routers:

1. Enter MP on the command line and press ENTER. [Figure 95 on page 79](#) is displayed:
2. Press PF5 (RIGHT) to display the Network Router Review Data panel (FNM04MI2):

```
FNM04MI2  NPM V2R7  5655-043
NETWORK MANAGEMENT  More: < + >
NETWORK ROUTER REVIEW DATA

Command ===> Insert DYN to get dynamic (real time) data
Host Name = LOCAL
Resource Name = 69.100.86.100  Router Host Name = mss-8210-002.rome.
Resource Type = MSS8210
Date/Time: from 08/07/00 11:11:30 to 08/07/00 11:58:30
Enter Command: REFRESH

End Interval  <--Memory--->  <<--- Heap ----->  <<------ Buffer ------->
Time hh:mm:ss Size Used% Total Mem. Util% Tot.Glb. Glb.Util.%
11:11:30 00:01:01 0 0 43628Kb 14 400 0
11:12:30 00:01:00 0 0 43628Kb 14 400 0
11:13:30 00:01:00 0 0 43628Kb 14 400 0
11:14:30 00:01:00 0 0 43628Kb 14 400 0
11:15:30 00:01:00 0 0 43628Kb 14 400 0
11:16:29 00:00:59 0 0 43628Kb 14 400 0
11:17:29 00:01:00 0 0 43628Kb 14 400 0
11:18:29 00:01:00 0 0 43628Kb 14 400 0
11:19:29 00:01:00 0 0 43628Kb 14 400 0
11:20:30 00:01:01 0 0 43628Kb 14 400 0
11:21:30 00:01:00 0 0 43628Kb 14 400 0
11:22:30 00:01:00 0 0 43628Kb 14 400 0
11:23:30 00:01:00 0 0 43628Kb 14 400 0
11:24:30 00:01:01 0 0 43628Kb 14 400 0

PF 1=HELP 3=END 4=LEFT 5=RIGHT 8=FORWARD 11=BOTTOM 12=RETURN
PF15=NCP 16=ROUTER 17=LINE 20=APPL 24=TERMINAL

Figure 96. Network Router Review Data Panel (FNM04MI2)
```
4. Press PF4 (LEFT) to display the Network Router Review Data panel (FNM04MI1).

5. Press PF4 (LEFT) to display the Network Router Review Data panel (FNM04MI2).

**Displaying CIP Information for Cisco Routers**

You can display CIP information for Cisco routers from any of the following Network Review Data panels:

- FNM03R11
- FNM03R12
- FNM03R13
- FNM03R14
- FNM03R15

To display CIP information for Cisco routers:

1. Enter CIP on the command line and press ENTER. The Network Router Review Data panel (FNM04CI1) is displayed, see Figure 98 on page 81.
2. Press PF5 (RIGHT) to display the Network Router Review Data panel (FNM04CI2):

![Network Router Review Data Panel (FNM04CI2)](image)

3. Press PF4 (LEFT) to display the Network Router Review Data panel (FNM04CI1).

Using the Dynamic Data Display Option for NCPs

Use the Dynamic Data Display option to display network data on 3270 panels without waiting for a collection interval to end and without waiting until NPM has written the data into the review files. Real time data is collected and displayed on the screen using the refresh interval (as in the NPM console). You can also refresh the data automatically at any time. For more information, see “Collecting and Analyzing Dynamic Data” on page 177.

**Note:** The dynamic data function includes and replaces the last interval function.
Use the following procedure to display NCP dynamic data information:

1. Accept the default of N in the NCP/Router field and select option 8 from the Network Management panel (FNM01NET) to display the Dynamic NCP Data Display panel (FNM02DDN), shown in Figure 100. You can also use fast path=1.8 to display the Dynamic NCP Data Display panel:

```
FNM02DDN  NPM V2R7  5655-043
NETWORK MANAGEMENT
DYNAMIC NCP DATA DISPLAY

Command ===>  +-------------------------------------+
Host Name === Local    ! Resource Type    !
             ! o CLUSTER  o LINE  o ODCLNLK  !
Resource Name === *    ! o COMPONEN  o LINK  o ODCLNP0  !
Resource Type === NCP   ! o ETHERPL  o LOGLINK  o PHYLINK  !
                    ! o ISONPHY  o LU  o PU  !
                    ! o ISONLOG  o NCP  o TERMINAL  !
                    ! o FRMLIPU  o NODLLINK  o X25LINK  !
                    ! o FRLLOGK  o NESPU  o X25SLINK  !
                    ! o FRPHYLK  o NKLINK  o X25PU  !
                    ! o FRIPPU  o NXLINK  o X25PU  !
                    ! o FRPHYST  o NXX5VC  o X25C  !
+-------------------------------------+
PF 1=HELP  3=END  12=RETURN  15=NCP  16=ROUTER  17=LINE
PF20=APPL  24=TERMINAL
```

Figure 100. Dynamic NCP Data Panel (FNM02DDN)

The default for Resource Name is * (all resources). The default for Resource Type is blank.

2. To display dynamic data for a specific type of NCP resource, specify a Resource Type from the Resource Type box. For example, NCP, LINK, PU, LU, and so on. Also specify a full or partial Resource Name (using the wildcard character). A different output panel is used depending on the type of resource, together with a selected group of counters. For this example, specify NCP as the Resource Type.

3. Press ENTER to display the Dynamic NCP Data Display panel (FNM03DDN), shown in Figure 101 on page 83. This panel displays data about the specified resources collected during the last collection interval.
4. Start the auto refresh of NCP data by pressing ENTER. The output panel will go into auto refresh mode. You can exit auto refresh mode using the ATTN key. **Figure 102** shows auto refresh mode for NCPs:

```
FNM03DDN NPM V2R7 5655-043
NETWORK MANAGEMENT
DYNAMIC NCP DATA DISPLAY

Command ===> 
Press ENTER to start auto refresh 
Host Name = Local 
Resource Name = * Resource Type = NCP 
Current Interval = from 8/17/00 12:03:29 to 8/17/00 12:03:59 
Refresh Interval = 30 (secs.)

<table>
<thead>
<tr>
<th>Resource Name</th>
<th>Type</th>
<th>Time</th>
<th>Util</th>
<th>Qlen</th>
<th>High</th>
<th>Low</th>
<th>Interm Hold</th>
<th>% Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A03NCP</td>
<td>NCP</td>
<td>12:03:59</td>
<td>100</td>
<td>4194K</td>
<td>8716K</td>
<td>8126K</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>A04NCP</td>
<td>NCP</td>
<td>12:03:59</td>
<td>100</td>
<td>4194K</td>
<td>8716K</td>
<td>8126K</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>A31XI</td>
<td>NCP</td>
<td>12:03:59</td>
<td>100</td>
<td>4194K</td>
<td>8716K</td>
<td>8126K</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>NCPB</td>
<td>NCP</td>
<td>12:03:59</td>
<td>100</td>
<td>4194K</td>
<td>8716K</td>
<td>8126K</td>
<td>8</td>
<td>16</td>
</tr>
</tbody>
</table>

PF 1=HELP 3=END 8=FORWARD 12=RETURN 15=NCP 16=ROUTER
PF17=LINE 20=APPL 24=TERMINAL

PRESS THE ATTENTION KEY TO EXIT

Figure 102. Dynamic NCP Data Panel in Auto Refresh Mode (FNM03DDN)
```
Using the Dynamic Data Display Option for Routers

Use the Dynamic Data Display option to display network data on 3270 panels without waiting for a collection interval to end and without waiting until NPM has written the data to the review files. Real time data is collected and displayed on the screen using the refresh interval (as in the NPM console). You can also refresh the data automatically at any time. For more information, see "Collecting and Analyzing Dynamic Data" on page 177.

Note: The dynamic data function includes and replaces the last interval function.

Use the following procedure to display router dynamic data information:

1. Specify R in the NCP/Router field, then select option 8 from the Network Management panel (FNM01NET) to display the Dynamic Router Data panel (FNM02DDR), shown in Figure 103. You can also use fast path =1.8 to display the Dynamic Router Data panel.

   The default for IP Address and Subnet Mask is 0.0.0.0 (all resources). The default for Resource Type is blank.

2. To display dynamic data for a specific type of router, specify a Resource Type from the Resource Type box. Alternatively, specify CISCO as the Resource Type to display data for all types of router. Different output panels are used depending on the type of router. In addition, specify either a full or partial IP address. For this example, specify CISCO as the Resource Type and leave the default values for IP Address and Subnet Mask.

3. Press ENTER to display the Dynamic Router Data Display panel (FNM03DDC), shown in Figure 104 on page 85. This panel displays data about the specified resources collected during the last collection interval.

Figure 103. Dynamic Router Data Display Panel (FNM02DDR)

The default for IP Address and Subnet Mask is 0.0.0.0 (all resources). The default for Resource Type is blank.
This panel displays data for the best interval collection of the selected resources.

4. Start the auto refresh of router data by pressing ENTER. The output panel will go into auto refresh mode. You can exit auto refresh mode using the ATTN key. Figure 105 shows auto refresh mode for routers:

```
FNM03DDC NPM V2R7 5655-043
NETWORK MANAGEMENT
DYNAMIC ROUTER DATA DISPLAY

Command >>>
Press ENTER to start auto refresh
Host Name = LOCAL
IP Address = 0.0.0.0  Resource Type = CISCO
Current Interval = from 8/17/00 14:55:59 to 8/17/00 14:56:30
Refresh Interval = 30 (secs.)

<table>
<thead>
<tr>
<th>Resource Name</th>
<th>Resource Type</th>
<th>End Time</th>
<th>Interface</th>
<th>CPU</th>
<th>Mem-Pool</th>
<th>CIP-card</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.100.87.250</td>
<td>CISCO</td>
<td>10:18:59</td>
<td></td>
<td>19</td>
<td>40</td>
<td>8</td>
</tr>
<tr>
<td>69.100.91.2</td>
<td>CISCO</td>
<td>10:18:59</td>
<td>1</td>
<td>43</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>69.120.120.1</td>
<td>CISCO</td>
<td>10:18:59</td>
<td>19</td>
<td>40</td>
<td>8</td>
<td>27</td>
</tr>
</tbody>
</table>

PF 1=HELP 3=END 8=FORWARD 12=RETURN 15=NCP 16=ROUTER
PF 17=LINE 20=APPL 24=TERMINAL

Figure 104. Dynamic Router Data Display Panel (FNM03DDC)

This panel displays data for the best interval collection of the selected resources.

4. Start the auto refresh of router data by pressing ENTER. The output panel will go into auto refresh mode. You can exit auto refresh mode using the ATTN key. Figure 105 shows auto refresh mode for routers:

```
FNM03DDR NPM V2R7 5655-043
NETWORK MANAGEMENT
DYNAMIC ROUTER DATA DISPLAY

Command >>>
Host Name = LOCAL
IP Address = 0.0.0.0  Resource Type = CISCO
Current Interval = from 8/17/00 14:55:59 to 8/17/00 14:56:30
Refresh Interval = 30 (secs.)

<table>
<thead>
<tr>
<th>Resource Name</th>
<th>Resource Type</th>
<th>End Time</th>
<th>Interface</th>
<th>CPU</th>
<th>Mem-Pool</th>
<th>CIP-card</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.100.87.250</td>
<td>CISCO</td>
<td>10:18:59</td>
<td></td>
<td>19</td>
<td>40</td>
<td>8</td>
</tr>
<tr>
<td>69.100.91.2</td>
<td>CISCO</td>
<td>10:18:59</td>
<td>1</td>
<td>43</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>69.120.120.1</td>
<td>CISCO</td>
<td>10:18:59</td>
<td>19</td>
<td>40</td>
<td>8</td>
<td>27</td>
</tr>
</tbody>
</table>

PRESS THE ATTENTION KEY TO EXIT

Figure 105. Dynamic Router Data Display Panel in Auto Refresh Mode (FNM03DDR)
Collecting and Analyzing Session Data

This chapter describes how to use NPM to collect session information and correlate it to other NPM information. You can use NPM’s session management function to perform the following tasks:

- Alter a session collection
- Display dynamic data information
- Display LU/IP information
- Display session performance status information
- Display session monitor event messages
- Display the status of active session data collection
- Perform session data analysis
- Specify a resource and parameters for session data collection
- Stop a session collection

**Note:** See the *NetView Performance Monitor Reference* for detailed descriptions of the NPM panel fields.

Session Management Panels

This section describes the panels used in session management. Use the following procedures to perform NPM session management collection and analysis functions:

1. Select option 2 from the Primary Options panel (FNM00PRI) to display the Response Times panel (FNM01SES), shown in Figure 106 on page 88. You can also use fast path =2 to display the Response Times panel.
2. Type one of the following option numbers in the Select Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Starts session collection. See &quot;Starting Session Collection&quot; for detailed procedures.</td>
</tr>
<tr>
<td>2</td>
<td>Stops or alters active session data collections or displays active collection status. See &quot;Displaying, Altering, or Stopping an Active Session Collection&quot; on page 91 for detailed procedures.</td>
</tr>
<tr>
<td>3</td>
<td>Stops or alters deferred session data collections or displays deferred collection status. See &quot;Displaying, Altering, or Stopping a Deferred Session Collection&quot; on page 94 for detailed procedures.</td>
</tr>
<tr>
<td>4</td>
<td>Displays dynamic data. See &quot;Displaying Dynamic Response Times Data&quot; on page 95 for detailed procedures.</td>
</tr>
<tr>
<td>5</td>
<td>Displays IP session information. See &quot;Displaying IP Detail Analysis Data&quot; on page 98 for detailed procedures.</td>
</tr>
<tr>
<td>6</td>
<td>Displays LU session information. See &quot;Displaying Dynamic Response Times Data&quot; for detailed procedures.</td>
</tr>
<tr>
<td>7</td>
<td>Performs session data analysis. See &quot;Displaying Session Analysis Summary Data&quot; on page 105 for detailed procedures.</td>
</tr>
<tr>
<td>8</td>
<td>Displays performance status information. See &quot;Displaying Session Performance Status Information&quot; on page 107 for detailed procedures.</td>
</tr>
<tr>
<td>9</td>
<td>Displays session monitor event messages. See &quot;Displaying Session Monitor Event Messages&quot; on page 114 for detailed procedures.</td>
</tr>
</tbody>
</table>

---

**Starting Session Collection**

The Start Session panel (FNM02SCL) enables you to specify a resource and parameters for session collection.

**Note:** You must verify that the designated destination files for the collected data are not full before starting a collection. See "Managing Data Files" on page 196.
Starting Session Collection (Resource Already Defined to VTAM)

Use the following procedure to start session collection for a resource already defined to VTAM:

1. Select option 1 from the Response Times panel (FNM01SES) to display the Start Session panel (FNM02SCL), shown in Figure 107. You can also use fast path =2.1 to display the Start Session panel.

2. Type the name of the resource for which you want to collect data in the Resource Name field.

   **Note:** You can enter an IP address as a resource name. The IP address is the client’s remote address/port number. If only the remote address is specified, session collection is started for all clients that have that address (regardless of the client’s port number).

   You must also enter a node name if the resource is an LU or an IP address that is not defined to NPM. After the node name has been entered, the resource is defined to NPM. You do not have to define the resource again (unless you restart NPM).

3. Complete the Start Session panel, ensuring that the Dynamic Resource field is set to NO, and press ENTER to display the Session Monitor Selection panel (FNM03SAS), shown in Figure 108 on page 90.
4. Use the Session Monitor Selection panel to set the low and high monitor criteria for the displayed resource. Move the cursor to the monitor criteria fields you want to change and enter the new high and low threshold values. Set the monitor criteria fields to zero if you do not want to monitor the collection. Refer to "monitor data types" on page 326 for more information about the ranges of values you can use.

Note: It is not necessary to enter anything on this panel if the monitor criteria field values are correct.

5. Press ENTER to start the collection for the selected resource.

Starting Session Collection (Resource Not Yet Defined to VTAM)

Use the following procedure to start session collection for a resource not yet defined to VTAM:

1. Select option 1 from the Response Times panel (FNM01SES) to display the Start Session panel (FNM02SCL), shown in Figure 107 on page 89. You can also use fast path =2.1 to display the Start Session panel.

2. Type YES in the Dynamic Resource field. NPM starts a session collection and displays the following message:

   FNM269I SESSION COLLECTION REQUEST FOR ID=resource id IS ACCEPTED EVEN IF THE RESOURCE IS NOT DEFINED TO VTAM

   At the same time, VTAM returns the sense code 08060002.

3. When the resource has been defined to VTAM, NPM starts collecting the session data for the resource.

Note: If you start a session collection for a resource not yet defined to VTAM without setting the Dynamic Resource field to YES, NPM does not start any collection. VTAM returns the sense code 8060000 and NPM displays the following message:

   FNM277W SCSS START COMMAND FAILED
   FNM273E SCSS SESSION COLLECTION REQUEST REJECTED BY VTAM - IST0511I for ID=resource id
Display, Alter, or Stop Active Session Collection

Use the following procedure to display, alter, or stop the status of an active session collection:

1. Select option 2 from the Response Times panel (FNM01SES) to display the Session Status/Stop (Active) Resource panel (FNM03SSA), shown in Figure 109. You can also use fast path =2.2 to display the Session Status/Stop (Active) Resource panel.

The Session Status/Stop (Active) Resource panel enables you to stop or display the status of an active session collection.

2. Type one of the following options in the Option field next to a specific resource and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Displays detailed status information about the selected resource. The Session Status/Stop (Active) Details panel (FNM04SSA) is displayed if you select option S for HOST, NCP, LUGRP, or CDRM resource types. See Figure 110 on page 92. The Session Status/Stop (Active) Details panel enables you to stop or alter active session collections. The Session Status/Stop (Active) Resource Menu panel (FNM04SAP) is displayed if you select option S for an APPL resource type. See Figure 111 on page 93. The Session Status/Stop (Active) Resource Menu panel enables you to stop a collection for an application, or alter active session collection parameters for an application.</td>
</tr>
<tr>
<td>P</td>
<td>Stops logging data for the selected resource. Collection on the selected resource stops immediately.</td>
</tr>
<tr>
<td>Z</td>
<td>Ends all active collections on the selected resource.</td>
</tr>
</tbody>
</table>

Figure 109. Session Status/Stop (Active) Resource Panel (FNM03SSA)
3. Type one of the following options in the Option field next to a specific resource on either the Session Status/Stop (Active) Details panel or the Session Status/Stop (Active) Resource Menu panel and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Alters the collection on the selected resource. The Alter Session panel (FNM05ALT) is displayed, shown in Figure 112 on page 93. This panel enables you to alter parameters for an active or deferred session collection.</td>
</tr>
<tr>
<td>P</td>
<td>Stops data collection for the selected resource.</td>
</tr>
<tr>
<td>Z</td>
<td>Ends all active collections on the selected resource.</td>
</tr>
</tbody>
</table>
4. Type the name of the resource for which you want to alter session collection parameters in the Resource field.

5. **Press ENTER** to display the Session Monitor Selection panel (FNM03SAS), shown in Figure 113. You can use the Session Monitor Selection panel to initialize or modify the low and high monitor criteria for the displayed resource.

6. Move the cursor to the monitor criteria fields you want to change and enter the new high and low threshold values. See the NetView Performance Monitor Installation and Customization for the allowed values for each monitor data type.

**Note:** Do not enter anything on this panel if the monitor criteria field values are correct.
7. Press ENTER to alter the collection for the selected resource.

**Displaying, Altering, or Stopping a Deferred Session Collection**

Use the following procedure to display, alter, or stop a deferred session collection:

1. Select option 3 from the Response Times panel (FNM01SES) to display the Session Status/Stop (Deferred) Resource panel (FNM04SSD), shown in Figure 114. You can also use fast path =2.3 to display the Session Status/Stop (Deferred) Resource panel. This panel enables you to stop a deferred session collection, or alter deferred session collection parameters.

2. Type one of the following options in the Option field next to a specific resource and press ENTER:

   - **A**  
     Alters the collection on the selected resource. The Alter Deferred Session panel (FNM05ALD) is displayed. See Figure 115 on page 95.

   - **P**  
     Stops data collection for the selected resource.

3. Alter the parameters for a deferred session collection on the Alter Deferred Session panel. The resource to be altered is specified in the Resource Name and Node Name fields.

   ![Figure 114. Session Status/Stop (Deferred) Resource Panel (FNM04SSD)](image)

   - **Command =**
     - Host Name = LOCAL
     - Type = HOST
     - Enter Option: A=Alter, P=Stop

   - **Resource Session Option Name Stats Log Min GTF Start Stop**
     - DA3L061 YES 1 YES NO 09:30:00 16:00:00
     - 146.84.65.114/3000 YES 1 YES NO 09:30:00 16:00:00

   - **PF 1=HELP 3=END 12=RETURN 15=NCP 16=ROUTER 17=LINE**

   - **PF20=APPL 24=TERMINAL**

---

94 Version 2 Release 7
4. Press ENTER to display the Session Monitor Selection panel (FNM03SAS). See Figure 113 on page 93.

5. Change the monitors displayed on the Session Monitor Selection panel as desired.

6. Press ENTER to process the alter command.

Displaying Dynamic Response Times Data

The Dynamic Data Display function allows you to display response times data on 3270 panels without waiting for a collection interval to end and without waiting until NPM has written the data to the review files. Real time data is collected and displayed on the screen using the refresh interval (as in the NPM console). You can also refresh the data automatically at any time. For more information, see "Collecting and Analyzing Dynamic Data" on page 177.

Note: The Dynamic Data function includes and replaces the old Last Interval function.

1. Select option 4 from the Response Times Management panel (FNM01SES) to display the Dynamic Response Times Data Display panel (FNM02DDS), shown in Figure 116 on page 96. You can also use fast path =2.4 to display the Dynamic Response Times Data Display panel.
The default for Resource Name is * (all resources). The default for IP address and Subnet Mask is ‘0.0.0.0’ (all IP addresses), and for Resource Type is blank.

2. To display dynamic data for an application or a logical unit, specify the Resource Type (APPL, TERMLU, or ALLTERM) and either a full or partial resource name (using the wildcard character) in the Resource Name field.

To display dynamic data for an IP address, specify the Resource Type (TERMIP or ALLTERM) and either a full or partial IP address (using the IP Address and Subnet Mask fields).

3. Press ENTER to display the dynamic data panel for applications (FNM03DDA), shown in Figure 117 on page 97, or the dynamic data panel for terminal (FNM03DDT), shown in Figure 118 on page 97. This panel displays transit time and volume data about the specified resources collected during the last collection interval.
4. From the output panels you can start the auto refresh of Response Times data by pressing the ENTER key. The output panel goes into “auto refresh” mode. To exit refresh mode, use the ATTN key.

The auto-refresh mode for applications shows:
Displaying Dynamic Response Times Data

The auto-refresh mode for terminals shows:

![Figure 119. Dynamic Response Times Data Display Panel, Auto-Refresh Mode (FNM03DDA)](image)

Displaying IP Detail Analysis Data

Use the following procedure to display IP information:

1. Select option 5 from the Session Management panel (FNM01SES) to display the IP Detail Analysis panel (FNM02DNI), shown in Figure 121 on page 99. You can also use fast path =2.5 to display the IP Detail Analysis panel.
2. The IP Detail Analysis panel enables you to set up an IP detail data display. Enter an IP address in the IP Name field, type one of the following options in the Select Option field, and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Displays transit times for each interval. The Transit Time/Interval panel (FNM03TI3) is displayed. See “Displaying Transit Time Interval Data” on page 100.</td>
</tr>
<tr>
<td>2</td>
<td>Displays transit time distributions for each interval. The Transit Time Distributions/Interval panel (FNM03DI2) is displayed. See “Displaying Transit Time Distribution Data” on page 100.</td>
</tr>
<tr>
<td>3</td>
<td>Displays volume data for each interval. The Volumes/Interval panel (FNM03V02) is displayed. See “Displaying Interval Volume Data” on page 101.</td>
</tr>
<tr>
<td>4</td>
<td>Displays the transit time summary. The NPM Session Analysis Summary - IP Address panel (FNM03SMI) is displayed. See “Displaying Transit Time Summary Data” on page 101.</td>
</tr>
</tbody>
</table>

**Note:** You can also enter data in the Application field on the IP Detail Analysis panel (FNM02DNI) to further qualify and limit the IP data displayed.

### Displaying Transit Time Interval Data

The Transit Time Interval panel (FNM03TI3), shown in Figure 122 on page 100, displays transit time data for the IP selected on the IP Detail Analysis panel (FNM02DNI). This data includes average host, operator, and network transit times for each application associated with the IP. There is no indicator on the panel.
Note: You can display this panel from any of the other IP transit time panels by using the TRANSIT command.

Displaying Transit Time Distribution Data
The Transit Time Distributions/Interval panel (FM03DI2), shown in Figure 123, displays transit time data for the IP selected on the IP Detail Analysis panel (FM02DNI). This data includes the number of transit times that fell within each distribution range specified on the Start Session panel (FM02SCL).

Figure 123. Transit Time Distributions/Interval Panel (FM03DI2)

NPM updates the Distrib Host fields for transactions that have only host transit time.

Note: You can display this panel from any of the other IP transit time panels by using the DISTRIB command.
Displaying Interval Volume Data

The Volumes/Interval panel (FNM03V02), shown in Figure 124, displays session volume data for the IP selected in the IP Detail Analysis panel (FNM02DNI). This data includes volume statistics for each interval.

Note: You can display this panel from any of the other IP transit time panels by using the VOLUME command.

Displaying Transit Time Summary Data

The NPM Session Analysis Summary - IP Address panel (FNM03SMI), shown in Figure 125, displays session summary data for the IP selected in the IP Detail Analysis panel (FNM02DNI). This data includes average and maximum transit times for the host, operator, and network.

Figure 124. Volumes/Interval Panel (FNM03V02)

Figure 125. NPM Session Analysis Summary - IP Address (FNM03SMI)
Displaying LU Detail Analysis Data

Use the following procedure to display LU information:

1. Select option 6 from the Response Times panel (FNM01SES) to display the LU Detail Analysis panel (FNM02DNM), shown in Figure 126. You can also use fast path =2.6 to display the LU Detail Analysis panel.

```
FNMO2DNM NPM V2R7 5655-043
RESPONSE TIMES
LU DETAIL ANALYSIS

Select Option ==> 1 Transit Time/Interval 3 Volumes/Interval
                  2 Distribution/Interval 4 Transit Time Summary

LU Name ===> LU032
Host Name ===> LOCAL

Data Qualifiers:
Application ===>
Line ===> Physical Unit ===> Virtual Route Number ===> (0-7)
Transmission Priority ===> (0-2)

File Name ===> SESSION (SESSION for active session file)
Date from ===> 08 / 21 / 00 to ===> 08 / 21 / 00 (mm/dd/yy)
Time from ===> 08 : 00 : 00 to ===> 17 : 00 : 00 (hh:mm:ss)

PF 1=HELP 3=END 12=RETURN 15=NCP 16=ROUTER 17=LINE
PF20=APPL 24=TERMINAL

Figure 126. LU Detail Analysis Panel (FNM02DNM)
```

2. The LU Detail Analysis panel enables you to set up an LU detail data display. Enter an LU name in the LU Name field, type one of the following options in the Select Option field, and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Displays transit times for each interval. The Transit Time/Interval panel (FNM03TII) is displayed. See “Displaying Transit Time Interval Data” on page 103.</td>
</tr>
<tr>
<td>2</td>
<td>Displays transit time distributions for each interval. The Transit Time Distributions/Interval panel (FNM03DI1) is displayed. See “Displaying Transit Time Distribution Data” on page 103.</td>
</tr>
<tr>
<td>3</td>
<td>Displays volume data for each interval. The Volumes/Interval panel (FNM03V01) is displayed. See “Displaying Interval Volume Data” on page 104.</td>
</tr>
<tr>
<td>4</td>
<td>Displays the transit time summary. The NPM Session Analysis Summary panel (FNM03SMN) is displayed. See “Displaying Transit Time Summary Data” on page 105.</td>
</tr>
</tbody>
</table>

Note: You can also enter data in the following LU Detail Analysis panel (FNM02DNM) fields to further qualify and limit the LU data displayed:
- Application
- Line
- Physical unit
- Virtual route number and transmission priority
Displaying Transit Time Interval Data

The Transit Time Interval panel (FNM03TI1), shown in Figure 127, displays transit time data for the LU selected on the LU Detail Analysis panel (FNM02DNM). This data includes average host, operator, and network transit times for each application associated with the LU. You can use data flow control PIUs to update the network transit times and counters. There is no indicator on the panel.

![Figure 127. Transit Time Interval Panel (FNM03TI1)](image)

**Note:** You can display this panel from any of the other LU transit time panels by using the TRANSIT command.

Displaying Transit Time Distribution Data

The Transit Time Distributions/Interval panel (FNM03DI1), shown in Figure 128 on page 104, displays transit time data for the LU selected on the LU Detail Analysis panel (FNM02DNM). This data includes the number of transit times that fell within each distribution range specified on the Start Session panel (FNM02SCL).
NPM updates the Distrib Host fields for transactions that have only host transit time.

**Note:** You can display this panel from any of the other LU transit time panels by using the DISTRIBUT command.

### Displaying Interval Volume Data

The Volumes/Interval panel (FNM03V01), shown in Figure 129, displays session volume data for the LU selected in the LU Detail Analysis panel (FNM02DNM). This data includes volume statistics for each interval.

**Figure 129. Volumes/Interval Panel (FNM03V01)**

**Note:** You can display this panel from any of the other LU transit time panels by using the VOLUME command.
Displaying Transit Time Summary Data
The NPM Session Analysis Summary panel (FNM03SMN), shown in Figure 130, displays session summary data for the LU selected in the LU Detail Analysis panel (FNM02DNM). This data includes average and maximum transit times for the host, operator, and network.

Displaying Session Analysis Summary Data
Use the following procedure to perform session data analysis:

1. Select option 7 from the Session Management panel (FNM01SES) to display the Session Analysis panel (FNM02SAN), shown in Figure 131. You can also use fast path =2.7 to display the Session Analysis panel.

The Session Analysis panel enables you to set up a session data display.

Figure 130. NPM Session Analysis Summary - Logical Unit (FNM03SMN)

Figure 131. Session Analysis Panel (FNM02SAN)
2. Type the number corresponding to the type of resource data you want to display in the Select Option field.

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Displays session data by application</td>
</tr>
<tr>
<td>2</td>
<td>Displays session data by line</td>
</tr>
<tr>
<td>3</td>
<td>Displays session data by physical unit</td>
</tr>
<tr>
<td>4</td>
<td>Displays session data by group name</td>
</tr>
<tr>
<td>5</td>
<td>Displays session data by virtual route</td>
</tr>
</tbody>
</table>

3. Type either the full resource name or a partial resource name in the Identifier field and complete the panel as required.

**Note:** You can enter additional data to further qualify the data you want to display.

4. Press ENTER to display the NPM Session Analysis Summary panel (FNM03SMN), shown in [Figure 132](#). This panel displays session summary data for the resource selected in the Session Analysis panel (FNM02SAN). This data includes average and maximum transit times for the host, operator, and network.

```
FNMO3SMN  NPM V2R7  5655-043
RESPONSE TIMES
NPM SESSION ANALYSIS SUMMARY - APPLICATION

Command ===>
Insert DYN to get dynamic (real time) data
Host Name = LOCAL  Records = 8  VR/TP = /  
Application = TSO  Line =  PU =  
Group =  Node =  LU =  
Requested Date/Time: from 08/21/00 00:00:00 to 08/21/00 00:00:00
Actual Date/Time : from 08/21/00 11:46:13 to 08/21/00 11:51:58
Total Response  
Transactions 22 22  
Operator Host Network  
Average Transit .63 .10 .21  
Maximum Transit 1.45 1.13 .60  
PIU Count Avg Size Total Bytes  
User Data In 22 9 199  
User Data Out 23 742 17071  
System Data In 23 3 69  
System Data Out 0 0 0  
PF 1=HELP 2=LIST 3=END 4=TRANSIT 5=VOLUME 6=DISTRIB  
PF12=RETURN 15=NCP 16=ROUTER 17=LINE 20=APPL 24=TERMINAL
```

**Figure 132. NPM Session Analysis Summary - Application (FNM03SMN)**

5. You can use the LIST command to display the NPM Session Summary LU List panel (FNM04LTN), shown in [Figure 133 on page 107](#). This panel lists each LU associated with the application, line, physical unit, LU group, virtual route, or NCP.

**Note:** The titles of the FNMO3SMN and FNM04LTN panels vary, depending on which of the five resource types you select. (The application resource type is used in this example.)
The NPM Session Summary LU List - Application panel (FNM04LTN) displays the session partners for the resource specified on the Session Analysis panel (FNM02SAN). This data includes average host, operator, and network response times.

**Displaying Session Performance Status Information**

Performance status analysis displays allow you to view a network from a hierarchical perspective. You can view the network without knowing the resource names. Use the following procedure to display performance status information:

1. Select option 8 from the Response Times panel (FNM01SES) to display the Performance Status Analysis panel (FNM02PDT), shown in Figure 134 on page 108. You can also use fast path =2.8 to display the Performance Status Analysis panel.

The Performance Status Analysis panel enables you to specify a host for which NPM displays transit time data.

![Figure 133. NPM Session Summary LU List - Application Panel (FNM04LTN)](image-url)
2. Type the host name in the Host Name field. If you leave this field blank and press ENTER, a list of available hosts is displayed on the Performance Status Host Selection panel (FNM02PSM), shown in Figure 135. The Performance Status Host Selection panel enables you to select a host for which you want to display performance data.

![Figure 135. Performance Status Host Selection Panel (FNM02PSM)](image)

3. Type the start and stop date and time in the appropriate fields on the Performance Status Analysis panel (FNM02PDT).

4. Type / in the Option field next to a specific host name and press ENTER to display the Performance Status - Nodes panel (FNM02PHN), shown in Figure 136 on page 109.

![Figure 134. Performance Status Analysis Panel (FNM02PDT)](image)

![Figure 136. Performance Status - Nodes panel (FNM02PHN)](image)
The Performance Status - Nodes panel displays transit time exceptions for all nodes on
the host you have selected. You can also use this panel to select a node that you want to
examine more closely.

5. Type one of the following options in the Option field beside a specific node name:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>Displays data for all LUs associated with this node. The NPM Session Summary LU List - Node panel (FNM04LTN) is displayed. See Figure 137 on page 110.</td>
</tr>
<tr>
<td>/</td>
<td>Displays data associated with this node. See “Completing the Performance Status - Host Application Panel” on page 110 and “Completing the Performance Status - Lines Panel” on page 110.</td>
</tr>
</tbody>
</table>

Example:

```
FNM02PHN  NPM V2R7  5655-043
RESPONSE TIMES
PERFORMANCE STATUS - NODES

Command ===>
Host = LOCAL
Date/Time: from 08/21/00 08:00:00 to 08/21/00 17:00:00
Enter Option: /=Select Node, L=LU/IP List

<table>
<thead>
<tr>
<th>Option</th>
<th>Node</th>
<th>Total Trans</th>
<th>Resp Trans</th>
<th>Operator</th>
<th>Host</th>
<th>Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;&gt;</td>
<td>HOST01</td>
<td>15</td>
<td>15</td>
<td>.0</td>
<td>.0</td>
<td>.0</td>
</tr>
<tr>
<td>&gt;&gt;</td>
<td>HOST02</td>
<td>67</td>
<td>67</td>
<td>.0</td>
<td>.0</td>
<td>.0</td>
</tr>
<tr>
<td>&gt;&gt;</td>
<td>A04NCP2</td>
<td>0</td>
<td>0</td>
<td>.0</td>
<td>.0</td>
<td>.0</td>
</tr>
</tbody>
</table>

PF 1=HELP  3=END  12=RETURN  15=NCP  16=ROUTER  17=LINE
PF20=APPL  24=TERMINAL
```

Figure 136. Performance Status - Nodes Panel (FNM02PHN)
Completing the Performance Status - Host Application Panel

Type / next to the name of a host node on the Performance Status - Nodes panel (FNMO2PHN) to display the Performance Status Host/Application panel (FNMO2PHA), shown in Figure 138. This panel displays data for all applications on the host, including transit time exceptions.

Completing the Performance Status - Lines Panel

Use the following procedure to display data for all lines associated with the NCP or CDRM node:
1. Type / next to the name of an NCP or CDRM node on the Performance Status - Nodes panel (FNM02PHN) to display the Performance Status - Lines panel (FNM02PNL), shown in Figure 139.

The Performance Status - Lines panel displays transit time exceptions for all lines on the node you have selected. You can also use this panel to select a line that you want to examine more closely.

2. Type one of the following options in the Option field next to a specific line name:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Displays the percentages of the exceeded transit time thresholds for each application associated with this line. See “Displaying Lines by Application”</td>
</tr>
<tr>
<td>M</td>
<td>Displays a transit time summary for the specified line on the NPM Session Analysis Summary - Line panel (FNM03SMN). See Figure 132 on page 106 for information about this panel.</td>
</tr>
<tr>
<td>V</td>
<td>Displays the percentage and volume that each session on this line is contributing to the total load. See “Displaying Lines by Session Volumes” on page 113.</td>
</tr>
<tr>
<td>S</td>
<td>Displays data for all PUs associated with this line. See “Completing the Performance Status - Physical Unit Panel” on page 112.</td>
</tr>
</tbody>
</table>

**Displaying Lines by Application**

Select option A on the Performance Status - Lines panel (FNM02PNL) to display the Performance Status - Line/Application panel (FNM02PLA), shown in Figure 140 on page 113. This panel displays transit time exceptions for all applications on the line you have selected.
Completing the Performance Status - Physical Unit Panel

Use the following procedure to display performance status information for PUs and LUs on a line:

1. Select option S on the Performance Status - Lines panel (FNM02PNL) to display the Performance Status - Physical Unit panel (FNM02PLP), shown in Figure 141. This panel displays transit time exceptions for all PUs on the line you have selected. You can also use this panel to select a PU that you want to examine more closely.

2. Type one of the following options in the Option field next to a specific PU and press ENTER:

Option  Action

-->

Figure 140. Performance Status - Line/Application Panel (FNM02PLA)

Figure 141. Performance Status - Physical Unit Panel (FNM02PLP)
Displays the NPM Session Analysis Summary - Line panel (FNM03SMN). See Figure 132 on page 106 for information about this panel.

Displays the Performance Status - Logical Unit panel (FNM02PPL), shown in Figure 142. This panel displays transit time exceptions for all LUs on the PU you have selected. You can also use this panel to select an LU that you want to examine more closely.

3. Select option M on the Performance Status - Logical Unit panel to display the NPM Session Analysis Summary - Logical Unit (FNM03SMN). See Figure 132 on page 106 for information about this panel.

Displaying Lines by Session Volumes

Select option V on the Performance Status - Lines panel (FNM02PNL) to display the Performance Status - Line/Session Volumes panel (FNM02PVL), shown in Figure 143 on page 114. This panel displays the volume and percentage of volume that each session contributes to the total line load.
Displaying Session Monitor Event Messages

Use the following procedure to display session monitor event messages:

1. Select option 9 from the Response Times panel (FNM01SES) to display the Session Monitor Review panel (FNM02SAM), shown in Figure 144. You can also use fast path =2.9 to display the Session Monitor Review panel.

2. Type a resource name in the Resource Name field to display session monitor event messages for a specific resource.

   Type MONITOR in the Resource Name field to display the session monitor event messages for all the resources.

   **Note:** If you specify a start and stop date and time, only the monitor events that occur in that interval are displayed. Otherwise, all session monitor events are displayed.
3. Press ENTER to display the Session Monitor Event Messages panel (FNM03SAE), shown in Figure 145. The Session Monitor Event Messages panel displays monitor event messages that occur when a threshold is reached, exceeded, or resolved.

<table>
<thead>
<tr>
<th>Time</th>
<th>Name</th>
<th>Type</th>
<th>Value</th>
<th>Monitor Event Desc</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:57:56</td>
<td>146.84.65.114/3000</td>
<td>MONATMOP</td>
<td>7.36</td>
<td>ABOVE LIMIT OF 1.00</td>
<td></td>
</tr>
<tr>
<td>10:57:56</td>
<td>146.84.65.114/3000</td>
<td>MONATMOP</td>
<td>7.10</td>
<td>ABOVE LIMIT OF 1.00</td>
<td></td>
</tr>
<tr>
<td>10:57:56</td>
<td>146.84.65.114/3000</td>
<td>MONMTMOP</td>
<td>42.90</td>
<td>ABOVE LIMIT OF 1.00</td>
<td></td>
</tr>
<tr>
<td>10:57:56</td>
<td>146.84.65.114/3000</td>
<td>MONMTMHT</td>
<td>42.61</td>
<td>ABOVE LIMIT OF 1.00</td>
<td></td>
</tr>
<tr>
<td>10:57:56</td>
<td>146.84.65.114/3000</td>
<td>MONPCTHT</td>
<td>17.00</td>
<td>ABOVE LIMIT OF 1.00</td>
<td></td>
</tr>
<tr>
<td>10:57:56</td>
<td>146.84.65.114/3000</td>
<td>MONAPIUS</td>
<td>13.00</td>
<td>ABOVE LIMIT OF 1.00</td>
<td></td>
</tr>
</tbody>
</table>

Figure 145. Session Monitor Event Messages Panel (FNM03SAE)
This chapter describes how to use NPM to collect and display response time monitor (RTM) data. You can use NPM’s RTM management function to perform the following tasks:

- Enable RTM data collection
- Disable RTM data collection
- Determine whether RTM data collection is enabled or disabled
- Perform RTM LU detail analysis. You can use this function to display the following RTM detail data for an LU:
  - Response time distribution summary
  - Response time distributions for each interval
  - Response time summary
  - Response times for each interval
- Perform RTM session analysis. You can use this function to display RTM summary data for the following NPM resources:
  - Applications
  - Lines
  - LU groups
  - Physical units
  - Virtual routes

**Note:** See the *NetView Performance Monitor Reference* for detailed descriptions of the NPM panel fields.

**RTM Management Panels**

This section describes the NPM online panels used in RTM data collection. Use the following procedures to perform RTM data collection and analysis functions:

1. Select option 3 from the Primary Options panel (FNM00PRI) to display the RTM Management panel (FNM01RTM), shown in Figure 146 on page 118. You can also use fast path =3 to display the RTM Management panel.
2. Type one of the following option numbers in the Select Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enables RTM collection. See “Enabling RTM Collection”.</td>
</tr>
<tr>
<td>2</td>
<td>Disables RTM collection. See “Disabling RTM Collection”.</td>
</tr>
<tr>
<td>3</td>
<td>Queries RTM collection. See “Determining RTM Collection Status” on page 119.</td>
</tr>
<tr>
<td>6</td>
<td>Performs RTM LU detail analysis. See “Performing RTM LU Detail Analysis” on page 119.</td>
</tr>
<tr>
<td>7</td>
<td>Performs RTM session analysis. See “Performing RTM Session Analysis” on page 123.</td>
</tr>
</tbody>
</table>

**Enabling RTM Collection**

Select option 1 from the RTM Management panel (FNM01RTM) to enable RTM data collection.

**Note**: Because NPM receives RTM data from the NetView program through an SMF exit routine, ensure that NetView is started and is receiving RTM data. See NetView documentation for RTM collection setup procedures. Also see the *NetView Performance Monitor Installation and Customization* for information about installing and enabling RTM collection from the NetView program.

A message is displayed on the RTM Management panel indicating that RTM collection has been enabled. See the *NetView Performance Monitor Messages and Codes* for additional information if a message is displayed that indicates RTM collection has not been enabled.

**Disabling RTM Collection**

Select option 2 from the RTM Management panel to disable RTM data collection.
A message is displayed on the RTM Management panel (FNM01RTM) indicating that RTM collection has been disabled. See the NetView Performance Monitor Messages and Codes for additional information if a message is displayed that indicates RTM collection has not been disabled.

**Determining RTM Collection Status**

Select option 3 from the RTM Management panel to query RTM data collection status.

A message is displayed on the RTM Management panel (FNM01RTM) indicating whether RTM data collection is enabled or disabled.

**Performing RTM LU Detail Analysis**

You can display RTM detail data for any LU in your network. Use the following procedure to perform RTM LU detail analysis:

1. Select option 6 from the RTM Management panel to display the RTM LU Detail Analysis panel (FNM02DRM), shown in Figure 147. You can also use fast path =3.6 to display the RTM LU Detail Analysis panel.

   The RTM LU Detail Analysis panel enables you to set up an RTM detail data display. Once you have entered LU identification information on this panel, it is not necessary to re-enter the information.

   ![Figure 147. RTM LU Detail Analysis Panel (FNM02DRM)](image)

2. Type one of the following information data type options in the Select Option field:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Displays response times for each interval. See “Displaying RTM LU Response Times by Interval” on page 127 for a description of the Response Time/Interval panel (FNM03TI2).</td>
</tr>
<tr>
<td>2</td>
<td>Displays response time distributions for each interval. See “Displaying RTM LU Response Time Distribution by Interval” on page 128 for a description of the Distribution Interval panel (FNM03D02).</td>
</tr>
</tbody>
</table>
   | 3      | Displays a response time distribution summary. See “Displaying an RTM
4 Displays a response time summary. See "Displaying an RTM Response Time Summary" on page 123 for a description of the RTM Session Analysis Summary panel (FNM03SMR).

3. Complete the rest of the panel and press ENTER. Data must be entered in the following RTM LU Detail Analysis panel (FNM02DRM) fields:
- Selection Option
- LU
- Host Name
- File Name

**Displaying RTM LU Response Times by Interval**
Select option 1 from the RTM LU Detail Analysis panel (FNM02DRM) to display the Response Time/Interval panel (FNM03TI2), shown in Figure 148. You can also use fast path =3.6.1 to display the Response Time/Interval panel.

The Response Time/Interval panel displays RTM data for the LU selected on the RTM LU Detail Analysis panel. The data is displayed in four intervals per panel. This data includes average operator response times for each application associated with the LU.

![Figure 148. Response Time/Interval Panel (FNM03TI2)](image)

**Note:** You can use the DISTRIB command to display the Distribution Interval panel (FNM03D02). You can use the SUMMARY command to display the Distribution Summary panel (FNM03D02).

**Displaying RTM LU Response Time Distribution by Interval**
Select option 2 from the RTM LU Detail Analysis panel (FNM02DRM) to display the Distribution Interval panel (FNM03D02), shown in Figure 149 on page 121. You can also use fast path =3.6.2 to display the Distribution Interval panel.
The Distribution Interval panel (FNM03D02) displays five ranges of operator response times by interval. The data includes the number of response times that fell within each distribution range.

**Note:**
You can use the TRANSIT command to display the Response Time/Interval panel (FNM03TI2). You can use the SUMMARY command to display the Distribution Summary panel (FNM03D02).

### Displaying an RTM LU Response Time Distribution Summary

Select option 3 from the RTM LU Detail Analysis panel (FNM02DRM) to display the Distribution Summary panel (FNM03D02), shown in Figure 150 on page 122. You can also use fast path =3.6.3 to display the Distribution Summary panel.

The Distribution Summary panel (FNM03D02) displays ranges of response times by application and range. A new summary line is displayed if the application or any of the range values change.

![Figure 149. Distribution Interval Panel (FNM03D02)](image-url)
Note: You can use the TRANSIT command to display the Response Time/Interval panel (FNM03TI2). You can use the DISTRIB command to display the Distribution Interval panel (FNM03D02).

Displaying an RTM Response Time Summary
Select option 4 from the RTM LU Detail Analysis panel (FNM02DRM) to display the RTM Session Analysis Summary panel (FNM03SMR), shown in Figure 151. You can also use fast path =3.6.4 to display the RTM Session Analysis Summary panel.

The RTM Session Analysis Summary panel displays RTM summary data for the resource specified on the RTM LU Detail Analysis panel (FNM02DRM). This data includes average operator response times and the percentage of response times that fell within each distribution range.

Figure 150. Distribution Summary Panel (FNM03D02)

Figure 151. RTM Session Analysis Summary Panel (FNM03SMR)
Performing RTM Session Analysis

The RTM session analysis function displays data in terms of whole collections, providing an overview of an entire collection. You can use this function to display panels that summarize the collected data for higher level resources, such as:

- Applications
- Lines
- LU groups
- Physical units
- Virtual routes

Use the following procedure to perform RTM session analysis:

1. Select option 7 from the RTM Management panel (FNM01RTM) to display the RTM Session Analysis Summary panel (FNM02SAR), shown in Figure 152. You can also use fast path =3.7 to display the RTM Session Analysis Summary panel.

   This panel enables you to set up an RTM session data display. Your entries on this panel determine the types of summary panels that are displayed.

2. Type one of the following information data types in the Select Option field:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Displays summary data for a specific application</td>
</tr>
<tr>
<td>2</td>
<td>Displays summary data for a specific line</td>
</tr>
<tr>
<td>3</td>
<td>Displays summary data for a specific PU</td>
</tr>
<tr>
<td>4</td>
<td>Displays summary data for a specific LU group</td>
</tr>
<tr>
<td>5</td>
<td>Displays summary data for a virtual route</td>
</tr>
</tbody>
</table>

3. Complete the rest of the panel. You must enter data in the following RTM Session Analysis Summary panel fields:
   - Selection Option
   - Identifier
   - Host Name
   - File Name

Figure 152. RTM Session Analysis Summary Panel (FNM02SAR)
4. Press ENTER to display the RTM Session Analysis Summary panel (FNM03SMR), shown in Figure 153. Because all of the five resource type panels have the same format, only one panel type (Application) is used in the examples in this section. The RTM Session Analysis Summary panel (FNM03SMR) displays RTM summary data for the resource type that you selected on the RTM Session Analysis Summary panel (FNM02SAR). This data includes average operator response times and the percentage of response times that fell within each distribution range.

![Figure 153. RTM Session Analysis Summary - Application Panel (FNM03SMR)](image)

5. Use the LIST command to display the RTM Session Summary LU List panel (FNM04LTR), shown in Figure 154. This panel displays additional summary data for every LU connected to, or in session with, the selected resource.

![Figure 154. RTM Session Summary LU List - Virtual Route Panel (FNM04LTR)](image)

6. Use the END command to return to the RTM Session Analysis Summary panel (FNM03SMR).
This chapter describes how to use NPM to collect LAN information. You can use the NPM LAN management function to perform the following tasks:

- Start, stop, or modify LAN bridge data collections
- Start, stop, or modify LAN segment data collections
- Display LAN detail data
- Display LAN monitor event messages

**Note:** See the *NetView Performance Monitor Reference* for detailed descriptions of the NPM panel fields.

### LAN Management Panels

This section describes the panels used in NPM’s LAN management function. Use the following procedure to perform LAN data collection and analysis functions:

1. Select option 4 from the Primary Options panel (FNM00PRI) to display the LAN Resource Type Selection panel (FNM01LAN), shown in [Figure 155](#). You can also use fast path =4 to display the LAN Resource Type Selection panel.

![Figure 155. LAN Resource Type Panel (FNM01LAN)](#)

2. Type one of the following options in the Select Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LAN Bridge Selection</td>
</tr>
<tr>
<td>2</td>
<td>LAN Segment Selection</td>
</tr>
<tr>
<td>9</td>
<td>LAN Review</td>
</tr>
</tbody>
</table>

Host Name ===> LOCAL

PF 1=HELP 3=END 12=RETURN 15=NCP 16=ROUTER 17=LINE
Selects a LAN bridge for data collection or analysis. See "Selecting a LAN Bridge" for detailed procedures.

Selects a LAN segment for data collection or analysis. See "Selecting a LAN Segment" on page 129 for detailed procedures.

Displays LAN monitor messages or detail data. See "Displaying LAN Data" on page 132 for detailed procedures.

Selecting a LAN Bridge

Use the following procedure to select a LAN bridge:

1. Select option 1 from the LAN Resource Type panel to display the LAN Bridge Selection panel (FNM02LBS), shown in Figure 156. You can also use fast path =4.1 to display the LAN Bridge Selection panel.

Note: You must define any LAN Managers you need to perform LAN bridge collections to NPM. Use either the EXECUTE command or console support to define LAN Managers. If a LAN Manager is not defined, NPM does not have the proper configuration information and a NO DATA FOUND message is displayed.

See the NetView Performance Monitor Installation and Customization for information about defining a LAN Manager to NPM.

You can use the LAN Bridge Selection panel (FNM02LBS) to perform the following tasks:

- Select a LAN bridge on which you want to start a collection, modify collection parameters, or review data
- Stop all collections for a specific LAN bridge
- Display configuration data for a specific LAN bridge
- Stop logging LAN bridge data to a host

2. Type one of the following options in the Option field next to a specific bridge name:
Collecting LAN Bridge Data

Use the following procedure to collect LAN bridge data:

1. Type C in the Option field of the LAN Bridge Selection panel (FNM02LBS) to display the LAN Bridge Collection Control panel (FNM03LBC), shown in Figure 157.

The LAN Bridge Collection Control panel enables you to start, stop, or modify collection and monitoring on the LAN bridge specified on the LAN Bridge Selection panel.

2. Type one of the following options on the Command line and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Starts collection on the LAN bridge.</td>
</tr>
<tr>
<td>P</td>
<td>Stops logging resource data to the host.</td>
</tr>
<tr>
<td>A</td>
<td>Modifies LAN bridge collection threshold values and times.</td>
</tr>
</tbody>
</table>
Collecting LAN Bridge Data

D Displays information about the bridge’s configuration. See “Displaying LAN Bridge Configuration Data”.

R Displays monitor messages or detail data from the review file. See “Displaying LAN Data” on page 132.

Note: The available options displayed on the panel vary, depending on the collection status of the selected bridge. For example, option S (START) is not available if the collection status of the bridge is STARTED.

Displaying LAN Bridge Configuration Data
Use the following procedure to display configuration information for a LAN bridge defined to NPM:

1. Select option D on either the LAN Bridge Selection panel (FNM02LBS) or the LAN Bridge Collection Control panel (FNM03LBC) to display the LAN Bridge Detailed Configuration panel (FNM03LBD), shown in Figure 158.

The LAN Bridge Detailed Configuration panel displays configuration information for the selected LAN bridge. The bridge is identified by the Seg1/Br/Seg2 field. This information includes all LAN Managers and bridge names associated with the bridge.

2. Type one of the following options on the Command line and press ENTER:

   Option     Action
   C    Displays the LAN Bridge Collection Control panel (FNM03LBC). You can use this panel to change the status of a LAN bridge data collection.
   R    Displays monitor messages or detail data from the review file on the LAN Review panel (FNM02LBM).

You can choose to update the following LAN bridge definitions on this panel for a bridge that is already defined to NPM:

- Segments
- Bridge number
- Frame forwarding
Limited broadcast segment #1
Limited broadcast segment #2
Hop count segment #1
Hop count segment #2
Maximum possible frame size

Use the following procedure to change these definitions:

a. Unlink the bridge from the LAN Manager.
b. Issue the RECONFIG command from the LAN Bridge Control panel (FNM02LBB).
c. Change the definition of the bridge to the LAN Manager.
d. Relink the bridge to LAN Manager.
e. Reissue the RECONFIG command from the LAN Bridge Control panel (FNM02LBB).

Note: FNM02LBB and FNM02LBS are the only panels from which you can issue a RECONFIG command. However, NPM automatically issues the RECONFIG command every four hours.

See “Managing LAN Collection” on page 206 for more information on the RECONFIG command.

Selecting a LAN Segment

Use the following procedure to select a LAN segment:

1. Select option 2 from the LAN Resource Type panel to display the LAN Segment Selection panel (FNM02LSS), shown in Figure 159 on page 130. You can also use fast path =4.2 to display the LAN Segment Selection panel.

Note: You must define any LAN Managers you need to perform LAN segment collections to NPM. Use either the EXECUTE command or console support to define LAN Managers. If a LAN Manager is not defined, NPM does not have the proper configuration information and a NO DATA FOUND message is displayed.

See the NetView Performance Monitor Installation and Customization for information about defining a LAN Manager to NPM.

The LAN Segment Selection panel lists all LAN segments known to NPM and the current collection status. For segments with active collections, the panel lists the previous interval’s segment utilization, the current interval’s segment utilization average, and the last sample taken. You can start, modify, or stop collection on LAN segments from this panel.
2. Type one of the following options in the Option field next to a specific segment number and press ENTER:

- **C** Displays the LAN Segment Collection Control panel (FNM03LSC). You can use this panel to change LAN segment collection status. See "Collecting LAN Segment Data".

- **P** Stops logging resource data to the host.

- **D** Displays LAN segment configuration information on the LAN Segment Detailed Configuration panel (FNM03LSD). See "Displaying LAN Segment Configuration Data" on page 131.

- **R** Displays monitor messages or detail data from the review file on the LAN Review panel (FNM02LBM). See "Displaying LAN Data" on page 132.

- **Z** Ends all collections (both active and data forwarding) for the selected LAN segment.

**Collecting LAN Segment Data**

Use the following procedure to collect LAN segment data:

1. Type **C** in the Option field of the LAN Segment Selection panel (FNM02LSS) and press ENTER to display the LAN Segment Collection Control panel (FNM03LSC), shown in Figure 160 on page 131.

   The LAN Segment Collection Control panel enables you to start, stop, or modify collection or monitoring on the LAN segment specified on the LAN Segment Selection panel (FNM02LSS).
2. Type one of the following options in the Command field:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Starts collection on the LAN segment.</td>
</tr>
<tr>
<td>P</td>
<td>Stops logging resource data to the host.</td>
</tr>
<tr>
<td>A</td>
<td>Modifies LAN segment collection threshold values and times.</td>
</tr>
<tr>
<td>D</td>
<td>Displays LAN segment configuration information on the LAN Segment Detailed Configuration panel (FNM03LSD). See “Displaying LAN Segment Configuration Data.”</td>
</tr>
<tr>
<td>R</td>
<td>Displays monitor messages or detail data from the review file on the LAN Review panel (FNM02LBM). See “Displaying LAN Data” on page 132.</td>
</tr>
</tbody>
</table>

**Note:** The available options displayed on the LAN Segment Collection Control panel vary, depending on the segment’s collection status. For example, option S (START) is not available if the collection status is STARTED.

### Displaying LAN Segment Configuration Data

Use the following procedure to display configuration information for a LAN segment defined to NPM:

1. Select option D from either the LAN Segment Selection panel (FNM02LSS) or the LAN Collection Control panel (FNM03LSC). Press ENTER to display the LAN Segment Detailed Configuration panel (FNM03LSD), shown in Figure 161 on page 132.

The LAN Segment Detailed Configuration panel displays configuration information for the specified LAN segment. The segment is displayed in the Segment Number field. The configuration information includes the names of up to four LAN Managers for which this segment is defined.
2. Type one of the following options on the Command line and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Displays the LAN Segment Collection Control panel (FNM02LSC). You can use this panel to change the status of a segment data collection.</td>
</tr>
<tr>
<td>R</td>
<td>Displays monitor messages or detail data from the review file on the LAN Review panel (FNM02LBM).</td>
</tr>
</tbody>
</table>

**Note:** The options displayed on the LAN Segment Detailed Configuration panel (FNM03LSD) depend on the collection status of the segment. If the collection status of the segment is UNAVAIL, option C (Collection) is not available.

### Displaying LAN Data

This section describes how to display LAN bridge detail data or LAN segment detail data.

**Note:** See [“Displaying LAN Collection Monitor Event Messages” on page 136](#) for procedures to display LAN monitor event messages.

To review LAN data or monitor event messages, you must specify that LAN bridge or segment data be sent to the review file. See [“Managing LAN Collection” on page 200](#) for information about specifying data destinations for LAN data.

### Displaying LAN Bridge Data

Use the following procedure to display LAN bridge data:

1. Select option 9 from the LAN Resource Type panel to display the LAN Review panel (FNM02LBM), shown in Figure 162 on page 133. You can also use fast path =4.9 to display the LAN Review panel.
2. Type a LAN bridge name in the LAN Resource Name field.

3. Type 1 in the LAN Resource Type field.

   **Note:** The LAN Resource Name field and the LAN Resource Type field are already filled in if you select option R from one of the LAN bridge collection panels. Otherwise, these fields are blank.

4. Type a starting and stopping date range in the Start Date and Stop Date fields for the data you want to review.

5. Type a starting and stopping time range in the Start Time and Stop Time fields for the data you want to review.

6. Type DETAIL in the Data Type field.

7. Press ENTER to display the LAN Bridge Data Detail panel (FNM03LBR), shown in Figure 163 on page 134. The LAN Bridge Data Detail panel (FNM03LBR) displays data for the LAN bridge selected on the LAN Review panel (FNM02LBM). This data includes the average number of broadcast and non-broadcast frames per minute and the number of lost frames.

   You can use the SUMMARY command to display the data in summary form. The data is averaged into a single line and the panel title changes to Summary.
8. Use the RIGHT command to display the LAN Bridge Lost Frames Detail panel (FNM03LB2), shown in Figure 164, or use the END command to return to the LAN Review panel (FNM02LBM). The LAN Bridge Lost Frames Detail panel displays data for the LAN bridge selected on the LAN Review panel (FNM02LBM). This data includes the number of lost frames, providing reasons for frames not being forwarded.

You can use the SUMMARY command to display the data in summary form. The data is averaged into a single line and the panel title changes to Summary.

9. Use the LEFT command to return to the LAN Bridge Data Detail panel (FNM03LBR).

Displaying LAN Segment Data

Use the following procedure to display LAN segment data:
1. Select option 9 from the LAN Resource Type panel to display the LAN Review panel (FNM02LBM), shown in Figure 165.

2. Type a LAN segment number in the LAN Resource Name field.

3. Type 2 in the LAN Resource Type field.

   Note: The LAN Resource Name field and the LAN Resource Type field are already filled in if you select option R from one of the LAN segment collection panels. Otherwise, these fields are blank.

4. Type a starting and stopping date range in the Start Date and Stop Date fields for the data you want to review.

5. Type a starting and stopping time range in the Start Time and Stop Time fields for the data you want to review.

6. Type DETAIL in the Data Type field.

7. Press ENTER to display the LAN Segment Data Detail panel (FNM03LSR), shown in Figure 166 on page 136.

   The LAN Segment Data Detail panel (FNM03LSR) displays data for the LAN segment specified on the LAN Review panel (FNM02LBM). This data includes the segment utilization with a statistical degree of confidence, and the number of the segment utilization samples taken during the collection interval.

   Note: The larger the number of samples, the closer the displayed segment utilization value is to the true segment utilization.
8. Use the SUMMARY command to display the data in summary form. The data is averaged into a single line and the panel title changes to Summary. You can use the END command to return to the LAN Review panel (FNM02LBM).

**Displaying LAN Collection Monitor Event Messages**

Use the following procedure to display LAN monitor event messages:

1. Select option 9 from the LAN Resource Type panel to display the LAN Review panel (FNM02LBM), shown in Figure 167.

2. Type MONITOR in the LAN Resource Name field to display LAN monitor messages. NPM displays monitor messages for both LAN bridges and segments, ignoring the content of the LAN Resource Type field.

---

**Figure 166. LAN Segment Data Detail Panel (FNM03LSR)**

**Figure 167. LAN Review Panel (FNM02LBM)**
To display LAN monitor messages for a specific LAN bridge or segment resource, type the resource name in the LAN Resource Name field, and type MONITOR in the Data Type field.

NPM displays monitor messages for the specified resource, ignoring the content of the LAN Resource Type field.

3. Press ENTER to display the Review Monitor Event Messages panel (FNM03RVE), shown in Figure 168.

![Figure 168. Review Monitor Event Messages Panel (FNM03RVE)](image)

The Review Monitor Event Messages panel (FNM03RVE) displays monitor event messages and monitor resolution messages. These types of messages are displayed when a threshold is reached, exceeded, or resolved.
Collecting and Analyzing VTAM Statistics Data

This chapter describes how to use NPM to collect information from VTAM and correlate it to other NPM information about NCPs and SNA sessions. You can use NPM’s VTAM management function to perform the following tasks:

- Display VTAM environment data
- Collect and display VTAM global data
- Collect and display VTAM buffer pool data
- Collect and display VTAM virtual route data
- Collect and display VTAM device data
- Collect and display VTAM application data
- Collect and display VTAM address space data

**Note:** See the *NetView Performance Monitor Reference* for detailed descriptions of the NPM panel fields.

VTAM Management Panels

This section describes the online panels used in NPM’s VTAM management function. Use the following procedures to perform VTAM statistics collection and analysis:

1. Select option 5 from the Primary Options panel (FNM00PRI) to display the VTAM Resource Type Selection panel (FNM01VTM), shown in [Figure 169 on page 140](#). You can also use fast path =5 to display the VTAM Resource Type Selection panel.
2. Type one of the following option numbers in the Select Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Displays environment data. See “Displaying VTAM Environment Data” for detailed procedures.</td>
</tr>
<tr>
<td>2</td>
<td>Collects and displays global data. See “Collecting and Displaying VTAM Global Data” on page 141 for detailed procedures.</td>
</tr>
<tr>
<td>3</td>
<td>Collects and displays buffer pool data. See “Collecting and Displaying VTAM Buffer Pool Data” on page 144 for detailed procedures.</td>
</tr>
<tr>
<td>4</td>
<td>Collects and displays virtual route data. See “Collecting and Displaying Virtual Route Data” on page 145 for detailed procedures.</td>
</tr>
<tr>
<td>5</td>
<td>Collects and displays device data. See “Collecting and Displaying VTAM Device Data” on page 148 for detailed procedures.</td>
</tr>
<tr>
<td>6</td>
<td>Collects and displays application data. See “Collecting and Displaying Application Data” on page 151 for detailed procedures.</td>
</tr>
<tr>
<td>7</td>
<td>Collects and displays address space data. See “Collecting and Displaying Address Space Data” on page 153 for detailed procedures.</td>
</tr>
<tr>
<td>9</td>
<td>Issues direct VTAM collection commands. See “Issuing Direct VTAM Statistics Collection Commands” on page 159 for detailed procedures.</td>
</tr>
</tbody>
</table>

**Note:** If VTAMCOLL=NO is coded in your FNMINIT file, the message VTAM STATISTICS COLLECTION NOT ENABLED is displayed when you select options 1 to 7.

**Displaying VTAM Environment Data**

Select option 1 from the VTAM Resource Type Selection panel (FNM01VTM) to display the View VTAM Environment Data panel (FNM03VE1), shown in [Figure 170 on page 141](#). You can also use fast path =5.1 to display the View VTAM Environment Data panel.
The View VTAM Environment Data panel (FNM03VE1) displays basic information about the host VTAM specified on the VTAM Resource Type Selection panel (FNM01VTM). The information displayed on this panel does not change unless you stop and restart VTAM.

Collecting and Displaying VTAM Global Data

The VTAM global data option enables you to collect a variety of information about VTAM, including storage information, CPU utilization, and I/O information.

Note: This VTAM management function uses four separate panels to display VTAM data. Use the RIGHT and LEFT commands to move between the panels described in this section.

Use the following procedure to collect and view global data:

1. Select option 2 from the VTAM Resource Type Selection panel (FNM01VTM) to display the VTAM Global Data Selection panel (FNM02GS1), shown in Figure 171 on page 142.

The VTAM Global Data Selection panel (FNM02GS1) is a resource list that displays a list of global data. The only type of resource listed for NPM is VTAM, indicated by its SSCP name.
2. Type one of the following options in the Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Starts a collection. See “Starting VTAM Statistics Collections” on page 154.</td>
</tr>
<tr>
<td>R</td>
<td>Displays VTAM global data written to a VSAM file. See “Displaying VTAM Statistics Data” on page 156.</td>
</tr>
<tr>
<td>L</td>
<td>Lists all VTAM global collections. See “Displaying/Altering/Stopping Active VTAM Data Collections” on page 157.</td>
</tr>
<tr>
<td>Z</td>
<td>Ends all active VTAM global collections.</td>
</tr>
</tbody>
</table>

**Note:** You can issue these commands from any of the four VTAM global data panels.

3. Use the RIGHT command to display the first VTAM Global Current Data panel (FNM02GS2), shown in Figure 172 on page 143.

The first VTAM Global Current Data panel (FNM02GS2) displays currently sampled data if the collection status for global data is STARTED.
4. You can use the RIGHT command to display the second VTAM Global Current Data panel (FNM02GS3), shown in Figure 173, or use the LEFT command to return to the VTAM Global Data Selection panel (FNM02GS1).

The second VTAM Global Current Data panel (FNM02GS3) displays additional currently sampled data.

5. You can use the RIGHT command to display the third VTAM Global Current Data panel (FNM02GS4), shown in Figure 174 on page 144, or use the LEFT command to return to the first VTAM Global Current Data panel (FNM02GS2).

The third VTAM Global Current Data panel (FNM02GS4) displays additional currently sampled data.
Collecting and Displaying VTAM Buffer Pool Data

Use the following procedure to collect and view buffer pool data:

1. Select option 3 from the VTAM Resource Type Selection panel (FNM01VTM) to display the VTAM Buffer Pool Selection panel (FNM02BS1), shown in Figure 175. You can also use fast path =5.3 to display the VTAM Buffer Pool Selection panel. This panel displays a list of buffer pools.

2. Type one of the following options in the Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Starts a VTAM buffer pool data collection. See “Starting VTAM Statistics Collections” on page 154.</td>
</tr>
</tbody>
</table>

---

**Note:** The text provided is a natural representation of the content in the image, including tables and figures. The original source is a technical document related to VTAM buffer pool data collection and display. The tables and figures are not reproduced here as they are not included in the image provided.
**Displaying VTAM Statistics Data**

- **R** Displays VTAM buffer pool data written to a VSAM file. See “Displaying VTAM Statistics Data” on page 156.

- **L** Lists all active VTAM buffer pool data collections. See “Displaying/Altering/Stopping Active VTAM Data Collections” on page 157.

- **Z** Ends all active VTAM buffer pool data collections.

**Note:** You can issue these commands from the VTAM Buffer Pool selection and current data panels.

3. Use the RIGHT command to display the VTAM Buffer Pool Current Data panel (FNM02BS2), shown in Figure 176.

   The VTAM Buffer Pool Current Data panel displays the current data for a buffer pool. This data is only available if the collection status is STARTED.

4. Use the LEFT command to display the VTAM Buffer Pool Selection panel (FNM02BS1).

**Collecting and Displaying Virtual Route Data**

Use the following procedure to collect and view virtual route data:

1. Select option 4 from the VTAM Resource Type Selection panel (FNM01VTM) to display the Destination Subarea Selection panel (FNM02SS1), shown in Figure 177 on page 146.

   You can also use fast path =5.4 to display the Destination Subarea Selection panel.

   The Destination Subarea Selection panel (FNM02SS1) displays a list of destination subareas.
2. You can use the X (Expand) option to display virtual route and transmission priorities (VR/TP) under a particular destination subarea. Type X in the Option field next to a destination subarea and press ENTER to display the Virtual Route Selection panel (FNM03VS1), shown in Figure 178.

The Virtual Route Selection panel displays a list of VR/TP pairs for the subarea that was expanded from the Destination Subarea Selection panel (FNM02SS1). You can use this panel to start a collection, list all collections, end all active collections, or review data for a specific VR/TP pair.

3. Type one of the following options in the Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Starts a virtual route data collection. See “Starting VTAM Statistics Collections” on page 154.</td>
</tr>
</tbody>
</table>
R Displays virtual route data written to a VSAM file. See “Displaying VTAM Statistics Data” on page 156.

L Lists all active virtual route data collections. See “Displaying/Altering/Stopping Active VTAM Data Collections” on page 157.

Z Ends all active virtual route data collections.

**Note:** You can issue these commands from any of the three virtual route panels.

4. Use the RIGHT command to display the first virtual Route Current Data panel (FNM03VS2), shown in Figure 179.

The Virtual Route Current Data panel (FNM03VS2) displays the current data for a virtual route if the collection status is STARTED.

<table>
<thead>
<tr>
<th>Command</th>
<th>Option</th>
<th>VR</th>
<th>TP</th>
<th>% Time</th>
<th>% Time</th>
<th>LU-LU Sessions</th>
<th>Total Sessions</th>
<th>Queued PIUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>REFRESH</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>99</td>
<td>5</td>
</tr>
<tr>
<td>SORT</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>3</td>
</tr>
<tr>
<td>SORT</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

**Figure 179. Virtual Route Current Data Panel (FNM03VS2)**

5. You can use the RIGHT command to display the second Virtual Route Current Data panel (FNM03VS3), shown in Figure 180 on page 148, or use the LEFT command to return to the Virtual Route Selection panel (FNM03VS1). The second Virtual Route Current Data panel (FNM03VS3) displays additional current data for a virtual route.
6. Use the LEFT command to display the first Virtual Route Current Data panel (FNM03VS2).

**Collecting and Displaying VTAM Device Data**

Use the following procedure to collect and display VTAM CTC device or MPC device data. Option X=Expand is available for MPC devices only. The same facilities are available for both CTC and MPC devices.

1. Select option 5 from the VTAM Resource Type Selection panel (FNM01VTM) to display the VTAM Device Selection panel (FNM02DS1), shown in Figure 181. You can also use fast path =5.5 to display the VTAM Device Selection panel.

The VTAM Device Selection panel displays a list of VTAM devices.

2. For CTC devices, type any of the following options apart from Z in the Option field and press ENTER:
Option  Action
S      Starts a VTAM device data collection. See “Starting VTAM Statistics Collections” on page 154.
R      Displays VTAM device data written to a VSAM file. See “Displaying VTAM Statistics Data” on page 156.
L      Lists all active VTAM device data collections for a device. See “Displaying/Altering/Stopping Active VTAM Data Collections” on page 157.
X      Displays all valid MPC devices defined for the specified MPC group.
Z      Ends active VTAM device data collections for a device.

Note: You can issue these options from any of the three VTAM device data panels.

3. Use the RIGHT command to display the first VTAM Device Current Data panel (FNM02DS2), shown in Figure 182. The VTAM Device Current Data panel (FNM02DS2) displays the current data for a VTAM device if the collection status is STARTED.

![Figure 182. VTAM Device Current Data Panel (FNM02DS2)](image)

4. Use the RIGHT command to display the second VTAM Device Current Data panel (FNM02DS3), shown in Figure 183 on page 150, or use the LEFT command to display the VTAM Device Selection panel (FNM02DS1). The second VTAM Device Current Data panel (FNM02DS3) displays additional current data for a VTAM device.
5. To display data for an MPC device, type X in the Option field on panel FNM02DS1 and press ENTER to display the VTAM MPC Device Current Data panel (FNM03MP1), shown in Figure 184.

The VTAM MPC Device Current Data panel (FNM03MP1) displays the status of MPC VTAM devices.

Figure 184. VTAM MPC Device Current Data (FNM03MP1)

6. Use the RIGHT command to display the VTAM Device Current Data panel (FNM03MP2), shown in Figure 185 on page 151, or use the LEFT command to display the VTAM Device Selection panel (FNM02DS1).

The VTAM Device Current Data panel (FNM03MP2) displays current data for VTAM MPC devices.
Collecting and Displaying Application Data

Use the following procedure to collect and view VTAM application data:

1. Select option 6 from the VTAM Resource Type Selection panel (FNM01VTM) to display the VTAM Application Selection panel (FNM02PS1), shown in Figure 186. You can also use fast path =5.6 to display the VTAM Application Selection panel.

The VTAM Application Selection panel (FNM02PS1) displays a list of applications.

2. Type one of the following options in the Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Starts a VTAM application data collection. See “Starting VTAM Statistics Collections” on page 154.</td>
</tr>
</tbody>
</table>
Displays VTAM application data written to a VSAM file. See “Displaying VTAM Statistics Data” on page 156.

Lists all active VTAM application data collections for this application. See “Displaying/Altering/Stopping Active VTAM Data Collections” on page 157.

Ends all active VTAM application data collections for this application.

Note: You can issue these commands from both VTAM application panels.

3. Use the RIGHT command to display the VTAM Application Current Data panel (FNM02PS2), shown in Figure 187.

   The VTAM Application Current Data panel (FNM02PS2) displays the current data collected for resources with a collection status of STARTED.

4. You can use the LEFT command to return to the VTAM Application Selection panel (FNM02PS1).

Collecting and Displaying Address Space Data

Use the following procedure to collect and view address space data:

1. Select option 7 from the VTAM Resource Type Selection panel (FNM01VTM) to display the VTAM Address Space Selection panel (FNM02AS1), shown in Figure 188 on page 153. You can also use fast path =5.7 to display the VTAM Address Space Selection panel.

   The VTAM Address Space Selection panel displays a list of address spaces.
2. Type one of the following options in the Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Starts a VTAM address space data collection. See “Starting VTAM Statistics Collections” on page 154.</td>
</tr>
<tr>
<td>R</td>
<td>Displays VTAM address space data written to a VSAM file. See “Displaying VTAM Statistics Data” on page 156.</td>
</tr>
<tr>
<td>L</td>
<td>Lists all active VTAM address space collections. See “Displaying/Altering/Stopping Active VTAM Data Collections” on page 157.</td>
</tr>
<tr>
<td>Z</td>
<td>Ends all active VTAM address space data collections.</td>
</tr>
</tbody>
</table>

**Note:** You can issue these options from both of the VTAM address space data panels.

3. Use the RIGHT command to display the VTAM Address Space Current Data panel (FNM02AS2), shown in Figure 189 on page 154, or use the LEFT command to return to the VTAM Address Space Selection panel (FNM02AS1).

The VTAM Address Space Current Data panel displays current VTAM address space information.
Starting VTAM Statistics Collections

Use the following procedure to start a VTAM statistics collection from any VTAM Selection or Current Data panel:

1. Type S in the Option field next to a specific resource displayed on any VTAM Selection or Current Data panel.

2. Press ENTER to display the VTAM Start panel (FNM03VTD), shown in Figure 190. You can also use fast path =5.9.1 to display the VTAM Start panel.

The VTAM Start panel (FNM03VTD) is the first of two VTAM start collection panels. This panel is shared by all VTAM resource types.

3. Complete this panel and press ENTER to display the second VTAM Start panel (FNM03VTC), shown in Figure 191 on page 155.
The second VTAM Start panel (FNM03VTC) is used to specify data destinations and set monitors for a VTAM collection.

**Note:** An alternate second VTAM Start panel is displayed if you are starting a collection for either address space or application resource types. See the VTAM Start panel (FNM03VT2), shown in Figure 192 on page 156.

4. See step 8 if you are starting a collection on address space or application resource types.

5. Specify the destinations for the collected data by typing YES or NO in the Data Destinations Detail fields.

6. Specify whether you want to resolve monitors.

   If you type NO in the Resolve Monitors field, monitor messages are generated only if collected data falls outside of the specified monitor criteria ranges.

   If you type YES in the Resolve Monitors field, a single monitor message is generated when collected data falls outside of a monitor criteria range. No additional monitor messages are generated for that monitor until the collected data returns to the specified range.

7. Set monitors (if required) for the selected data collection.

   Type numerical values in the LOW and HIGH fields for each monitor you want to set. The valid numerical ranges for each monitor are displayed in parenthesis next to each monitor. For example, the valid range of values for the Thrashing coefficient monitor (shown in Figure 191) is 20 to 9999.

   **Note:** Monitor criteria entered in the HIGH column must be greater than the criteria entered in the LOW column, with one exception. You can enter a zero in the HIGH column, regardless of what is entered in the LOW column. Entering a zero in either the LOW or HIGH fields for a monitor turns off that portion of the monitor.
Starting VTAM Collections

8. (Only for collections for address space or application resource types.)

   If you are starting a collection on address space or application resource types, specify the
   destinations for the collected data by typing YES or NO in the Data Destinations Detail
   fields on the VTAM Start panel (FNM03VT2).

   **Note:** You cannot set monitor criteria for application or address space collections.
   Monitor criteria fields are not displayed on the alternate VTAM Start panel
   (FNM03VT2).

9. Press ENTER to start the collection.

Displaying VTAM Statistics Data

Use the following procedure to display a VTAM statistics collection from any VTAM
Selection or Current Data panel:

1. Type R in the Option field next to a specific resource displayed on any VTAM Selection
   or Current Data panel.

2. Press ENTER to display the VTAM Data Analysis panel (FNM03VAN). You can also
   use fast path =5.9.4 to display the VTAM Data Analysis panel.

   The VTAM Data Analysis panel enables you to specify criteria for searching the VSAM
   review file for data. This panel can be used with all VTAM resource types.

   **Note:** When using this panel to select and display VTAM data, you can enter a Start
   Time that is later than the Stop Time, if the Stop Date is later than the Start Date.

   The detail data panels that are displayed vary, depending on which VTAM resource type
   you select.
3. Complete the VTAM Data Analysis panel and press ENTER to display one of the following VTAM detail data panels:

- VTAM Global Detail Data. See “Displaying VTAM Global Detail Data” on page 165.
- VTAM Buffer Pool Detail Data. See “Displaying VTAM Buffer Pool Detail Data” on page 168.
- VTAM Virtual Route Detail Data. See “Displaying VTAM Virtual Route Detail Data” on page 168.
- VTAM Device Detail Data. See “Displaying VTAM Device Detail Data” on page 169.
- VTAM Application Detail Data. See “Displaying VTAM Application Detail Data” on page 171.
- VTAM Address Space Detail Data. See “Displaying VTAM Address Space Detail Data” on page 172.

### Displaying/Altering/Stopping Active VTAM Data Collections

Use the following procedure to display, alter, or stop active VTAM statistics collections from any VTAM Selection or Current Data panel:

1. Type L in the Option field next to a specific resource displayed on any VTAM Selection or Current Data panel.

2. Press ENTER to display the Command List panel (FNM03VCL), shown in Figure 194 on page 153.

The Command List panel displays all active NPM collections for the selected resource. You can stop or alter VTAM data collections from the Command List panel.
3. To stop a collection, type P in the Option field next to a specific collection. Press ENTER to stop the selected collection.
   You can use the REFRESH command to display the current collection status for the resource.

4. To alter a collection, type A in the option field next to a specific collection. Press ENTER to display the VTAM Alter panel (FNM03VTC), shown in Figure 195. The VTAM Alter panel enables you to alter a VTAM collection. This panel appears when you press ENTER from panel FNM03VTD.

Note: If you are altering a collection for either address space or application resource types, an alternate VTAM Alter panel (FNM03VT2) is displayed, shown in Figure 196 on page 159.
5. Complete either the VTAM Alter panel (FNM03VTC) or the VTAM Alter panel (FNM03VT2) and press ENTER to alter a collection on the selected VTAM resource.

### Issuing Direct VTAM Statistics Collection Commands

You can issue direct NPM VTAM statistics commands when:

- You know the name of the resource and do not want to spend time moving through the resource list panels to find it.
- A resource is not currently defined to NPM.
- You want to use a generic name, such as ALLVR (all virtual routes). Generic names are not displayed on panel lists.

**Note:** There are some limitations associated with VTAM statistics collections for dynamic and generic resources. For VTAM statistics collections on a dynamic resource, you cannot alter or stop a collection using direct VTAM panels until the resource is defined to NPM. However, you can stop this type of collection using the appropriate VTAM collection console command. For example, you would use the VVRCOLL command to stop these types of collections on dynamic virtual routes. See "NPM Commands" on page 215 for information about using the various VTAM system console commands to stop a collection.

There are additional limitations for deferred VTAM collections on resources defined by generic names, such as ALLVR. For example, if you start a deferred collection on ALLVR, collection information for the individual virtual routes cannot be displayed on NPM panels until the collection is started.

Use the following procedure to issue direct NPM VTAM statistics commands:

1. Select option 9 from the VTAM Resource Type Selection panel (FNM01VTM) to display the Direct Commands panel (FNM02CMD), shown in Figure 197 on page 161. You can also use fast path =5.9 to display the Direct Commands panel.
2. Type one of the following option numbers in the Select Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Starts a VTAM collection. See &quot;Using Direct Commands to Start a VTAM Collection&quot;</td>
</tr>
<tr>
<td>2</td>
<td>Alters a VTAM collection. See &quot;Using Direct Commands to Alter a VTAM Collection&quot; on page 162</td>
</tr>
<tr>
<td>3</td>
<td>Stops a VTAM collection. See &quot;Using Direct Commands to Stop a VTAM Collection&quot; on page 164</td>
</tr>
<tr>
<td>4</td>
<td>Displays VTAM data. See &quot;Using Direct Commands to Display VTAM Detail Data&quot; on page 164</td>
</tr>
</tbody>
</table>

**Using Direct Commands to Start a VTAM Collection**

Use the following procedure to start a VTAM data collection:

1. Select option 1 from the Direct Commands panel (FNM02CMD) to display the VTAM Start panel (FNM03VTD), shown in Figure 198 on page 161. You can also use fast path =5.9.1 to display the VTAM Start panel.

   The VTAM Start panel (FNM03VTD) is the first of two VTAM start collection panels. This panel is shared by all VTAM resource types.
2. Complete this panel and press ENTER to display the second VTAM Start panel (FNM03VTC), shown in Figure 199.

Note: If you are starting a collection for either address space or application resource types, an alternate second VTAM Start panel (FNM03VT2) is displayed, shown in Figure 200 on page 162.

Figure 198. VTAM Start Panel (FNM03VTD)

Figure 199. VTAM Start Panel (FNM03VTC)
3. Complete either the VTAM Start panel (FNM03VTC), or the VTAM Start panel (FNM03VT2), and press ENTER to start a collection on the selected VTAM resource.

**Note:** You cannot set monitor criteria for application or address space collections. Monitor criteria fields are not displayed on the alternate VTAM Start panel (FNM03VT2).

### Using Direct Commands to Alter a VTAM Collection

Use the following procedure to alter a VTAM data collection:

1. Select option 2 from the Direct Commands panel (FNM02CMD) to display the first VTAM Alter panel (FNM03VTD), shown in Figure 201. You can also use fast path =5.9.2 to display the VTAM Alter panel.

   ![VTAM Alter Panel (FNM03VTD)](image)

   **Figure 201. VTAM Alter Panel (FNM03VTD)**

2. Complete this panel and press ENTER to display the second VTAM Alter panel (FNM03VTC), shown in Figure 202 on page 163.
Notes:

a. NPM verifies 1) that the selected resource is defined to NPM, and 2) that a collection has been started for the resource that matches the criteria entered on the VTAM Alter panel (FNM03VT0). An error message is displayed if either verification fails.

   NPM does not perform these verifications if you specify a generic VTAM resource name, such as ALLVR.

b. If you are altering a collection for either address space or application resource types, the second VTAM Alter panel (FNM03VT2) is displayed, shown in Figure 203 on page 164.

   ![Figure 202. VTAM Alter Panel (FNM03VTC)](image)

   **Note:** You can alter only the Data Destinations and the Monitor Criteria fields on the VTAM Alter panel (FNM03VTC).

   If you specify a generic resource name, such as ALLVR, all the valid monitor criteria are displayed as zeros.
3. Complete either the VTAM Alter panel (FNM03VT2) or the VTAM Alter panel (FNM03VTC).

4. Press ENTER to alter the specified collection.

**Using Direct Commands to Stop a VTAM Collection**

Use the following procedure to stop a VTAM data collection:

1. Select option 3 from the Direct Commands panel (FNM02CMD) to display the VTAM Stop panel (FNM03VTD), shown in Figure 204. You can also use fast path =5.9.3 to display the VTAM Stop panel.

2. Complete this panel and press ENTER to end the specified VTAM collection.

**Using Direct Commands to Display VTAM Detail Data**

Use the following procedure to display VTAM detail data:

---

**Figure 203. VTAM Alter Panel (FNM03VT2)**

---

**Figure 204. VTAM Stop Panel (FNM03VTD)**
1. Select option 4 from the Direct Commands panel (FNM02CMD) to display the VTAM Data Analysis panel (FNM03VAN). You can also use fast path =5.9.4 to display the VTAM Data Analysis panel.

The VTAM Data Analysis panel enables you to specify criteria for searching the VSAM review file for data. FNM03VAN is a generic VTAM panel which can be used to search for all resource types. Depending on which type of VTAM resource you select, different detail data panels are displayed. Each of the VTAM detail data panels displayed with this option are described in this section.

**Note:** When using this panel to select and display VTAM data, you can enter a Start Time that is later than the Stop Time, if the Stop Date is later than the Start Date.

2. Complete the VTAM Data Analysis panel and press ENTER to display one of the following VTAM detail data panels:

- VTAM Global Detail Data. See "Displaying VTAM Global Detail Data".
- VTAM Buffer Pool Detail Data. See "Displaying VTAM Buffer Pool Detail Data" on page 168.
- VTAM Virtual Route Detail Data. See "Displaying VTAM Virtual Route Detail Data" on page 168.
- VTAM Device Detail Data. See "Displaying VTAM Device Detail Data" on page 169.
- VTAM Application Detail Data. See "Displaying VTAM Application Detail Data" on page 171.
- VTAM Address Space Detail Data. See "Displaying VTAM Address Space Detail Data" on page 172.

**Displaying VTAM Global Detail Data**

Use the following procedure to view VTAM global detail data:
1. Type the following data on the VTAM Data Analysis panel (FNM03VAN) and press ENTER to display the first VTAM Global Detail Data panel (FNM04GD1), shown in Figure 206:

- A valid VTAM global name in the Resource Name field
- DETAIL in the Data Type field
- GBL in the Resource Type field

The first VTAM Global Detail Data panel (FNM04GD1) displays a list of records written to the VSAM review file globally for VTAM.

![Figure 206. VTAM Global Detail Data Panel (FNM04GD1)](image)

2. Use the RIGHT command to display the second VTAM Global Detail Data panel (FNM04GD2), shown in Figure 207 on page 167.

The VTAM Global Detail Data panel (FNM04GD2) displays additional records written to the VSAM review file globally for VTAM.
3. Use the RIGHT command to display the third VTAM Global Detail Data panel (FNM04GD3), shown in Figure 208. The VTAM Global Detail Data panel (FNM04GD3) displays additional records written to the VSAM review file globally for VTAM.
Displaying VTAM Buffer Pool Detail Data

Type the following data on the VTAM Data Analysis panel (FNM03VAN) and press ENTER to display the VTAM Buffer Pool Detail Data panel (FNM04BD1), shown in Figure 209:

- A valid buffer pool name in the Resource Name field
- DETAIL in the Data Type field
- BPL in the Resource Type field

The VTAM Buffer Pool Detail Data panel displays a list of records written to the VSAM review file for the specified buffer pool.

![VTAM Buffer Pool Detail Data Panel](image)

Figure 209. VTAM Buffer Pool Detail Data Panel (FNM04BD1)

Displaying VTAM Virtual Route Detail Data

Use the following procedure to view VTAM virtual route detail data:

1. Type the following data on the VTAM Data Analysis panel (FNM03VAN) and press ENTER to display the first Virtual Route Detail Data panel (FNM04VD1), shown in Figure 210 on page 169:

- A valid virtual route name in the Resource Name field
- DETAIL in the Data Type field
- VR in the Resource Type field

The Virtual Route Detail Data panel displays a list of records written to the VSAM review file for a particular virtual route.
2. Use the RIGHT command to display the second virtual route detail data panel (FNM04VD2), shown in Figure 211.

The second Virtual Route Detail Data panel displays additional records written to the VSAM review file for the specified virtual route.

Figure 210. Virtual Route Detail Data Panel (FNM04VD1)

3. You can use the LEFT command to return to the first Virtual Route Detail Data Panel (FNM04VD1).

Displaying VTAM Device Detail Data
You can display VTAM Device Detail data for CTC devices, MPC groups, and MPC devices.

To display data for CTC devices or MPC groups, use the following procedure:
1. Type the following data on the VTAM Data Analysis panel (FNM03VAN) and press ENTER to display the first VTAM Device Detail Data panel (FNM04DD1), shown in Figure 212:
   - A valid VTAM device name in the Resource Name field
   - DETAIL in the Data Type field
   - DEV or MPCG in the Resource Type field

The first VTAM Device Detail Data panel displays a list of records written to the VSAM review file for the specified VTAM device.

<table>
<thead>
<tr>
<th>Interval</th>
<th>% Time</th>
<th>% Time</th>
<th>Attn</th>
<th>Read</th>
<th>-----&gt; PIUs ----&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:32:24</td>
<td>00:15:00</td>
<td>CHANNEL1</td>
<td>0</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 212. VTAM Device Detail Data Panel (FNM04DD1)

2. You can use the RIGHT command to display the second VTAM Device Detail Data panel (FNM04DD2), shown in Figure 213.

   The second VTAM Device Detail Data panel (FNM04DD2) displays additional records written to the VSAM review file for the specified VTAM device.

<table>
<thead>
<tr>
<th>Interval</th>
<th>Channel</th>
<th>Pgm Starts Due to</th>
<th>Writes</th>
<th>Reads</th>
<th>Buffers</th>
<th>Channel Pgm Starts Due to</th>
<th>Hi-Pri</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:32:24</td>
<td>00:15:00</td>
<td>00:00:00</td>
<td>200</td>
<td>21</td>
<td>5</td>
<td>1</td>
<td>45</td>
</tr>
</tbody>
</table>

Figure 213. VTAM Device Detail Data Panel (FNM04DD2)
3. You can use the LEFT command to return to the first VTAM Device Detail Data panel (FNM04DD1).

To display VTAM device detail data for MPC devices, use the following procedure:

Type R in the Option field on either the VTAM MPC Device Current Data panel (FNM03MP1) or on the VTAM Device Current Data panel (FNM03MP2) and press ENTER to display the VTAM MPC Device Detail Data panel (FNM04MD1), shown in Figure 214.

Alternatively, type the following data on the VTAM Data Analysis panel (FNM03VAN) and press ENTER:

- A valid VTAM MPC group name in the Resource Name field
- The channel name of the MPC group to which the MPC device belongs in the Upper Level field
- DETAIL in the Data Type field
- DEV in the Resource Type field

Displaying VTAM Application Detail Data

Type the following data on the VTAM Data Analysis panel (FNM03VAN) and press ENTER to display the VTAM Application Detail Data panel (FNM04PD1), shown in Figure 215 on page 172:

- A valid VTAM application name in the Resource Name field
- DETAIL in the Data Type field
- APL in the Resource Type field

The VTAM Application Detail Data panel displays a list of records written to the VSAM review file for the specified application.
Displaying VTAM Address Space Detail Data

Type the following data on the VTAM Data Analysis panel (FNM03VAN) and press ENTER to display the VTAM Address Space Detail Data panel (FNM04AD1), shown in Figure 216:

- A valid VTAM address space name in the Resource Name field
- DETAIL in the Data Type field
- ADR in the Resource Type field

The VTAM Address Space Detail Data panel displays a list of records written to the VSAM review file for the specified address space.

Displaying VTAM Monitor Event Messages

Use the following procedure from the VTAM Data Analysis panel (FNM03VAN), shown in Figure 205 on page 165, to display VTAM monitor event messages:
1. Type MONITOR in the Data Type field.
2. Type the name of a specific VTAM resource in the Resource Name field to display monitor event messages for the resource, or type ALL in the Resource Name field to display all monitor event messages for all VTAM resources.
3. Press ENTER to display the VTAM Monitor Event Messages panel (FNM0VMON), shown in Figure 217.

The VTAM Monitor Event Messages panel (FNM0VMON) displays VTAM monitor event messages, exception messages, and resolution messages for the resources specified on the VTAM Data Analysis panel (FNM03VAN).

---

**Figure 217. VTAM Monitor Event Messages Panel (FNM0VMON)**
This chapter gives an overview of the facilities NPM provides for collecting NetWare resources performance data. You can use NPM’s NetWare resources data collection function to perform these tasks:

- Add or delete NPM’s NetWare resource definitions
- Start, stop, or modify data collections on NetWare resources
- Start, stop, or modify the monitoring of NetWare resources
- Produce batch reports detailing the performance of NetWare resources

Using a nonprogrammable terminal, you can issue these commands from a system console or in an NPM EXEC:

- **LWGRES** to define NetWare resources that are to be used for collection purposes. See “LWGRES” on page 267 for more information.
- **LWGCOLL** to start and stop collections or monitors on NetWare resources defined by the LWGRES command. See “LWGCOLL” on page 259 for more information.
- **LWGSTOP** stops all active collections on all NetWare resources. See “LWGSTOP” on page 269 for more information.
Use the Dynamic Data Display function to display network and response times data on 3270 panels without waiting for a collection interval to end and without waiting until NPM has written the data to the review files. Real time data is collected and displayed on the screen using the refresh interval (as in the NPM console). You can also refresh the data automatically at any time.

For all type of Network and Response Times resources, Dynamic Data Display shows the start of the last collection interval when data was collected for these resources. After the last interval data is shown on the screen, NPM waits for your requests. If you press ENTER, NPM starts the automatic refresh for all the resources that match with the selection criteria.

Notes:
1. Using the traditional Review Data functionality, you can analyze data collected until the last interval has expired. The Dynamic Data functionality is introduced to allow you to monitor real-time data on critical/limited resources with an automatic refresh. For performance reasons, the number of resources that NPM can display is limited to 200 for each interval. It is not feasible to monitor more than 200 resources, that is, more than ten display panels.
2. During automatic refresh, you cannot enter any information from your keyboard and your PF keys do not function. To regain control of your keyboard, press ATTN key (ESC on personal computers). This key 'freezes' the display and enables you to perform other functions. When you press the ATTN key, the PF keys you can use are displayed on the bottom of your screen. Press ENTER to restart the dynamic display.

Attention
If you are using the Personal Communication 3270 emulator, the recommended version is 4.3.

For version 4.1 or earlier, it is recommended that you disable the Keystroke Buffering function. To do this, select Assist -> Keyboard Setup.

To access the Dynamic Data Display, use one of:
- PF Keys and commands See [Using PF Keys and Commands] on page 178
- The DYN command See [Using the DYN Command] on page 181
- Fast paths See [Using Fast Paths] on page 184
Using PF Keys and Commands

To access the Dynamic Data Display, use one of the following PF keys:

<table>
<thead>
<tr>
<th>PF Key</th>
<th>Command</th>
<th>Used for ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>NCP</td>
<td>NCPs</td>
</tr>
<tr>
<td>16</td>
<td>ROUTER</td>
<td>IBM, NT and Cisco routers</td>
</tr>
<tr>
<td>17</td>
<td>LINE</td>
<td>SDLC lines</td>
</tr>
<tr>
<td>20</td>
<td>APPL</td>
<td>VTAM applications</td>
</tr>
<tr>
<td>24</td>
<td>TERMINAL</td>
<td>SNA LU and TCP/IP terminal</td>
</tr>
</tbody>
</table>

Defaults for PF keys are:

<table>
<thead>
<tr>
<th>PF Key</th>
<th>Resource Name</th>
<th>Subnet Mask</th>
<th>Resource Type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCP</td>
<td>*</td>
<td>-</td>
<td>NCP</td>
<td>The collection is started on all NCPs defined to NPM.</td>
</tr>
<tr>
<td>LINE</td>
<td>*</td>
<td>-</td>
<td>LINK</td>
<td>The collection is started on all SDLC lines defined to NPM.</td>
</tr>
<tr>
<td>ROUTER</td>
<td>0.0.0.0</td>
<td>0.0.0.0</td>
<td>ALLROUT</td>
<td>The collection is started on all routers defined to NPM.</td>
</tr>
<tr>
<td>APPL</td>
<td>*</td>
<td>-</td>
<td>APPL</td>
<td>The collection is started on all applications defined to NPM.</td>
</tr>
<tr>
<td>TERMINAL (SNA/IP)</td>
<td>0.0.0.0</td>
<td>-</td>
<td>ALLTERM</td>
<td>The data is displayed for all the LUs or TCP/IP terminals that are currently in session with an application defined to NPM.</td>
</tr>
</tbody>
</table>

Where:
* indicates that any resource name or IP address could be specified
- indicates that the subnet mask could not be specified for that resource type.

Note
To use these PF keys with old (pre-NPM 2.5 plus upgrade) NPM operators, you need a profile migration. To update the user profile already defined, do the following:

- Delete the current profile. NPM automatically creates the new profile at logon time with the new PF keys defined.
- OR-
- Use the old profile. To do this, you must change the PF key set manually (=0.1, "Program function key definition"). If you currently use 12 PF keys:
  1. Select 24 PF keys.
  2. Reset the second group of PF keys.
  3. Set the new PF keys on the second group.

Either way, you can still use the old profile and use the function related to the PF keys by entering the commands (NCP, ROUTER, LINE, and so on) directly on the command line.
If you are a new operator, or you migrated your profile, NPM displays the new PF keys on all panels and always with the same PF key number. For example:

<table>
<thead>
<tr>
<th>PF Keys</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PF1</td>
<td>HELP</td>
</tr>
<tr>
<td>PF3</td>
<td>Primary Options (FNM00PRI)</td>
</tr>
<tr>
<td>PF12</td>
<td>LOGOFF</td>
</tr>
<tr>
<td>PF15</td>
<td>NCP commands</td>
</tr>
<tr>
<td>PF16</td>
<td>ROUTER</td>
</tr>
<tr>
<td>PF17</td>
<td>LINE</td>
</tr>
<tr>
<td>PF20</td>
<td>APPL</td>
</tr>
<tr>
<td>PF24</td>
<td>TERMINAL</td>
</tr>
</tbody>
</table>

**Dynamic Display Output Relevant Counters**

In the output panels the following data and counters are displayed for each type of resource:

<table>
<thead>
<tr>
<th>Data</th>
<th>Counters</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCP</td>
<td>Resource Name</td>
</tr>
<tr>
<td></td>
<td>Resource Type (NCP)</td>
</tr>
<tr>
<td></td>
<td>End time</td>
</tr>
<tr>
<td></td>
<td>CCU utilization</td>
</tr>
<tr>
<td></td>
<td>Free buffers queue length</td>
</tr>
<tr>
<td></td>
<td>Free buffers highest number</td>
</tr>
<tr>
<td></td>
<td>Free buffers lowest number</td>
</tr>
<tr>
<td></td>
<td>Channel intermediate queue length</td>
</tr>
<tr>
<td></td>
<td>Channel hold queue length</td>
</tr>
<tr>
<td></td>
<td>Percentage of NCP slowdown</td>
</tr>
<tr>
<td></td>
<td>NCP slowdown limit</td>
</tr>
<tr>
<td>LINE (SDLC)</td>
<td>Resource Name</td>
</tr>
<tr>
<td></td>
<td>Resource Type (LINK)</td>
</tr>
<tr>
<td></td>
<td>End time</td>
</tr>
<tr>
<td></td>
<td>Queue Length</td>
</tr>
<tr>
<td></td>
<td>Messages/min</td>
</tr>
<tr>
<td></td>
<td>Char/sec</td>
</tr>
<tr>
<td></td>
<td>Line utilization</td>
</tr>
</tbody>
</table>
### Dynamic Display Output Relevant Counters

<table>
<thead>
<tr>
<th>Data</th>
<th>Counters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pools/Min</td>
</tr>
<tr>
<td></td>
<td>Percentage of negative pools</td>
</tr>
<tr>
<td></td>
<td>Errors</td>
</tr>
<tr>
<td></td>
<td>Retransmitted PIUs</td>
</tr>
<tr>
<td></td>
<td>Retransmitted bytes</td>
</tr>
<tr>
<td>ROUTER</td>
<td>Resource Name (IP address)</td>
</tr>
<tr>
<td></td>
<td>Resource Type (for example, Cisco, NHD2210, NT)</td>
</tr>
<tr>
<td></td>
<td>End time</td>
</tr>
<tr>
<td></td>
<td>CPU utilization (for Cisco and IBM routers)</td>
</tr>
<tr>
<td></td>
<td>Memory utilization (for IBM routers)</td>
</tr>
<tr>
<td></td>
<td>Global buffer utilization (for IBM routers)</td>
</tr>
<tr>
<td></td>
<td>Interface index (the one with higher utilization)</td>
</tr>
<tr>
<td></td>
<td>Interface utilization</td>
</tr>
<tr>
<td></td>
<td>Pool type (the one with higher utilization, for Cisco routers)</td>
</tr>
<tr>
<td></td>
<td>Pool utilization</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>Resource Name</td>
</tr>
<tr>
<td></td>
<td>Resource Type (APPL)</td>
</tr>
<tr>
<td></td>
<td>End time</td>
</tr>
<tr>
<td></td>
<td>Average Host Transaction Time</td>
</tr>
<tr>
<td></td>
<td>Average Network Transaction Time</td>
</tr>
<tr>
<td></td>
<td>Total number of transactions processed</td>
</tr>
<tr>
<td></td>
<td>Total number of transactions with definite response</td>
</tr>
<tr>
<td></td>
<td>Total bytes Inbound</td>
</tr>
<tr>
<td></td>
<td>Total bytes Outbound</td>
</tr>
<tr>
<td>TERMINAL</td>
<td>Resource Name (LU name or IP address)</td>
</tr>
<tr>
<td></td>
<td>Resource Type (TERMLU or TERMIP)</td>
</tr>
<tr>
<td></td>
<td>Application Name</td>
</tr>
<tr>
<td></td>
<td>End time</td>
</tr>
<tr>
<td></td>
<td>Average Host Transaction Time</td>
</tr>
<tr>
<td></td>
<td>Average Network Transaction Time</td>
</tr>
<tr>
<td></td>
<td>Total number of transactions processed</td>
</tr>
<tr>
<td></td>
<td>Total bytes Inbound</td>
</tr>
<tr>
<td></td>
<td>Total bytes Outbound</td>
</tr>
</tbody>
</table>

### Example

This example shows you how to view real time data for all your NCPs.

1. In any NPM 3270 panel, press PF 15 (NCP). The Dynamic NCP Data panel is displayed. This panel shows all last interval NCP data for the NCPs with active collections. It is a static output panel:
2. To start the auto refresh of the NCP data, press ENTER. The output panel goes into auto refresh mode, see Figure 220.

To exit auto refresh mode, press ATTN.

Using the DYN Command

You can use the DYN command from the Network and Response Times output review panels.

When you enter DYN on the command line of a review panel, the Dynamic Data Display output panel is displayed with a set of relevant counters. The Dynamic Data Display collects and shows actual data using the same selection criteria used to review historical data.
Using the DYN Command

Note: The Dynamic Data Display function is active only on the LOCAL host. If the review of historical data is on a remote NPM, the DYN command returns an error message.

Example

This example shows you how to review historical data for your NCPs and view real time data for these resources. To do this:

1. From the NPM primary option (FNM00PRI) select option 1. The Network Management panel (FNM01NET) is displayed, see [Figure 221].

2. Select option 7, Review Data, and set NCP/Router (N/R) to N. The Network Review panel (FNM02RVM) is displayed, see [Figure 222].

3. Specify Resource Name=A0* and Resource Type=NCP. Press ENTER. The Network Review panel (FNM03RVP) is displayed, see [Figure 223 on page 183].
4. To start the Dynamic Data Display function for the resource you are displaying, enter DYN on the command line and press ENTER. The output panel of that function is displayed, see Figure 224:

```
Command ===> DYN
Insert DYN to get dynamic (real time) data
Host Name = LOCAL Resource Name = A0* Data Type = NCP DETAIL
Date/Time: from 10/14/99 16:39:59 to 12/29/99 14:34:56
Slowdown Limit: 38M

Time hh:mm:ss Name Util Qlen High Low Interm Hold
16:39:59 0:20 A03NCP 100 5243K 8651K 8192K 12 24
16:41:00 1:00 A03NCP 100 4194K 8716K 8126K 8 16
16:42:00 1:00 A03NCP 100 5243K 8913K 7995K 12 24
16:42:59 0:59 A03NCP 100 4194K 8454K 8323K 8 16
09:35:59 0:49 A03NCP 23 5243K 8651K 8192K 12 24
09:36:05 0:06 A03NCP 100 4194K 8454K 8323K 8 16
17:30:01 0:32 A03NCP 100 5243K 8651K 8192K 12 24
17:30:44 0:43 A03NCP 100 4194K 8454K 8323K 8 16
15:07:00 0:51 A03NCP 26 5243K 8651K 8192K 12 24
15:07:29 0:30 A03NCP 100 4194K 8454K 8323K 8 16
```

5. To start the auto refresh of the NCP data, press ENTER. The output panel goes into auto refresh mode, see Figure 225 on page 184:
Using the DYN Command

Using Fast Paths

Fast Path =1.8

Use fast path =1.8 and NCP/Router=N to display the Dynamic NCP Data panel (FNM02DDN):

Using Fast Paths

Fast Path =1.8

Use fast path =1.8 and NCP/Router=R to display the Dynamic NCP Data panel (FNM02DDR):

6. To exit auto refresh mode, press ATTN.
Fast Path =2.4

Use fast path =2.4 to display the Dynamic Response Times Data panel (FNM02DDS):

From each of these input panels you can select the resource name type for which you want dynamic data displayed.

For detailed information, see:

- “Using the Dynamic Data Display Option for NCPs” on page 81
- “Using the Dynamic Data Display Option for Routers” on page 84
- “Displaying Dynamic Response Times Data” on page 95
Example

This example shows you how to view real time data for NCP with names that begin with A0*. To do this:

1. From the NPM Primary Options panel (FNM00PRI) select option 1. The Network Management panel (FNM01NET) is displayed, see Figure 229:

   ![Figure 229. Network Management Panel (FNM01NET)](image)

   **Figure 229. Network Management Panel (FNM01NET)**

2. Select option 8 and set NCP/Router (N/R) to N. The Dynamic NCP Data Display panel (FNM02DDN) for NCP resources is displayed, see Figure 230:

   ![Figure 230. Dynamic NCP Data Display Panel (FNM02DDN)](image)

   **Figure 230. Dynamic NCP Data Display Panel (FNM02DDN)**

3. Specify Resource Name=A0* and Resource Type=NCP. Press ENTER. The dynamic data is displayed in the same way as for the PF keys and the DYN command (see previous examples).
Using NPM Control Functions

This chapter describes how to use NPM control functions to perform the following tasks:

- Display NPM user IDs, status, and profile information
- Bind to and unbind from other NPMs and establish communication sessions for sending and receiving data
- Bind NPM to and unbind NPM from an NPALU and display the status of the NPALUs in your network
- Display NPM performance measurement information
- Open, close, reset, switch, lock, unlock, and display the status of NPM data files
- Display SMF record types and specify partitioned data set (PDS) member names to update SMF control tables
- Send messages to other NPM users
- Run NPM EXECs
- Define parameters for LAN data collection
- Perform NPM accounting functions
- End NPM

**Note:** See the *NetView Performance Monitor Reference* for detailed descriptions of the NPM panel fields.

**NPM Control Function Panels**

Use the following procedures to perform NPM control functions:

1. Select option 9 from the Primary Options panel (FNM00PRI) to display the Control Functions panel (FNM01OMN), shown in Figure 231 on page 188. You can also use fast path =9 to display the Control Functions panel.
2. Type one of the following option numbers in the Select Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unbinds users from NPM and displays user IDs, status, and profile information. See “Unbinding Users and Displaying NPM User Information” on page 189.</td>
</tr>
<tr>
<td>2</td>
<td>Binds to and unbinds from other NPMs and establishes communication sessions for sending and receiving data. See “Using the Sessions Display and Management Panel” on page 189.</td>
</tr>
<tr>
<td>3</td>
<td>Binds NPM to and unbinds NPM from an NPALU and displays the status of the NPALUs in your network. See “Managing NPALUs” on page 190.</td>
</tr>
<tr>
<td>4</td>
<td>Displays NPM performance information. See “Displaying Performance Measurement Tables” on page 193.</td>
</tr>
<tr>
<td>5</td>
<td>Opens, closes, resets, switches, locks, unlocks, and displays the status of NPM data files. See “Managing Data Files” on page 196.</td>
</tr>
<tr>
<td>6</td>
<td>Displays SMF record types and specifies PDS member names to update SMF control tables. See “Displaying SMF Record Status” on page 198.</td>
</tr>
<tr>
<td>7</td>
<td>Sends messages to other NPM users. See “Sending a Message to Another NPM User” on page 199.</td>
</tr>
<tr>
<td>8</td>
<td>Runs NPM EXECs. See “Executing NPM EXECs” on page 200.</td>
</tr>
<tr>
<td>9</td>
<td>Defines parameters for LAN data collection. See “Managing LAN Collection” on page 200.</td>
</tr>
<tr>
<td>10</td>
<td>Performs NPM accounting functions. See “Performing NPM Accounting Functions” on page 203.</td>
</tr>
<tr>
<td>99</td>
<td>Ends NPM. See “Ending NPM” on page 211.</td>
</tr>
</tbody>
</table>

Figure 231. Control Functions Panel (FNM01OMN)
Unbinding Users and Displaying NPM User Information

Use the following procedure to unbind users from NPM and display NPM user IDs, profiles, and status:

1. Select option 1 from the Control Functions panel (FNM01OMN) to display the User Display and Management panel (FNM02OUS), shown in Figure 232. You can also use fast path =9.1 to display the User Display and Management panel.

This panel displays a list of NPM users, profiles, terminal IDs, and connection status.

2. To unbind a user from NPM, type U in the Option field next to a user ID and press ENTER.

Using the Sessions Display and Management Panel

Use the following procedure to bind to and unbind from other NPMs in your network (if the proper definitions are in place). You can also use this NPM control function to prevent (lock) or enable (unlock) access to other NPMs in your network.

1. Select option 2 from the Control Functions panel (FNM01OMN) to display the Session Display and Management panel (FNM02OSS), shown in Figure 233 on page 190. You can also use fast path =9.2 to display the Session Display and Management panel.
The following terms can be displayed in the Status/Remarks field on the Sessions Display and Management panel (FNM02OSS):

**CONNECTED**
The remote NPM is bound to the host specified in the Host Name field.

**DISCONNECTED**
The remote NPM is not bound to the host specified in the Host Name field.

**INCOMPATIBLE RELEASE**
The remote NPM is running a version of NPM earlier than V2R1.

**LOCKED**
The remote NPM cannot be accessed by the host specified in the Host Name field.

**QUIESCED**
The remote NPM is in the process of ending the connection to the host specified in the Host Name field.

2. Type one of the following options in the Option field next to the appropriate host name and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Binds (connects) this NPM to a remote NPM.</td>
</tr>
<tr>
<td>U</td>
<td>Unbinds (disconnects) this NPM from a remote NPM.</td>
</tr>
<tr>
<td>L</td>
<td>Prevents this NPM from accessing a remote NPM.</td>
</tr>
<tr>
<td>N</td>
<td>Enables this NPM to access a remote NPM.</td>
</tr>
</tbody>
</table>

**Managing NPALUs**

NPM must be bound to the primary NPALU of an NCP in order to perform network collection for resources defined to that NCP. NPM must also be bound to the primary NPALU or a backup NPALU in order to perform network accounting data collection. Similarly, NPM must bind to the NPALU of a 3746 APPN network node to collect performance or accounting data from the node. Use the following procedure to bind and unbind NPALUs:
1. Select option 3 from the Control Functions panel (FNM01OMN) to display the NPALU Display and Management panel (FNM02OCC), shown in Figure 234. You can also use fast path =9.3 to display the NPALU Display and Management panel.

2. Type one of the following options in the Option field next to a specific NPALU or NCP name and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Binds (connects) the NPALU to NPM. An operator message indicating the bind is complete is displayed.</td>
</tr>
<tr>
<td>U</td>
<td>Unbinds (disconnects) the NPALU from NPM. An operator message indicating the unbind is complete is displayed.</td>
</tr>
</tbody>
</table>
| /      | Displays NCP detail data. The NCP Detail Display panel (FNM02OCR) is displayed if you do not have NCP accounting support. See “Displaying NCP Detail Data without Accounting Support” on page 192. The alternate NCP Detail Display panel (FNM02OCS) is displayed if you do have NCP accounting support. See “Displaying NCP Detail Data with Accounting Support” on page 192.

**Displaying NCP Detail Data without Accounting Support**

Select option / from the NPALU Display and Management panel (FNM02OCC) to display the NCP Detail Display panel (FNM02OCR), shown in Figure 235 on page 192.

The NCP Detail Display panel displays NCP generation parameters. This panel is displayed if you do not have NCP accounting support. If you have NCP accounting support, the NCP Detail Display panel (FNM02OCS) is displayed.
Displaying NCP Detail Data with Accounting Support

Use the following procedure to display NCP detail data if you have accounting support:

1. Select option / from the NPALU Display and Management panel (FNM02OCC) to display the NCP Detail Display panel (FNM02OCS), shown in Figure 236.

The NCP Detail Display panel displays NCP generation parameters. You can monitor the highest and lowest usage trends by viewing the panel periodically.

Note: Use the NEXT and PREVIOUS commands to move between the FNM02OCS, FNM02OCN, and FNM02OCT panels.

2. Use the NEXT command to display the Network Accounting Display panel (FNM02OCN), shown in Figure 237 on page 193.
The Network Accounting Display panel displays information about network accounting. This data is accumulated in the NCP and transferred to NPM.

Figure 237. Network Accounting Display Panel (FNM02OCN)

3. Use the NEXT command to display the Network Accounting Threshold Display panel (FNM02OCT), shown in Figure 238. This panel displays the threshold settings for network accounting collection on each application.

Figure 238. Network Accounting Threshold Display Panel (FNM02OCT)

Displaying Performance Measurement Tables

Use the following procedure to display NPM performance measurement table information:
1. Select option 4 from the Control Functions panel (FNM01OMN) to display the Performance Measurement Table Display panel (FNM02OPM), shown in Figure 239. You can also use fast path =9.4 to display the Performance Measurement Table Display panel. This panel displays original, current, and low measurements of host storage used by NPM.

The storage values displayed on the performance measurement tables reflect only the storage explicitly acquired by NPM from the operating system. These values do not include the storage required to load the NPM code or storage used by the operating system, such as I/O buffers.

**Note:** You can use the NEXT or PREVIOUS commands to page through the NPM performance measurement information panels.

![Figure 239. Performance Measurement Table Display Panel (FNM02OPM)](image)

2. Use the NEXT command to display the Summary Display panel (FNM02OPS), shown in Figure 240 on page 195.

The Summary Display panel displays information about NPM users, NCPs, and data collection parameters.
3. Use the NEXT command to display the File Services Summary panel (FNM02OPR), shown in Figure 241.

The File Services Summary panel displays information about all NPM data files. This information includes the number of records in each file, the number of records written to the file during this NPM session, and the number of records lost.

```
FNM02OPR  NPM V2R7  5655-043
CONTROL FUNCTIONS
FILE SERVICES SUMMARY

Command =====>
Host Name = LOCAL

<table>
<thead>
<tr>
<th>File Name</th>
<th>Current</th>
<th>Total</th>
<th>Lost</th>
<th>Record Type</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNMSES1</td>
<td>397</td>
<td>397</td>
<td>186</td>
<td>Session</td>
<td>186</td>
</tr>
<tr>
<td>FNMREV1</td>
<td>15</td>
<td>76</td>
<td>0</td>
<td>Network</td>
<td>52</td>
</tr>
<tr>
<td>FNMWLG1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>RTM</td>
<td>0</td>
</tr>
<tr>
<td>FNMLOG1</td>
<td>273</td>
<td>275</td>
<td>15</td>
<td>Accounting</td>
<td>0</td>
</tr>
<tr>
<td>FNMLOG1</td>
<td>237</td>
<td>237</td>
<td>0</td>
<td>Command/Event</td>
<td>62</td>
</tr>
<tr>
<td>FNMVMF</td>
<td>262</td>
<td>262</td>
<td>0</td>
<td>LAN</td>
<td>2</td>
</tr>
<tr>
<td>FNMALENT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>VTAM</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NetWare</td>
<td>2</td>
</tr>
</tbody>
</table>

Press NEXT or PREVIOUS for additional PMT displays
PF 1=HELP  3=END  7=PREVIOUS  8=NEXT  10=TOP  11=BOTTOM
PF12=RETURN 15=NCP  16=ROUTER  17=LINE  20=APPL  24=TERMINAL
```

Figure 241. File Services Summary Panel (FNM02OPR)

4. Use the NEXT command to display the Virtual Storage Summary Display panel (FNM02OPV), shown in Figure 242 on page 196.

The Virtual Storage Summary Display panel displays information about NPM’s virtual storage on the host. This information includes CSA and buffer storage.
5. Use the NEXT command to display the Session Collection Performance panel (FNM02OPC), shown in Figure 243.

The Session Collection Performance panel displays information about session collection.

Managing Data Files

This NPM control function allows you to open, close, reset, switch, lock, or unlock the following NPM data files:

- Review
- Session statistics
- NPM log
- VTAM PIU log
- SMF
- Alerts
- LAN work group
Use the following procedure to manage these NPM data files:

1. Select option 5 from the Control Functions panel (FNM01OMN) to display the Data File Display and Management panel (FNM02OFL), shown in Figure 244. You can also use fast path =9.5 to display the Data File Display and Management panel.

The Data File Display and Management panel (FNM02OFL) enables you to perform data file management procedures on NPM data files. This panel displays NPM data file names, the beginning and ending times that records were added to the files, and status information. The status of a file can be one of the following:

**EMPTY**
- The file either contains no data or the file has been opened to obtain its status. If the FILE initialization statement is coded with ISTATUS=INACTIVE, the file status is EMPTY until an NPM user requests that the file be opened, or until online analysis is performed on the file. The file does not contain data if the file still displays a status of EMPTY.

**OPEN**
- The file is open to the online system for input and analysis.

**ACTIVE**
- The file is both OPEN and the primary file. The name of the primary file is highlighted.

**STOP**
- You have issued a CLOSE command for the SMF data set or the alert interface. The file is not actually closed, but logging activity stops until you issue an OPEN command for it.

**FULL**
- The file is full. No further records can be written to it, although it can still be read if it is open. Once a file becomes FULL, it must be reset before new records can be written to it.

- A switch is automatically attempted when the primary file is FULL. If the primary file displays an OPEN status and FULL, the switch was unsuccessful and collection is suspended until the file is reset.

**UNUSABLE**
- The file cannot be accessed.
LOCK  The file has been locked by the control operator.

A file is closed if no status is displayed. NPM cannot read or write data to the file, and you cannot use the file until it is opened or reset.

**Note:** NPM determines the status of a file only after it has attempted to use that file. The status of the file remains EMPTY until that time.

2. To change the status of a file, type one of the following options in the Option field next to a file name and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Closes the file and stops data from being written to the file. Use this option before you dump a file to tape.</td>
</tr>
<tr>
<td>L</td>
<td>Locks the file and prevents NPM and NPM users from using the file.</td>
</tr>
<tr>
<td>O</td>
<td>Opens the file and enables NPM to write data to a file.</td>
</tr>
<tr>
<td>R</td>
<td>Resets the file and deletes the contents of a file so it can receive data again, or reset an open file if it is not active. Use this option after a file has been closed and dumped to tape. This option is not valid for logical files. See the <em>NetView Performance Monitor Installation and Customization</em> for more information about logical files.</td>
</tr>
<tr>
<td>S</td>
<td>Forces NPM to switch to the next available file before the current file becomes full. This option is not valid for logical files. For session, review, and LAN work group files, NPM switches to the next file which is neither full, locked, nor defined as inactive at initialization. For other files, NPM switches to the next file that is empty and was not defined as inactive at initialization. Switching to a closed session, review, or LAN work group file automatically activates the file and closes the former active file. However, switching to a closed NPM log or VTAM log stops data collection and closes the active file.</td>
</tr>
<tr>
<td>U</td>
<td>Unlocks the file and allows NPM and NPM users to use the file.</td>
</tr>
</tbody>
</table>

### Displaying SMF Record Status

Use the following procedure to display the status of SMF user records:

1. Select option 6 from the Control Functions panel (FNM01OMN) to display the SMF User Record Display and Management panel (FNM02OSM), shown in Figure 245 on page 199. You can also use fast path =9.6 to display the SMF User Record Display and Management panel.

The SMF User Record Display and Management panel displays the status of SMF user records. You can also use this panel to determine whether to log the information in these records.
2. Type one of the following options in the Option field next to a specific SMF record type and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>Enables data logging for this record type.</td>
</tr>
<tr>
<td>N</td>
<td>Disables data logging for this record type.</td>
</tr>
</tbody>
</table>

**Sending a Message to Another NPM User**

Use the following procedure to send messages to another NPM user:

1. Select option 7 from the Control Functions panel (FNM01OMN) to display the Send Message panel (FNM02OMS), shown in Figure 246. You can also use fast path =9.7 to display the Send Message panel.

2. Type the name of the host that the operator with whom you want to communicate is using in the Host Name field.
3. Type the ID of the operator with whom you want to communicate in the Operator field.
4. Type the console number for the operator in the Console field (if applicable).
5. Type your message in the Text field and press ENTER.

**Executing NPM EXECS**

Use the following procedure to execute an NPM EXEC:

1. Select option 8 from the Control Functions panel (FNM01OMN) to display the Execute an NPM EXEC panel (FNM02OEX), shown in Figure 247. You can also use fast path =9.8 to display the Execute an NPM EXEC panel.

   ![Figure 247. Execute an NPM EXEC Panel (FNM02OEX)](image)

2. Type the name of the host that will process the NPM EXEC in the Host Name field.
3. Type the name of the NPM EXEC you want to execute in the NPM exec Name field.
4. Type **YES** in the List NPM exec field if you want a listing of the EXEC sent to the SYSPRINT file.
5. Press ENTER to process the EXEC.

**Managing LAN Collection**

Use the following procedure to change collection parameters for LAN bridges or LAN segments:

1. Select option 9 from the Control Functions panel (FNM01OMN) to display the LAN Management Control panel (FNM02LMC), shown in Figure 248 on page 201. You can also use fast path =9.9 to display the LAN Management Control panel.

   The LAN Management Control panel (FNM02LMC) allows you to change collection parameters on LAN bridges or LAN segments.
2. Type one of the following options in the Select Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
</table>

**Changing LAN Bridge Collection Parameters**

Use the following procedure to change collection parameters on LAN bridges:

1. Select option 1 from the LAN Management Control panel (FNM02LMC) to display the LAN Bridge Control panel (FNM02LBB), shown in Figure 249 on page 202. You can also use fast path =9.9.1 to display the LAN Bridge Control panel.

You can use the LAN Bridge Control panel to specify global parameters that affect all LAN bridge collections. You can also issue dynamic reconfigurations to update the panel with any changes on the LAN.
2. Enter the following LAN bridge collection parameters, as required:

- Select a data destination.
- Select an interval length value.
  
  You can change the interval length at any time. Changes to the interval length take effect immediately. For example, if you change the interval length value from 10 to 15 at 11:11, collections occur at 11:00, 11:10, 11:15, 11:30, 11:45, and so on.
- Select an interval synch value.
  
  You can set the interval synch to any value, provided it is less than the interval length value. For example, if the interval synch value is 3 and the interval length value is 10, collections occur at 11:03, 11:13, 11:23, 11:33, and so on. Changes to the interval synch value take effect at the next interval boundary.

3. Type `RECONFIG` on the Command line and press ENTER to dynamically refresh the configuration of the LAN resources.

**Note:** The FNM02LBB and FNM02LSB panels are the only panels from which you can issue a RECONFIG command.

### Changing LAN Segment Collection Parameters

Use the following procedure to change collection parameters on LAN segments:

1. Select option 2 from the LAN Management Control panel (FNM02LMC) to display the LAN Segment Control panel (FNM02LSB), shown in Figure 250 on page 203. You can also use fast path =9.9.2 to display the LAN Segment Control panel.

   The LAN Segment Control panel enables you to specify global parameters that affect all LAN segment collections. You can also issue dynamic reconfigurations to update the panel with any changes on the LAN.
2. Enter the following LAN segment collection parameters, as required:
   - Select a data destination.
   - Select an interval length value.
     You can change the interval length at any time. Changes to the interval length take effect immediately. For example, if you change the interval length value from 10 to 15 at 11:11, collections would at 11:00, 11:10, 11:15, 11:30, 11:45, and so on.
   - Select an interval synch value.
     You can set the interval synch to any value, provided it is less than the interval length value. For example, if the interval synch value is 3 and the interval length value is 10, collections occur at 11:03, 11:13, 11:23, 11:33, and so on. Changes to the interval synch value take effect at the next interval boundary.
   - Select a sampling interval value.
     You can set the sampling interval to any value between 40 and 300. You can increase the size of the sampling interval value to improve system performance by reducing CPU utilization when you are collecting on a large number of segments.

3. Type RECONFIG on the Command line and press ENTER to dynamically refresh the configuration of the LAN resources.

   **Note:** The FNM02LBB and FNM02LSB panels are the only panels from which you can issue a RECONFIG command.

### Performing NPM Accounting Functions

Use the following procedure to perform NPM accounting functions:

1. Select option 10 from the Control Functions panel (FNM01OMN) to display the Accounting panel (FNM02ACC), shown in Figure 251 on page 204. You can also use fast path =9.10 to display the Accounting panel.

   The Accounting panel enables you to select accounting control functions.
2. Type the name of the NCP for which you want to perform accounting functions in the NCP Name field. See "Selecting Network Accounting NCPs" on page 205 for procedures to use when you do not know the NCP name.

3. Type one of the following option numbers in the Select Option field and press ENTER:

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enables the sending of session accounting statistics. A message indicating that session accounting is enabled is displayed.</td>
</tr>
<tr>
<td>2</td>
<td>Disables the sending of session accounting statistics. A message indicating that session accounting is disabled is displayed.</td>
</tr>
<tr>
<td>3</td>
<td>Modifies session accounting. See &quot;Modifying Session Accounting Parameters&quot; on page 206.</td>
</tr>
<tr>
<td>4</td>
<td>Solicits session accounting data. A message is displayed indicating that the solicit command was issued to the NCP.</td>
</tr>
<tr>
<td>5</td>
<td>Displays accounting status. See &quot;Displaying Accounting Parameters&quot; on page 208.</td>
</tr>
<tr>
<td>6</td>
<td>Enables the sending of gateway accounting statistics. A message is displayed indicating that gateway accounting is enabled.</td>
</tr>
<tr>
<td>7</td>
<td>Disables the sending of gateway accounting statistics. A message is displayed indicating that gateway accounting is disabled.</td>
</tr>
<tr>
<td>9</td>
<td>Solicits gateway accounting. A message is displayed indicating that the solicit command was issued to the NCP.</td>
</tr>
</tbody>
</table>

Note: The accounting options displayed on the Accounting panel (FNM02ACC) can be selected using the NGACNTL, NGAMDFY, NSACNTL, NSAMDFY, and NSASOLCT system console commands. You can specify CLOCK and DAILY
parameters for these accounting options when you use these system console commands. See "NPM Commands" on page 215 for more information.

Selecting Network Accounting NCPs

A list of NCPs is displayed if the NCP Name field is left blank on the Accounting panel (FNM02ACC).

If you select a Network Session Accounting (NSA) function without specifying a NCP name, the Network Session Accounting NCP Selection panel (FNM0ABCS), is displayed. (See Figure 252.)

You can use this panel to select a NCP for network accounting collection. Type / in the Option field next to a specific NCP name and press ENTER.

If you select a Network Gateway Accounting (NGA) function without specifying a NCP name, the Network Gateway Accounting NCP Selection panel (FNM0ABCG) shown in Figure 253 on page 206, is displayed. (See Figure 252.)

You can use this panel to select an NCP for network gateway accounting collection. Type / in the Option field next to a specific NCP name and press ENTER.
Modifying Session Accounting Parameters

This section describes how to modify session accounting collection parameters. There are two possible panel flows available when you select option 3 from the Accounting panel (FNMO2ACC). The panels displayed depend on whether the specified NCP supports protocol data unit (PDU) distributions.

Modifying With PDU Distribution Support

Use the following procedure to modify session accounting collection parameters for NCPs that support PDU distributions:

1. Select option 3 from the Accounting panel (FNMO2ACC) to display the Network Session Accounting Modification panel (FNMOABM2), shown in Figure 254 on page 207. You can also use fast path =9.10.3 to display the Network Session Accounting Modification panel.

   You can use this panel to modify collection parameters for network session accounting.
2. Modify the fields as desired.

3. Press ENTER to display the Network Session Accounting Threshold Modification panel (FNM0ABM3), shown in Figure 255. You can use this panel to modify collection thresholds for network session accounting.

4. Modify the fields as desired and press ENTER.

**Modifying Without PDU Distribution Support**

Use the following procedure to modify session accounting collection parameters for NCPs that do not support PDU distributions:

1. Select option 3 from the Accounting panel (FNM02ACC) to display the Network Session Accounting Modification panel (FNM0ABMM), shown in Figure 256 on page 208. You can also use fast path =9.10.3 to display the Network Session Accounting Modification panel.
You can use this panel to modify collection parameters for network session accounting.

![Network Session Accounting Modification Panel (FNM0ABMM)](image)

Figure 256. Network Session Accounting Modification Panel (FNM0ABMM)

2. Modify the fields as desired and press ENTER.

**Displaying Accounting Parameters**

This section describes how to display the current network accounting data collection parameters. There are two possible panel flows available when you select option 5 from the Accounting panel (FNM02ACC). The panels displayed depend on whether the specified NCP supports PDU distributions.

**With PDU Distribution Support**

Use the following procedure to display accounting collection parameters for NCPs that support PDU distributions:

1. Select option 5 from the Accounting panel (FNM02ACC) to display the Network Accounting Status panel (FNM0ABS2), shown in Figure 257 on page 209. You can also use fast path =9.10.5 to display the Network Accounting Status panel.

   This panel displays collection parameters for network session accounting.
2. Press ENTER to display the Network Accounting Thresholds Status panel (FNM0ABS3), shown in Figure 258.

   This panel displays collection thresholds and status information for network accounting.

   Figure 258. Network Accounting Thresholds Status Panel (FNM0ABS3)

**Without PDU Distribution Support**

Select option 5 from the Accounting panel (FNM02ACC) to display the Network Session Accounting Status panel (FNM0ABST), shown in Figure 259 on page 210. You can also use fast path =9.10.5 to display the Network Session Accounting Status panel.

   This panel displays collection parameters for network session accounting.
Modifying Network Gateway Accounting

Use the following procedure to modify network gateway accounting collection parameters:

1. Select option 8 from the Accounting panel (FNM02ACC) to display the Network Gateway Accounting Modification panel (FNM0ABMG), shown in Figure 260. You can also use fast path =9.10.8 to display the Network Gateway Accounting Modification panel.

You can use the Network Gateway Accounting Modification panel to modify collection parameters for network gateway accounting.

2. Complete the panel and press ENTER to submit the modified parameters to NPM.
Ending NPM

Use the following procedure to shut down NPM:

1. Select option 99 from the Control Functions panel (FNM01OMN) to display the Termination panel (FNM02OTR), shown in Figure 261. You can also use fast path =9.99 to display the Termination panel.

![Figure 261. NPM Termination Panel (FNM02OTR)](image)

2. Press ENTER to confirm NPM shut down and exit NPM, or use the END command to cancel the shut down.
# Part II. Reference

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## Chapter 11. System Console Commands: ABEND to NSAMDFY

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## Chapter 12. System Console Commands: NSASOLCT to VVRCOLL

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<th>Command</th>
<th>Page</th>
</tr>
</thead>
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</tbody>
</table>
This chapter provides an introductory description to the two types of NPM commands:

- Online commands that anyone can issue
- System console commands that require special authorization in your security profile.

The online commands are described fully in this chapter.

The system console commands are described fully in the following chapters, in which they are presented in alphabetical order, in Chapter 11, "System Console Commands: ABEND to NSAMDEFV" and Chapter 12, "System Console Commands: NSASOLCT to VVRCOLT".

Online Commands

You can enter online commands from NPM panels in the following ways:

- Type the command in any Command or Select Option field and press ENTER. You can string commands together by typing a semicolon (;) between them.
  
  For example, the following series of commands displays the File Services Summary panel (FNM02OPR):
  
  `=9.4;next;next`

- Press a PF key that has been defined as the command you want to execute.

  **Note:** You must type the search argument in the Command or Select Option field if you define a PF key for either HELPMSG, LOCATE, or SORT. For example, to locate NCP26 on a selection menu, you must type `NCP26` before pressing the LOCATE PF key. NPM displays a message if you do not supply the necessary information.

  See "Reassigning PF Keys" on page 16 for instructions on assigning commands to PF keys.

Table 1 lists and describes the NPM online commands.

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPL</td>
<td>Calls Dynamic Data Display for all applications defined to the local host and with active terminal session.</td>
</tr>
<tr>
<td>BACKWARD</td>
<td>Scrolls toward the top of the data set or table, or scrolls to a previous table.</td>
</tr>
<tr>
<td>BOTTOM</td>
<td>Displays the last panel of data if there is more than one panel.</td>
</tr>
<tr>
<td>CURSOR</td>
<td>Moves the cursor to the Command or Select Option field.</td>
</tr>
<tr>
<td>DISTRIBUT</td>
<td>Displays the distribution of transit times over several time spans. This command is available only on NPM session analysis panels.</td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>DOWN</td>
<td>Scrolls toward the bottom of the data set or table, or scrolls to the next table.</td>
</tr>
<tr>
<td>DYN</td>
<td>Active on network and session review panels. Calls Dynamic Data Display using the selection criteria of the current review panel.</td>
</tr>
<tr>
<td>END</td>
<td>Processes the last entry made and returns you to the previous panel.</td>
</tr>
<tr>
<td>FORWARD</td>
<td>Scrolls toward the bottom of the data set or table, or scrolls to the next table.</td>
</tr>
</tbody>
</table>
| HELP | Displays help information for the current panel. If an operator message is displayed on the panel, help information is given for the message rather than the panel. For more information about help, see "Getting Help for Online Panels" on page 13.  
**Note:** You cannot issue fast paths from the help panels displayed when you issue the HELP command. |
| HELPMSG | Displays help message panels for a specific message. The operand is the message identifier in the form, \( FNM_{nnnn} \), where \( nnnn \) is the NPM message number. For three-digit NPM messages, you do not have to enter a leading zero.  
If you assign a PF key for this command, you must type the message identifier in the Command or Select Option field. |
| HOSTID | ON | Displays the name of the local host in the top left corner of the panel. The PANELID command takes precedence over the HOSTID command; when the PANELID is set to ON, the host name is not displayed. |
| OFF | Turns off the name of the local host displayed in the top left corner of the panel. |
| KEYS | Displays the PF key definition panel, so you can change your PF key settings.  
**Note:** You cannot issue fast paths from the definition panels displayed when you issue the KEYS command. |
| LINE | Calls Dynamic Data Display for all SDLC lines defined to the local host. |
| LIST | Displays a list of LU and application session pairs. This command is available only on NPM session analysis panels. |
| LEFT | Scrolls the display one panel to the left. |
| LOCATE | Finds a specific item in a list. You can also use the wildcard character (*) to find a resource using only a partial name. You cannot use the wildcard character when you search for LAN segment numbers or LAN bridge names. If NPM cannot find the item, an error message is displayed. If you specify LOCATE or LOCATE *, NPM repeats the last LOCATE command.  
**Examples:**  
- To choose NCP99 on a selection menu, type \( L \ NCP99 \) in the Command field and press ENTER. If NCP99 is in the selection menu on your panel, the cursor moves to it. If NPM must scroll to find NCP99, NCP99 is displayed at the top of the list when it is found.  
- To select several NCP names between NCP90 and NCP99, type \( L \ NCP9* \) in the Command field. NPM moves the cursor to the first name that contains the characters NCP9. You can then make your selections.  
If you assign a PF key for this command, you must type the search argument in the Command or Select Option field. |
| LOGOFF | Logs you off of NPM. |
| NATLANG | Enables you to choose another language for the panel and message text displayed at your terminal. You can issue the command with an operand that specifies a language, or you can omit the operand and see a list of available languages.  
**Note:** You cannot issue fast paths from the language selection panel displayed when you issue the NATLANG command. |
| NCP | Calls Dynamic Data Display for all NCPs defined to the local host. |
Table 1. NPM Online Commands (continued)

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXT</td>
<td>Displays the next panel in the sequence.</td>
</tr>
<tr>
<td>NPM</td>
<td>Enables you to temporarily suspend the current NPM task, execute up to three additional tasks simultaneously, and return to your original task. Performing multiple tasks simultaneously is called nesting. When you nest NPM tasks, NPM displays the current nesting level in the top right corner of each new menu or panel so you can keep track of how many levels you have nested.</td>
</tr>
<tr>
<td>PANELID ON</td>
<td>Displays the panel ID number in the top left corner of the current panel and all subsequent panels. You can use this ID to report a problem with the panel or to look up reference material in this book. PANELID ON is the initial setting. Because ON is also the default, typing only PANELID is equivalent to typing PANELID ON.</td>
</tr>
<tr>
<td>PANELID OFF</td>
<td>Turns off the panel ID number displayed in the top left corner of the current panel and all subsequent panels.</td>
</tr>
<tr>
<td>PFSHOW ON</td>
<td>Displays the PF key definitions at the bottom of the panel. If you assign PFSHOW to a PF key, the key always works as PFSHOW ON.</td>
</tr>
<tr>
<td>PFSHOW OFF</td>
<td>Turns off the PF key definitions displayed at the bottom of the panel.</td>
</tr>
<tr>
<td>PREVIOUS</td>
<td>Displays the previous panel in the sequence.</td>
</tr>
<tr>
<td>PRINT</td>
<td>Copies the contents of the current panel to the SYSPRINT file.</td>
</tr>
<tr>
<td>PROFILE</td>
<td>Displays your current NPM user profile parameters.</td>
</tr>
<tr>
<td>RECONFIG</td>
<td>Dynamically obtains LAN bridge and LAN segment configuration information. You can issue this command from the LAN Bridge Control panel (FNM02LBB) or from the LAN Segment Control panel (FNM02LSB). This command is issued automatically every four hours by NPM.</td>
</tr>
<tr>
<td>REFRESH</td>
<td>Redisplays NPM panel data to reflect the most current state of collection activity.</td>
</tr>
<tr>
<td>RETURN</td>
<td>Processes the last entry made and displays the Primary Options panel (FNM00PRI).</td>
</tr>
<tr>
<td>RIGHT</td>
<td>Scrolls the display one panel to the right.</td>
</tr>
<tr>
<td>ROUTER</td>
<td>Calls Dynamic Data Display for all routers defined to the local host.</td>
</tr>
</tbody>
</table>
Table 1. NPM Online Commands (continued)

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SORT</td>
<td>Sorts fields displayed on NPM display panels. The following types of sort criteria are available:</td>
</tr>
<tr>
<td>BLOCK</td>
<td>Sorts by the virtual route percentage blocked during the interval, and resource name.</td>
</tr>
<tr>
<td>NAME</td>
<td>Sorts by resource name.</td>
</tr>
<tr>
<td>NUMBER</td>
<td>On VTAM panels, sorts by destination subarea number. On LAN segment panels, sorts by LAN segment number.</td>
</tr>
<tr>
<td>SESSIONS</td>
<td>Sorts by number of sessions on a virtual route and resource name.</td>
</tr>
<tr>
<td>SLOWDOWN</td>
<td>Sorts by percentage of time a device was in slowdown, and resource name.</td>
</tr>
<tr>
<td>STATUS</td>
<td>Sorts by collection status, monitor status, and resource name.</td>
</tr>
<tr>
<td>TIME</td>
<td>Sorts by collection date, time, and resource name.</td>
</tr>
<tr>
<td>TYPE</td>
<td>Sorts by resource type and resource name. On monitor review panels, sorts by monitor type.</td>
</tr>
<tr>
<td>UTIL</td>
<td>Sorts resources in ascending order by resource utilization. Within a segment utilization group, segments are sorted by segment number.</td>
</tr>
<tr>
<td>VR</td>
<td>Sorts incrementally by virtual route name and transmission priority.</td>
</tr>
<tr>
<td>SUMMARY</td>
<td>Summarizes data across all intervals.</td>
</tr>
<tr>
<td>TERMINAL</td>
<td>Calls Dynamic Data Display for all terminals currently in session with some applications.</td>
</tr>
<tr>
<td>TIME {hostname}</td>
<td>Displays the local and GMT time in the current host.</td>
</tr>
<tr>
<td>TOP</td>
<td>Displays the first panel of data if there is more than one panel.</td>
</tr>
<tr>
<td>TRANSIT</td>
<td>Displays the operator, host, and network transit times. This command is available only on NPM session analysis panels.</td>
</tr>
<tr>
<td>UP</td>
<td>Scrolls toward the top of the data set or table, or scrolls to a previous table.</td>
</tr>
<tr>
<td>VOLUME</td>
<td>Displays the session volumes for an LU, including the number of PIUs and bytes. This command is available only on NPM session analysis panels.</td>
</tr>
<tr>
<td>WHO</td>
<td>Displays the following information about a user:</td>
</tr>
<tr>
<td></td>
<td>■ NPM operator ID</td>
</tr>
<tr>
<td></td>
<td>■ Current security profile name</td>
</tr>
<tr>
<td></td>
<td>■ Terminal address</td>
</tr>
<tr>
<td></td>
<td>■ Local host name</td>
</tr>
</tbody>
</table>

System Console Commands

You can issue commands to NPM directly from the system console if you have the proper authority. You can also send system console commands from one NPM to another, but they are subject to NPM security at the target NPM. The sending NPM must be authorized at the target NPM to send commands.

You can use the following **data collection commands** to start data collections without accessing the NPM online panels:

- GENERIC
- INTERVAL
- IPCOLL
- LANMGR
- LBRGCOLL
You can use the following **console control commands** for such tasks as sending messages to other NPM users, displaying information about resources, and managing data files:

- ABEND
- DISPLAY
- EXECUTE
- NOTRACE
- SEND
- SNAP
- STOP
- TIME
- TRACE
- VARY

All of these commands are described fully in Chapter 11, “System Console Commands: ABEND to NSAMDFY” and Chapter 12, “System Console Commands: NSASOLCT to VVRCOLL”.

**Using the System Console to Enter Commands**

There are two methods of using the system console to enter commands. Your system is set up for either of the following:

- WTOR interface
- MODIFY command

Each of these methods is described in this section.
**WTOR Interface**

You can use the WTOR interface to pass commands to NPM. This interface is enabled if PROMPT=YES is specified on the CONSOLE initialization statement. The interface issues the message FNM939 to which you can respond with the REPLY command.

```
Reply nn command_text
```

*nn* FNM939A *hostname* REPLY WITH VALID NPM SYSTEM OPERATOR COMMAND

The following list describes the variables used in the REPLY command and the message FNM939A:

- **nn** Specifies the reply number assigned by the operating system
- **hostname** Specifies the name of the host
- **command_text** Specifies the command you want to issue to NPM

**Note:** If you reply with the STOP command, NPM issues another FNM939A message. This is a normal occurrence and requires no additional action. The previous request to end NPM is being processed.

**MODIFY Command**

You can use the MODIFY command to pass commands to NPM. This command is enabled if COMMAND=YES is specified on the CONSOLE initialization statement.

```
modify procname,command_text
```

The following list describes the variables you can code in this command:

- **procname** Specifies the name of the procedure used to start NPM
- **command_text** Specifies the command you want to issue to NPM

**Disabling System Console Support**

You can turn off STOP and MODIFY command processing by issuing the following command:

```
CONSOLE COMMAND=NO
```

**Note:** You must use fast path =9.99 to end NPM if you issue this command.

**Using the CLOCK Keyword**

Most NPM commands that you can issue at startup have an optional CLOCK keyword. This keyword determines when data collection starts and stops. Some commands have a single CLOCK value that determines when the command is issued. Other commands have two CLOCK values: a start time and a stop time. These CLOCK values are the same as the START TIME and STOP TIME fields on the NPM online panels. The CLOCK keyword is optional unless you also specify DAILY=YES for the command.

**Note:** If you code DAILY=YES, you must code both the start and stop times on the CLOCK keyword, and you must code them with a value greater than 0.
Commands included in the initialization data set are initiated just once each time NPM is activated. Therefore, if a startup command requests data collection from 10 a.m. to 12 p.m. with DAILY=NO, and NPM is brought up on Monday and remains active for five days, this collection occurs only on Monday. If DAILY=YES, the collection occurs each day during the specified time period.

Times are specified in a \textit{hh.mm.ss} format based on a 24-hour clock.

- \textbf{hh}: Hours range from 00–24. The time 24.00.00 is converted to 23.59.59 by NPM. The default is 00.
- \textbf{mm}: Minutes range from 00–59. Minutes are optional. The default is 00.
- \textbf{ss}: Seconds range from 00–59. Seconds are optional. The default is 00.

The stop time must be at least one base interval greater than the start time, except when both are coded as 00.00.00. The times cannot span midnight. For example, you cannot specify a start time of 23.00.00 and an end time of 01.00.00. If you specify DAILY=YES, it is not possible to code the start time equal to 00.00.00. If you do code the start time as 00.00.00, message FNM021E is generated.

If you code a start time of 00.00.00, or do not code a time at all, NPM begins collection immediately when the command is issued. You can also specify that collection occur continuously by coding both the start and stop times as 00.00.00, or by omitting the CLOCK keyword.

If the start time you code is later than the current system time, NPM waits until the start time to process the command. For example, if the current time is 10.15.00 and the start time is 13.30.00, NPM waits until 13.30.00 (1:30 p.m.) to start collecting data. If the start time has already passed, NPM processes the command immediately. For example, if the current time is 10.15.00 and the start time is 08.00.00, NPM starts collection right away, at 10:15 a.m.

Similarly, if the stop time is later than the current system time, NPM waits until the stop time to stop the collection. If the stop time has already passed, NPM stops collection immediately. For network and VTAM collections, NPM logs the data for the completed portion of the current interval when the collection is stopped. For NetWare resources collections, interval and summary records are not written, but monitor resolution notifications are sent if they have been requested.

\textbf{Using the OPTION Keyword}

This section describes the processing associated with the OPTION keyword on the IPCOLL, LBRGCOLL, LSEGCOLL, LWGCOLL, NETCOLL, and \textit{V.xxx}COLL commands, which is used to start and stop the collection of data.

\textbf{OPTION=START}:

- When you code OPTION=START without a corresponding start or stop time, the command is executed immediately and the command keywords are saved.
- When you code OPTION=START with a corresponding start and stop time, if the start time has passed, the command is executed immediately. The stop is deferred to the specified stop time. If both the start and stop times have passed, the DAILY keyword is checked. If DAILY=YES is coded, the command is deferred until the following day. If
DAILY=NO is coded, the command fails. DAILY is only valid if both the start and stop times are specified. If the start time has not passed, the entire command is deferred.

- When you code OPTION=START with only a corresponding start time, the command is deferred until the requested start time. If the start time has passed, the command is executed immediately. When a command is entered with only a stop time, START is executed immediately, and STOP is deferred. If the stop time has passed, the command is rejected.

**OPTION=STOP:**

- When you code OPTION=STOP without a corresponding start or stop time, the command stops the current collection for the given interval immediately. If a deferred stop is associated with the active collection, the command also deletes the associated stop (not valid for generic names). If no collection is active, an error message is issued.

- When you code OPTION=STOP with both a corresponding start and stop time, the deferred queue is searched for a corresponding command. If a matching command is found with the same resource name, interval, start, and stop time, it is removed. The command could also be the current active collection, in which case the collection is stopped.

- When you code OPTION=STOP with only a corresponding start time, and the start time (x) has not passed, the deferred queue is searched for a corresponding command, and the command is deleted (if found). If the start time has passed and there is a current active collection, the collection is stopped.

- When you code OPTION=STOP with only a corresponding stop time, the command is executed immediately if there is an active collection and the stop time (y) has already passed. If the stop time (y) has not passed, and the RESOURCE is not a GENERIC BUCKET (for example, ALLLINES, PU, ALLVR), the processing logic is as follows:
  IF no collection active, error message;
  ELSE (collection active):
    IF active collection is (0,y) THEN
    Stop the active collection and delete the associated STOP;
    ELSE
    IF active collection is (0,0) or (x,0) THEN
    Stop at (0,y)
    ELSE /* active is (x,y) */
    error
  
If the stop time (y) has not passed, and the RESOURCE is a GENERIC BUCKET (for example, ALLLINES, PU, ALLVR), a STOP command is scheduled at time (y).

**OPTION=STOPALL:**

This command affects only active collections. After you issue OPTION=STOPALL, all of the active collections in all of the intervals for the chosen resource are stopped, including all collections for the REFRESH interval. This option does not affect deferred collections.

**Note:** You cannot use OPTION=STOPALL with the LBRGCOLL and LSEGCOLL commands.
Altering Options with NPM Panels

You can use NPM panels to modify the options you chose when you coded the LBRGCOLL, LSEGCOLL, NETCOLL, and VxxxCOLL commands.

- To alter the options you have coded on the VxxxCOLL and NETCOLL commands, choose the Alter a Collection option on NPM panel FNM02CMD.
- To alter the options you have coded on the LBRGCOLL command, choose the Alter a Collection option on NPM panel FNM02LBC.
- To alter the options you have coded on the LSEGCOLL command, choose option A, Modify a Collection option, on NPM panel FNM02LSC.

Note: You cannot modify options through NPM EXECs or from the system console.

Using the INTERVAL Keyword

NPM collects data when a specified interval ends. NPM calculates the length of the interval differently for different types of collections.

For LAN segment and LAN bridge collections, NPM calculates the length of the interval, based on the value in minutes you specify on the LBRGINT and LSEGINT keywords on the NPM initialization statement in FNMINIT.

where:

- **LBRGINT** Specifies the interval in minutes used for LAN bridge collection.
- **LSEGINT** Specifies the interval in minutes used for LAN segment collection.

For NetWare resources, network, session, and VTAM collections, NPM calculates the length of the interval, based on two factors: the length of the base interval and the interval number.

- You specify the length of the base interval in seconds for NetWare resources, network, session, and VTAM collections, with the INTERVAL keyword on the NPM initialization statement.
- You specify the interval number for NetWare resources and VTAM collections, with the INTERVAL keyword on the LWGCOLL or VxxxCOLL command in FNMSRT.
- You specify the interval number for session collections, with the SESSINT keyword of the NPM initialization statement in FNMINIT.

where:

- **INTERVAL (on the NPM statement)** Specifies the base-interval length, in seconds, used for NetWare resources, network, session, and VTAM collections. The default is 225 seconds.

- **INTERVAL (on the LWGCOLL and VxxxCOLL commands)** Specifies the interval number used for NetWare resources and VTAM collections. The value of the interval number can be any number from 1 to 7. The default value is 1.

- **SESSINT** Specifies the interval number used for session collections.
**NetWare Resources, Network, and VTAM Intervals**

NPM uses seven collection intervals to determine when to collect NetWare resources, network, and VTAM data. NPM calculates these intervals, based on the base-interval length, in seconds, and the interval number.

Table 2 shows the interval times resulting from selected base interval lengths and interval numbers. The value for each interval higher than Interval 1 is twice the value of the previous interval.

For example, if you specify a base-interval length of 30 seconds and an interval number of 5, each interval will be 8-minutes long.

For NetWare resources and VTAM collections, you can change the default interval number by coding the LWGINT and VTAMINT keywords on the DEFAULTS statement in FNMINIT. These keywords are optional.

where:

**LWGINT**
Specifies the default interval number used for NetWare resources collections. The interval number can be any number from 1 to 7. The default is 1.

**VTAMINT**
Specifies the default interval number used for VTAM collections. The interval number can be any number from 1 to 7. The default is 1.

### Table 2. Collection Interval Example

<table>
<thead>
<tr>
<th>Base interval</th>
<th>Interval 2</th>
<th>Interval 3</th>
<th>Interval 4</th>
<th>Interval 5</th>
<th>Interval 6</th>
<th>Interval 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 sec</td>
<td>1 min</td>
<td>2 min</td>
<td>4 min</td>
<td>8 min</td>
<td>16 min</td>
<td>32 min</td>
</tr>
<tr>
<td>45 sec</td>
<td>90 sec</td>
<td>3 min</td>
<td>6 min</td>
<td>12 min</td>
<td>24 min</td>
<td>48 min</td>
</tr>
<tr>
<td>1 min</td>
<td>2 min</td>
<td>4 min</td>
<td>8 min</td>
<td>16 min</td>
<td>32 min</td>
<td>64 min</td>
</tr>
<tr>
<td>225 sec</td>
<td>450 sec</td>
<td>15 min</td>
<td>30 min</td>
<td>1 hr</td>
<td>2 hr</td>
<td>4 hr</td>
</tr>
<tr>
<td>5 min</td>
<td>10 min</td>
<td>20 min</td>
<td>40 min</td>
<td>80 min</td>
<td>160 min</td>
<td>320 min</td>
</tr>
<tr>
<td>15 min</td>
<td>30 min</td>
<td>1 hr</td>
<td>2 hr</td>
<td>4 hr</td>
<td>8 hr</td>
<td>16 hr</td>
</tr>
</tbody>
</table>

You can select base interval lengths other than those shown in Table 2. You select one of the seven intervals for NPM to use on the command or panel you use to start network collection.

**Session Intervals**

Session data collection uses the same base interval as in NetWare resources, network, and VTAM data collections, but multiplies it by a single session interval value. The result of the multiplication determines the length of the collection interval. For example, if you specify a base interval of 1 minute and a session interval number of 10, session data is collected every 10 minutes. Specify the session interval with the SESSINT keyword of the NPM initialization statement.

**LAN Bridge Intervals**

LAN bridge data collection uses its own base interval. You specify the interval length in minutes on either the LBRGINT keyword of the NPM initialization statement or on the LAN Bridge Control panel. Collection can occur every 5, 10, 15, 20, 30, or 60 minutes.
LAN Segment Intervals
LAN segment data collection uses its own base interval. You specify the interval length in minutes on either the LSEGINT keyword of the NPM initialization statement or on the LAN Segment Control panel. Collection can occur every 5, 10, 15, 20, 30, or 60 minutes.

NPM System Console Command Descriptions
This section lists the NPM system console commands in alphabetical sequence. There is a general description and a syntax diagram for every command. Each of the console command keywords shown in the syntax diagrams are described.

The following information is also provided for each NPM command:
- **Console Authorization:** Identifies the authorization that you need to issue the command from the console.
- **Where:** Identifies where you can issue the command. You can issue commands from the system console, from FNMSRT, or by running an NPM EXEC.
  Many commands can either be issued from the system console or coded in FNMSRT or in NPM EXECs. You must have CONTROL=COMMANDS authorization to run an NPM EXEC from an online panel.

Rules for Coding NPM Commands
A description and syntax diagram for each NPM command is provided in the following sections. Follow the syntax diagrams when coding the commands.

- Commands can start in any column, but cannot extend beyond column 71. You can continue commands on a subsequent line by ending the current line with a comma and starting the next logical line with the next operand.
- There should not be any blanks within the command text on any line, unless they are part of a string enclosed in single quotes.
- Commands are scanned for syntax before the operands are processed. If a syntax error is found in a command, NPM issues a message and ignores the entire command.
- Keywords can be specified only once in a command.
- Variables can be defined as strings enclosed in single quotes, delimited by commas. Literal strings can be defined with or without quotes. However, single quotes are required if the string contains blanks or special characters.
- If you want to use the default values for all keywords of a statement, do not code the statement. If you code a statement without any associated keywords, the following message is issued and all default values are taken:
  FNMxxxx: SYNTAX ON COMMAND IS NOT VALID
- Names can be from one to eight characters. Valid characters are A to Z, 0 to 9, the at (@), pound (#), and dollar ($) symbols. The first character cannot be numeric.
  **Note:** NetWare server names can be from 2 to 47 characters. Valid characters are A to Z, 0 to 9, the dash (-), and the underscore (_).
- Certain keywords allow multiple values. Multiple values should be separated by commas and enclosed within parentheses. If you specify only one value, the parentheses are optional.
Special Characters on Non-US Keyboards

NPM and NetWare require a number of special characters in addition to A to Z and 0 to 9. When you use the interactive panels, your keyboard input is translated into the correct hexadecimal representation through a translation table.

If you are using a non-US keyboard, you need to be aware of the hexadecimal representation that NPM and NetWare expect. Table 3 lists special characters and their hexadecimal values required by NPM. When requested to enter one of these special characters, ensure that the character on your keyboard produces the correct hexadecimal representation. For example, if the instructions say to enter a dollar ($) symbol, enter the character on your keyboard that corresponds to X'5B'.

Table 3. Hexadecimal Representations of Special Characters in NPM

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Name</th>
<th>Hex</th>
</tr>
</thead>
<tbody>
<tr>
<td>¢</td>
<td>Cent</td>
<td>4A</td>
</tr>
<tr>
<td>.</td>
<td>Period</td>
<td>4B</td>
</tr>
<tr>
<td>(</td>
<td>Left parenthesis</td>
<td>4D</td>
</tr>
<tr>
<td>&amp;</td>
<td>Ampersand</td>
<td>50</td>
</tr>
<tr>
<td>$</td>
<td>Dollar</td>
<td>5B</td>
</tr>
<tr>
<td>*</td>
<td>Asterisk</td>
<td>5C</td>
</tr>
<tr>
<td>)</td>
<td>Right parenthesis</td>
<td>5D</td>
</tr>
<tr>
<td>¬</td>
<td>Not symbol</td>
<td>5F</td>
</tr>
<tr>
<td>-</td>
<td>Dash</td>
<td>60</td>
</tr>
<tr>
<td>:</td>
<td>Comma</td>
<td>6B</td>
</tr>
<tr>
<td>_</td>
<td>Underscore</td>
<td>6D</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than</td>
<td>6E</td>
</tr>
<tr>
<td>:</td>
<td>Colon</td>
<td>7A</td>
</tr>
<tr>
<td>#</td>
<td>Pound</td>
<td>7B</td>
</tr>
<tr>
<td>@</td>
<td>At sign</td>
<td>7C</td>
</tr>
<tr>
<td>'</td>
<td>Single quote</td>
<td>7D</td>
</tr>
<tr>
<td>=</td>
<td>Equals</td>
<td>7E</td>
</tr>
</tbody>
</table>
System Console Commands: ABEND to NSAMDFY

This chapter lists the NPM system console commands from ABEND to NSAMDFY in alphabetical sequence. There is a general description and a syntax diagram for every command. Each of the system console command keywords shown in the syntax diagrams are described.

The following information is also provided for each NPM command:

- **Console Authorization:** Identifies the authorization that you need to issue the command from the console.

- **Where:** Identifies where you can issue the command. You can issue commands from the system console, from FNMSTRT, or by running an NPM EXEC.

Many commands can either be issued from the system console or coded in FNMSTRT or in NPM EXECs. You must have CONTROL=COMMANDS authorization to run an NPM EXEC from an online panel.
ABEND

Use the ABEND command to end NPM abnormally with a dump.

```
| ABEND [ ABEND ] [ code ] [ ,Host=LOCAL ] [ ,Host=host_name ] [ ,L=console_id ] |
```

**Authorization Needed:** Problem determination

**Where:** Console

The following list describes the keywords you can code on the ABEND command:

```
| 4095 |
```

Specifies the ABEND code used to end NPM. The code can range from 4000 to 4095.

```
| ,Host=LOCAL |
| ,Host=host_name |
```

Specifies the host that receives the command.

```
| ,L=console_id |
```

Specifies the console that receives response messages.

**Example**

Enter the following console command to cause the abnormal end of NPM with code 4090:

```
F NPMV2R7,ABEND 4090
```
DISPLAY

Use the DISPLAY command to display information about the resources that NPM uses to collect data. The DISPLAY command does not display information about the resources on which NPM is currently collecting data.

```
>> DISPLAY resource, ID=resource_name, Host=LOCAL, Host=host_name, L=console_id
```

Authorization Needed: None

Where: Console

```
>> resource resource
```

Specifies the resources to display:

- **ALERT**: The FNMALENT logical file defined to this NPM
- **FILE**: All FNMSEx, FNMREx, FNMLWGx, FNMLOGx, FNMSMF, and FNMALENT files defined to this NPM
- **LOG**: All FNMLOGx files defined to this NPM
- **LWG**: All FNMLWGx files defined to this NPM
- **PALU**: All NPALUs defined to this NPM
- **NPM**: All NPMs defined to this NPM
- **OPER**: All active NPM operators
- **REV**: All FNMREx files defined to this NPM
- **SES**: All FNMSEx files defined to this NPM
- **SMF**: The FNMSMF logical file defined to this NPM
- **VLOG**: All FNMLOGx files defined to this NPM

```
>> , ID=resource_name
```

Specifies the NPM resource to display. This resource can be an NPM operator, operator terminal, host, application, NPALU, NCP, or the data definition name of a file.

If the resource variable is used with the ID keyword, only the resource specified by the ID keyword is displayed. For example, if you display files and you use the ID keyword to specify a specific file, you see information on that file only. If you do not use the ID keyword, you see information on all files.
Specifies the host that receives the command.

Specifies the console that receives response messages.

Example

Use the following command to display the status of a specific NCP NPALU (NCP001) on host NYC:

```
F NMPV2R7,DISPLAY ID=NCP001,HOST=NYC
```

In response to this command, NPM displays the following messages:

```
FNM945I NAME    STATUS  NCP   VERSION  GENLEVEL  HOST:NYC
FNM946I SA01NPL1 ACTIVE NCP001 V5R2  08/04/91  10:15:33
FNM946I SA01NPL2 INACTIVE NCP001 V5R2  08/04/91  10:15:33
FNM946I SA01NPL2 ACT_LU62 NCP001 V5R2  08/04/91  10:15:33
```

These messages list the NPALU name and status for the NCP. There can be two lines for the NPALU name: the primary NPALU and the backup NPALU. See the NetView Performance Monitor Installation and Customization for more information about these messages.
EXECUTE

Use the EXECUTE command to run NPM EXECs. See the NetView Performance Monitor Installation and Customization for information about coding NPM EXECs.

```
EXECUTE Member=member_name,Printmbr=No,Printmbr=Yes,Host=LOCAL,Host=host_name,L=console_id
```

**Note:** The Host keyword is only available from the system console

**Authorization Needed:** Control commands

**Where:** Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the EXECUTE command:

- **Member=member_name**
  
  Specifies the NPM EXEC member to read and execute. The maximum length of this operand is eight characters.

- **Printmbr=No,Printmbr=Yes**
  
  Specifies whether to print the contents of the EXEC in the SYSPRINT log.

- **Host=LOCAL,Host=host_name**
  
  Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

- **L=console_id**
  
  Specifies the console that receives response messages. You code this keyword only if you are issuing the command from the system console.

**Example**

Enter the following console command to execute a member of the FNMSCMDS data set named NCP001:
EXECUTE

F NPMV2R7,EX MEMBER=NCP001,PR=NO

NPM alerts you when the command has successfully completed by issuing the following message:

FNM114I EXECUTE COMPLETE, MEMBER=NCP001
Use the GENERIC command to modify the parameters of resources matching the generic mask.

All of the keywords on this command, except SESSH, are overridden by the information in the NCP resource resolution table (RRT) and VTAMLST each time the NCP is replaced. You should include this command in an NPM EXEC following the NCP command. This causes this command to execute each time you update the NCP definition.

Note: The Host keyword is only available from the system console

Authorization Needed: Control commands

Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the GENERIC command:

- NAME=mask

Specifies a mask used to compare resource names found in the NCP. It has a maximum length of eight alphanumeric or special characters.

The alphanumeric characters (A to Z and 0 to 9) are compared position-by-position, from the mask to the resource name. Special characters in the mask can match more than one character in the resource name. The greater-than (>) character matches any alphabetic character, the cent (¢) character matches any numeric character, and the logical not (¬) character matches any character. See Table 3 on page 226 for a list of the hexadecimal representations of special characters used in NPM.

- DNC=YES
- NO

Specifies the dynamic network collection (DNC) parameter associated with resources matched by the name mask.
YES  Starts network data collection for an LU in this NCP when a session connection occurs, and stops network data collection when a session disconnection occurs.

NO   Stops DNC for any LU in this NCP. The default is defined by the DNC parameter of the NPM NCP command used to define this NCP to NPM.

NPM sets DNC=NO on this command if DNC=NO is coded on the CONTROL statement in FNMINIT.

Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

Specifies the console that receives response messages. You code this keyword only if you are issuing the command from the system console.

Specifies the name of the NCP for this command. All resources that match the generic mask in the specified NCP are updated.

If you do not specify an NCP, all resources that match the generic mask are updated.

Specifies that network data collection commands on the resources matched by the mask be rejected. You can use this option to exclude network data collection on inactive resources.

If you specify NPACOLL=NO, DNC defaults to NO for LUs.

If you specify NPACOLL=NO to prevent data collection on a resource, you cannot turn collection back on by reissuing the command. You must execute the NCP command again before you can collect data on the resource.

Specifies the SESSH parameter associated with resources matched by the name mask. Use this parameter to exclude session data collection for the resources matched by the name mask.
An active session collection is not stopped for the resource. SESSH is used to prevent session collection on a resource when session collection was started by application. This option is typically used for printers.

\[
\text{SPEED}=(\text{nnnnnnnnnn},\text{nnnnnnnnnn})
\]

Specifies the line speed or speeds associated with the line. The SPEED keyword applies only to LINE resources. Specify one speed for a half-duplex line and two speeds for a full-duplex line. For a full-duplex line, the first speed is the transmit speed and the second speed is the receive speed.

The first number can range from 134 to 2,147,483,647. The second number can be either 0 or in the range from 134 to 2,147,483,647.

**Example**

Use the following console command to specify the mask for all printers, stop DNC, and exclude session data collection:

```
GENERIC NAME=PRT>>,DNC=NO,SESSH=X
```
Use the INTERVAL command to modify the session collection interval or the VTAM sampling intervals that have been set in FNMINIT or by previously issued INTERVAL commands.

```
INTERVAL
  SESSINT=(1,256)
  SAMPVHI=(60,120)
  SAMPVMD=(30,60)
  SAMPVLW=(10,30)
  SAMPVADR=(20,120)
  SAMPVAPL=(20,120)
  SAMPVAPN=(20,120)
  SAMPVBPL=(10,60)
  SAMPVDEV=(15,90)
  SAMPVGBL=(10,60)
  SAMPVVR=(10,30)
```

**Authorization Needed:** Control commands

**Where:** Console, NPM EXEC

The following list describes the keywords you can code on the INTERVAL command:

- **SESSINT** Specifies how many base intervals to wait before collecting session data. You can set SESSINT to any number from 1–256. This value is multiplied by the base interval to determine the actual length of the session interval. Session data is written to the session file at the end of the specified interval and when the session ends. See “Using the Interval Parameter” in the *NetView Performance Monitor Installation and Customization* for information about using the INTERVAL parameter.

- **SAMPVHI** Specifies the sampling interval used to collect VTAM application data, address space data, APPN data, MNPS data, and VTAM global data. The valid range is 60-120 seconds.

- **SAMPVMD** Specifies the sampling interval used to collect VTAM device data, buffer pool, and CSM data. The valid range is 30-60 seconds.

- **SAMPVLW** Specifies the sampling interval used to collect VTAM virtual route data and RTP data. The valid range is 10-30 seconds.

**Example**

Use the following console command to modify the session collection interval from the previously defined value to 4:

```
INTERVAL SESSINT=(4)
```
Use the IPCOLL command to start or stop SNMP collections.

```
IPCOLL RESOURCE=(resource_name), INTERVAL=1
```

```
CLOCK=(start,stop), DAILY=NO, DYNAMIC=NO
```

```
L=console_id, HOST=LOCAL
```

```
DEST=(NPMLOG,VSAM), OPTION=START
```

```
CPUUTIL=(low,high), APPNMENU=(low,high)
```

```
GLOBUFUT=(low,high), POOLUTIL=(low,high)
```

```
IFUTIL=(low,high), INDISC=(low,high)
```

```
``
Authorization Needed: Network collection

Where: Console, FNMSRT, NPM EXEC

The following list describes the keywords you can code on the IPCOLL command:

- **OUTDISC=** (low, high)
  - Specifies the IP addresses or host names of the SNMP routers that will receive the collection command. It is a required keyword.

- **CIPUTIL=** (low, high)
  - Specifies the number of the interval for which you want to start the network collection. The value can be from 1 to 7. It defaults to the INTERVAL parameter set on the DEFAULTS statement in FNMINIT. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.

- **CLOCK=(start, stop)**
  - Specifies the times the command is to be started and stopped, in hh:mm:ss format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=Yes.

See "Using the CLOCK Keyword" on page 220 for more information about the CLOCK keyword.
Specifies whether you want this collection to be started each day.

You can have only one collection active at any one time for the same combination of resource, interval, and counter group. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

---

**BQJ0wXXXXBQJ0wXXXX**

**DYNAMIC=NO**
**DYNAMIC=YES**

---

Specifies whether this resource is a dynamically reconfigurable resource.

For switched resources, you should code DYNAMIC=YES to ensure that data is collected. In addition, if you code DYNAMIC=YES, NPM will not stop the collection if the resource is deleted, but will suspend the collection until the stop time is reached or the resource is added again.

Pay special attention in specifying resource names when you code DYNAMIC=YES. Because the collection you are going to start is dynamic, there is no verification of the resource name (any name is valid).

---

**L=console_id**

---

Specifies the console that receives response messages. You code this keyword only if you issue the command from the system console.

---

**HOST=LOCAL**
**HOST=host_name**

---

The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

**Note:** You cannot specify the HOST keyword both in an EXEC and in FNMSTRT for the IPCOLL command. The HOST keyword can be specified only when the IPCOLL command is issued from the console.
Specifies the destination of the network data records. You can define multiple destinations on this keyword, and the NONE setting is ignored if you code any other parameters.

**Note:** The operator can override the default as long as the target files are available.

**NONE**
- No network data records are to be written.

**NPMLOG**
- Network data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

**SMF**
- Network data records are written to SMF.

**VSAM**
- Network data records are written to the data sets defined by the FILE initialization statements as FNMREVx. VSAM is the default.

Specifies whether to start or stop SNMP collection. For more information about the OPTION keyword, see "Using the OPTION Keyword" on page 221.

Specifies the monitor limits for percentage CPU usage for IBM and Cisco routers. Both numbers can range from 1 to 100. The low criteria value must be less than the high criteria value.

Specifies the monitor limit for percentage APPN memory usage for IBM routers. Both numbers can range from 1 to 100. The low criteria value must be less than the high criteria value.
Specifies the monitor limit for percentage global buffers usage for IBM routers. Both numbers can range from 1 to 100. The low criteria value must be less than the high criteria value.

Specifies the monitor limit for percentage memory pool usage for Cisco routers (individual Cisco memory pool usage. Both numbers can range from 1 to 100. The low criteria value must be less than the high criteria value.

Specifies the monitor limit for percentage interface utilization (individual interface throughput). Both numbers can range from 1 to 100. The low criteria value must be less than the high criteria value.

Specifies the monitor limit for percentage of packets received on the interface. Both numbers can range from 1 to 100. The low criteria value must be less than the high criteria value.

Specifies the monitor limit for percentage of packets discarded on the interface. Both numbers can range from 1 to 100. The low criteria value must be less than the high criteria value.
Specifies the monitor limit for percentage of CIP utilization for Cisco routers. Both numbers can range from 1 to 100. The low criteria value must be less than the high criteria value.
LANMGR commands define LAN Managers to be used for LAN bridge and LAN segment data collection. With the LANMGR command, you can add, replace, or delete a LAN Manager. This command also defines all LAN bridges and LAN segments known by the LAN Manager.

```
LANMGR ADDRESS=address,
             Host=LOCAL,
             Host=host_name,
             L=console_id,
             OPTION=ADD,
             OPTION=DELETE,
             OPTION=REPLACE,
             SP=name
```

Note: The Host keyword is only available from the system console.

Authorization Needed: LAN management

Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the LANMGR command:

- **ADDRESS=address**
  Specifies the adapter address used by the LAN Manager. It consists of 12 hexadecimal characters.

- **Host=LOCAL, Host=host_name**
  Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

- **L=console_id**
  Specifies the console that receives response messages. You code this keyword only if you are issuing the command from the system console.

- **OPTION=ADD, OPTION=DELETE, OPTION=REPLACE**
  Specifies the action to perform:
ADD: Adds a LAN Manager. If you try to add a LAN Manager that is already defined, ADD acts like REPLACE.

DELETE: Deletes a LAN Manager.

REPLACE: Triggers a refresh of the configuration for this LAN Manager.

If you try to delete or replace a LAN Manager that is not defined, the command is ignored and a message is issued.

`LANMGR OPTION=ADD, SP=name`

Specifies the PU name of the LAN Manager service point as defined to VTAM.

**Example**

Use the following console command to define LANNPM9 to NPM:

```
LANMGR OPTION=ADD,
   ADDRESS=189537654080,
   SP=LANNPM9
```
The LBRGCOLL command enables you to start or stop the collection of LAN bridge data for LAN bridges in your network. You can collect data such as numbers of broadcast, non-broadcast, and lost frames.

You must define the LAN bridge to NPM using the LANMGR command, before you can start collection on it. You can code REVIEW=YES on the DEFAULT statement if you want to route LAN bridge data to the current review file for online display. You can also use the LAN Bridge Control (FNM02LBB) panel to specify the review file as a data destination.

Notes:
1. You can specify up to 200 bridges. You must specify either the BRIDGE keyword or the LANMGRNM keyword. If both are specified, the LANMGRNM keyword is ignored and collection occurs only for the named bridge.
Only from the system console

Authorization Needed: LAN management

Where: Console, FNMSRT, NPM EXEC

The following list describes the keywords you can code on the LBRGCOLL command:

- **BRIDGE**: bridge_name

- **LANMGRNM**: lan_manager_name

Instructs NPM to start or stop collection on the specified bridges. You can specify up to 200 bridge names.

You must specify either the BRIDGE keyword or the LANMGRNM keyword. If you specify both, the collection occurs on the specified bridge and the LANMGRNM keyword is ignored. If the bridge is not defined to NPM, the request is queued until the bridge is defined to a known LAN Manager, or until the next reconfiguration occurs.

- **BC**: (seg1_lo seg1_hi seg2_lo seg2_hi)

- **NB**: (seg1_lo seg1_hi seg2_lo seg2_hi)

Specifies the low and high threshold values for broadcast frames forwarded per minute from segment 1 and segment 2. For example, code BC=(100, 6000, 0, 0) to monitor only the first segment. Code BC=(0, 0, 100, 6000) to monitor only the second segment.

Specifies the low and high threshold values for non-broadcast frames forwarded per minute from segment 1 and segment 2. For example, to monitor only the first segment, code NB=(100, 100, 0, 0). Code NB=(0, 0, 100, 100) to monitor only the second segment.
Specifies the low and high threshold values for lost frames forwarded from segment 1 and segment 2. For example, code LF=(10,100,0,0) to monitor only the first segment. Code LF=(0,0,10,100) to monitor only the second segment.

Specifies the times the command is to be started and stopped, in hh:mm:ss format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES. See “Using the CLOCK Keyword” on page 220 for more information on the CLOCK keyword.

Specifies whether the command is to be executed each day.

Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

Specifies the console that receives response messages. You code this keyword only if you are issuing the command from the system console.

Specifies whether to start or stop LAN bridge collection. If the OPTION=STOP, all keywords except BRIDGE and LANMGRNM are ignored. See “Using the OPTION Keyword” on page 221 for more information about the OPTION keyword.
Example

Use the following console command to collect data on bridge BRGA011, monitor broadcast frames forwarded, non-broadcast frames forwarded, and lost frames from 8 am to 4 pm:

```
LBRGCOLL BRIDGE=BRGA011,
   BC=(500,2000,500,2000),
   NB=(200,1000,200,1000),
   LF=(0,100,0,100),
   CLOCK=(08.00.00,16.00.00)
```
LINE

Use the LINE command to modify the parameters associated with a line.

All of the keywords used with this command, except SESSH, are overridden by the information in the NCP RRT and VTAMLST each time the NCP is replaced. You should include this command in an NPM EXEC following the NCP command so each time you update the NCP definition you also execute this command.

```
--- LINE NAME=line_name [ ,DNC=YES | NO ] [ ,Host=host_name ] [ ,L=console_id ] [ ,NCP=ncp_name ] [ ,NPACOLL=NO ] [ ,SESSH=X ]
```

Note: The Host and L keywords are only available at the system console.

Authorization Needed: Control commands

Where: Console, FNMSRT, NPM EXEC

The following list describes the keywords you can code on the LINE command:

```
--- NAME=line_name
```

Specifies the name of a line defined in one of the NCP generations.

```
--- ,DNC=YES | NO
```

Specifies the dynamic network collection (DNC) parameter associated with the LUs on this line.

**YES** Starts network data collection for the LUs on this line when a session connection occurs, and stops network data collection when a session disconnection occurs.

**NO** Stops DNC for any LUs on this line. The default is defined by the DNC parameter of the NPM NCP command used to define this line’s NCP to this NPM.

NPM sets DNC=NO on this command if DNC=NO is coded on the CONTROL statement in FNMINIT.
Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

Specifies the console that receives response messages. You code this keyword only if you are issuing the command from the system console.

Specifies the name of the NCP for this command. Only the line in the specified NCP is updated. If you do not specify the NCP keyword, the first line that matches the name is updated.

Specifies that network data collection commands on this line be rejected. You can use this option to exclude collection on inactive lines. This keyword does not change the NPACOLL value for PUs and LUs defined with this line.

If you specify NPACOLL=NO to prevent collection on a resource, you cannot turn collection back on by reissuing the command. You must execute the NCP command again before you can collect on the resource.

Specifies the SESSH parameter associated with the LUs on this LINE. Use this parameter to exclude session data collection for LUs defined on this LINE.

An active session collection is not stopped for the resource. You use SESSH to prevent session collection of a resource when session collection was started by application. This option is typically used for printers.
Specifies the line speed or speeds associated with the line. Specify one speed for a half-duplex line and two speeds for a full-duplex line. For a full-duplex line, the first speed is the transmit speed and the second speed is the receive speed.

The first number can range from 134 to 2 147 483 647. The second number can be either 0 or in the range from 134 to 2 147 483 647.

**Example**

Use the following console command to change the line speed to 9600 and exclude network data collection for a line named L02LN020:

```
LINE NAME=L02LN020,SPEED=9600,NPACOLL=NO
```
LSEGCOLL

The LSEGCOLL command enables you to start or stop the collection of LAN segment utilization data for LAN segments in your network.

You must define the LAN segment to NPM using the LANMGR command before you can start a collection on it. You can code REVIEW=YES on the DEFAULT statement if you want to route LAN segment data to the current review file for online display. You can also use the LAN Segment Control (FNM02LSB) panel to specify the review file as a data destination.

```
LSEGCOLL
   SEGMENT = segment_number,
   LANMGRNM = lan_manager_name,
   SEGUTIL = (seg_lo, seg_hi),
   CLOCK = (start, stop),
   DAILY = NO, Host = LOCAL,
   Host = host_name,
   OPTION = START, STOP
```

Notes:
1. You can specify up to 200 segments. You can specify only the SEGMENT keyword or the LANMGRNM keyword. If both are specified, an error occurs and no collection takes place.
2. Only from the system console

Authorization Needed: LAN management

Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the LSEGCOLL command:
Instructs NPM to start or stop collection on the specified segment numbers. You can specify up to 200 segment numbers.

You can specify only the SEGMENT keyword or the LANMGRNM keyword. If you specify both, the collection does not occur. If the segment is not attached to any LAN Manager known by NPM, the request is queued until the segment is defined to a known LAN Manager or until the next reconfiguration occurs.

```
LANMGRNM=lan_manager_name
```

Instructs NPM to start or stop collection on all segments linked to this LAN Manager. The LAN Manager name should match the name defined by the SP keyword in the LANMGR command.

```
SEGUTIL=(seg_lo,seg_hi)
```

Specifies the low and high threshold values for segment utilization percentage. A monitor is not started unless you code this keyword.

```
CLOCK=(start,stop)
```

Specifies the times the command is to be started and stopped, in \textit{hh:mm:ss} format. If you specify \texttt{OPTION=STOP}, the CLOCK keyword, the DAILY keyword, and the thresholds specified for the SEGUTIL keyword are ignored. See \textit{Using the CLOCK Keyword} on page 220 for more information on the CLOCK keyword. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as \texttt{DAILY=YES}.

```
DAILY=NO
```

```
DAILY=YES
```

Specifies whether the command is to be executed each day.

```
Host=LOCAL
```

```
Host=host_name
```

Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.
LSEGCOLL

\[ ,L=\text{console\_id} \]

Specifies the console that receives response messages. You code this keyword only if you issue the command from the system console.

\[ ,\text{OPTION=}\text{START} \]
\[ ,\text{OPTION=}\text{STOP} \]

Specifies whether to start or stop LAN segment collection. If you code OPTION=STOP, all keywords except SEGMENT and LANMGRNM are ignored. See “Using the OPTION Keyword” on page 221 for more information about the OPTION keyword.

**Example**

Use the following command to collect data on a segment named A1C and monitor the segment utilization percentage from 8 am to 4 pm daily:

```
LSEGCOLL SEGMENT=A1C,
SEGUTIL=(10,50),
CLOCK=(08.00.00,16.00.00),
DAILY=YES
```
Use the LU command to modify the dynamic configuration network collection parameters associated with an LU.

All the keywords used with this command (except SESSH) are overridden by the information in the NCP RRT and VTAMLST each time the NCP is replaced. You should include the LU command in an NPM EXEC (following the NCP command) that executes each time you update the NCP definition.

**Note:** The Host and L keywords are only available from the system console.

**Authorization Needed:** Control commands

**Where:** Console, FNMINIT, NPM EXEC

The following list describes the keywords you can code on the LU command:

**NAME=lu_name**

Specifies the name of an LU defined in one of the NCP generations.

**DNC=YES or NO**

Specifies the dynamic network collection (DNC) parameter associated with the LU.

**YES** Starts network data collection for the LU when a session connection occurs, and stops network data collection when a session disconnection occurs.

**NO** Stops DNC for this LU. The default is defined by the DNC parameter for the PU that contains this LU.

If DNC=NO is specified on the CONTROL statement in FNMINIT, NPM sets DNC=NO on this command.
Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

\[L=\text{console}\_\text{id}\]  

Specifies the console that receives response messages. You code this keyword only if you are issuing the command from the system console.

\[NCP=\text{ncp}\_\text{name}\]  

Specifies the name of the NCP for this command. Only the LU in the specified NCP is updated. If you do not specify the NCP keyword, the first LU that matches the name is updated.

\[NPACOLL=\text{NO}\]  

Specifies that network data collection commands on this LU or TERMINAL command be rejected. You can use this option to exclude collection on inactive resources. If you code NPACOLL=NO, NPM sets DNC=NO for LUs.

If you specify NPACOLL=NO to prevent collection on a resource, you cannot turn collection back on by reissuing the command. You must execute the NCP command again before you can collect on the resource.

\[SESSH=X\]  

Specifies the SESSH parameter associated with this LU. Use this option to exclude session data collection for this LU. The default is defined by the SESSH keyword for the PU containing this LU.

An active session collection is not stopped for the resource. You use SESSH to prevent session collection of a resource when session collection was started by application. This option is typically used for printers.

**Example**

Use the following console command to stop DNC and exclude network data collection for an LU named LU32005:

\[\text{LU NAME=LU32005, DNC=NO, NPACOLL=NO}\]
LUGROUP

Use the LUGROUP command to define groupings of LUs. When you group LUs in this way, session data can be summarized and viewed for the group as a whole, not only for the individual LUs. For example, transit time values recorded for a group represent the average transit time of all the component LUs. Similarly, byte count values recorded for a group represent the total of all the byte counts for all the LUs in the group.

The LUGROUP command instructs NPM to read a member of the FNMSCMDS data set in which the LUs that comprise the grouping are defined. A mask function can be used to make the definitions quicker and simpler. The full syntax of the group definition member is explained in the “Working with Groups of Logical Units” section of the NetView Performance Monitor Installation and Customization book.

After an LU group is defined using the LUGROUP command, summary records for the group are created if session collection is active on at least one of the LUs. This is true whether session collection is started on an application with which an LU is in session, on the individual LUs themselves, or directly on the LU group name.

```
LUGROUP NAME=lugroup_name OPTION=ADD
```

Authorization Needed: Control commands

Where: Console, FNMSTRT, NPM EXEC

Note: To use this command on the NPM statement of FNMINIT, the HOSTCOLL variable must be set to yes, and the LUGRPNUM must be set to a number other than 0.

The following list describes the keywords you can code on the LUGROUP command:

```
NAME=lugroup_name
```

Specifies the name that you want to associate with the LU group. An LU group definition member with the same name must be present in the FNMSCMDS data set. Note that the name you choose for the LU group must be unique, and must not be the same as any other resource known to NPM.

```
OPTION=ADD
OPTION=REPLACE
OPTION=DELETE
```

Specifies whether the LU group named in this command is being added, replaced, or deleted.

ADD Adds an LU group. If you try to add an LU group that is already defined to NPM, NPM replaces the LU group.
**REPLACE** Replaces an LU group. It works like a DELETE followed by an ADD. It can be used to update an LU group definition if changes have been made to the LU group definition member.

**DELETE** Deletes an LU group.

If you try to delete or replace an LU group that is not defined to NPM, the command is ignored and a message is issued.

**Example**

Use the following console command to delete the LU group named LONDON:

```
LUGROUP NAME=LONDON,OPTION=DELETE
```
Use the LWGCOLL command to automatically start and stop a collection on a NetWare resource within your NetWare network, or to start or stop monitoring particular components of your NetWare network. The resource you specify must be defined previously using the LWGRES command.

Use this command to collect data for one or more counter groups and to start or stop monitors. If you specify some monitors, NPM collects data for all the NetWare resources you have chosen, but it monitors only the resources that are compatible with the monitors that you explicitly set.

A collection becomes active when NPM receives an acknowledgement from NetWare that NetWare has started the collection. You can have only one collection active at any one time for the same combination of resource, interval, and counter group.

If the LWGCOLL command fails to start because of a transient error condition in the NPM NetWare Agent, NPM retries the command. NPM makes up to 10 attempts to restart the command automatically at 30-second intervals before returning an error message.

```
LWGCOLL

SP=pu_name
AGENT=agent_server_name
NETWORK='Network Address'
NODEADDR='Node Address'
SERVER=server_name
RESOURCE=
ALLNWAGE
ALLNWRTR
ALLNWSRV

INTERVAL=1
HOST=LOCAL

HOST=host_name
L=console_id

DEST=NONE
NPMLOG
SMF
VSAM

DESTX=ALERT
GLOBAL
NONE
NPMLOG
SMF
VSAM

CLOCK=(start, stop)
DAILY=NO

DAILY=YES
XRES=NO
XRES=YES
```

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The L keyword is only available from the system console.

**Authorization Needed:** NetWare collection

**Where:** Console, FNMSRT, NPM EXEC

The following list describes the keywords you can code on the LWGCOLL command:

- `AGENT=agent_server_name`
- `SP=pu_name`
- `NETWORK='Network Address'`
- `NODEADDR='Node Address'`
- `SERVER=server_name`
- `RESOURCE= ALLNWAGE`, `ALLNWRTR`, `ALLNWSRV`, `NWAGE`, `NWSRV`, `NWRTR`

Specifies to NPM the name of the resource or resource group for which you want to start or stop NetWare collections. The resource can be a specific resource or a group of resources.

The resource types are:

- **Agent server**
  A server with the NPM NetWare Agent installed.

- **Server**
  A server without the NPM NetWare Agent installed.

- **External router**
  A router (external to the agent server).

NPM enables you to combine resources of a particular type so that you can start or stop collections on a group of resources. The resource group is identified on the RESOURCE keyword on the LWGCOLL and LWGRES commands as follows:

**Table 4. NetWare Resource Groups**

<table>
<thead>
<tr>
<th>Resource Group</th>
<th>LWGCOLL Parameter</th>
<th>LWGRES Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent server</td>
<td>ALLNWAGE</td>
<td>NWAGE</td>
</tr>
<tr>
<td>Server</td>
<td>ALLNWSRV</td>
<td>NWSRV</td>
</tr>
<tr>
<td>External router</td>
<td>ALLNWRTRAGE</td>
<td>NWRTR</td>
</tr>
</tbody>
</table>

You start or stop collections on a specific resource or a resource group as follows:
Specifying the SP, PU name, and a specific NetWare resource

Use this option to start or stop collections explicitly on the single resource you specify:

1. Specify the Service Point (SP) Physical Unit (PU) name
   The SP PU name is from one to eight characters. Valid characters are A to Z, 0 to 9, the
   at (@), pound (#), and dollar ($) symbols. The first character cannot be numeric.

2. Specify the single NetWare resource:
   Choose either an Agent server, external router, or server as follows:
   - Use the AGENT keyword and the agent server name to select a specific agent server.
     The server name can have from 2 to 47 characters. Valid characters are A to Z, 0 to
     9, the dash (-), and the underscore (_).
   - Use the NETWORK and NODEADDR keywords to specify the internetwork packet
     exchange (IPX) network address and the IPX node address to select a specific
     external router. The network address is a value from X'1' to X'FFFFFFFE'. The node
     address is a value from X'1' to X'FFFFFFFE'.
   - Use the SERVER keyword and the server name to select a specific server.

Specifying the SP, PU name, and a NetWare resource group

Use this option to start or stop collections on a resource group for the SP PU name you
specify:

1. Specify the SP PU name

2. Specify the RESOURCE keyword and choose one of these resource groups:
   - ALLNWAGE for all Agent servers
   - ALLNWSRV for all servers
   - ALLNWRTR for all external routers

Omitting the SP, PU name, and identifying a specific NetWare resource

Use this option to start or stop collections implicitly on the single resource you specify using
either the AGENT, NETWORK, or SERVER keyword. NPM determines a default SP PU
name depending on the resource type you specify.

The default name is the first SP name found by NPM for which a resource with the same
agent server name, or network and node address, or server name, has been defined to NPM
with an LWGRES command.

Omitting the SP, PU name, and identifying a NetWare resource group

Use this option to start or stop collections on all resources for the resource group you
specify on the RESOURCE keyword regardless of their SP name.
Specifies the number of the interval for which you want to start the NetWare resources collection. The value can be from 1 to 7. If you do not specify an interval, it defaults to the INTERVAL parameter set on the DEFAULTS statement in FNMINIT. If this parameter is not set, it defaults to 1. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.

The HOST keyword specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

The CONSOLE ID keyword specifies the console that receives response messages. You can code this parameter only if you are issuing the command from the system console.

Specifies the destination of the NetWare resources collection data records. You can define multiple destinations on this keyword, and the NONE setting is ignored if you code any other parameters. It defaults to the LWG parameters set on the NPM statement in FNMINIT. If the LWG parameters are not set, it defaults to VSAM and NPMLOG.

NONE No NetWare data records are to be written.

NPMLOG NetWare data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

SMF NetWare data records are written to SMF.

VSAM NetWare data records are written to the data sets defined by the FILE initialization statements as FNMLWGx.

Note: The operator can override the default if the target files are available.
Specifies the destination of the NetWare resources collection data exception records. You can define multiple destinations on this keyword. The NONE variable is ignored if you code any other parameters. It defaults to the LWG parameters set on the NPM statement in FNMINIT. If the LWG parameters are not set, it defaults to VSAM, NPMLOG, and ALERT.

**ALERT**
NetWare data exception records are formatted into alerts and sent to the NetView program, as long as ALERT=YES is coded explicitly or as a default.

**GLOBAL**
NetWare data exception messages are broadcast to all NPM operators who are authorized as GLOBAL=YES. If none of the authorized operators are logged on, the messages are sent to the console.

**NONE**
No NetWare data exception records are to be written.

**NPMLOG**
NetWare data exception records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

**SMF**
NetWare data records are written to SMF.

**VSAM**
NetWare data exception records are written to the data sets defined by the FILE initialization statements as FNMLWGx.

**Note:** The operator can override the default as long as the target files are available.

```
1. OPTION=START
2. OPTION=STOP
3. OPTION=STOPALL
```

Specifies whether to start or stop a NetWare resources collection or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections for all intervals for the NetWare resources and counter group you specify.

After issuing an LWGCOLL command that includes the STOP or STOPALL option for an active collection, that is a collection where NPM has received an acknowledgement from NetWare that the collection has been started, you might obtain message FNM1187E. Message FNM1187E means that NPM has not received an acknowledgement from NetWare that a collection has been stopped. The collection might not be stopped by the NPM NetWare Agent and any collection data sent to NPM is discarded.

If a collection is not stopped and NPM keeps receiving data from NetWare, NPM issues message FNM1177I. You can stop such a collection by issuing the following command from the NetView console:

```
RUNCMD SP=sp_name APPL=IBMNPMAG SNAME=nw_sname STOP CORRELAT=collection_correlator
```

where the values for SP, SNAME, and CORRELAT are taken from message FNM1187E.

See "Using the OPTION Keyword" on page 221 for more information about the OPTION keyword.
Specifies the times the command is to be started and stopped, in hh.mm.ss format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES.

See "Using the CLOCK Keyword" on page 220 for more information on the CLOCK keyword.

Specifies whether you want this collection to be started each day. If DAILY=YES, you must specify a time on the CLOCK keyword.

You can have only one collection active at any one time for the same combination of resource, interval, and counter group. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

Specifies whether resolution messages are generated for a monitor. If you specify NO, NPM generates monitor event messages for every interval when data is outside the thresholds. If you specify YES, NPM generates monitor event messages when data first falls outside the set thresholds. NPM also generates monitor resolution messages when the data first falls back within the thresholds or passes from above high threshold to below the low threshold.

The GROUP keyword specifies the NetWare counter groups to be started or stopped. Choose one or more of these counter groups:

**COMM** To collect Communications counter group data about specific IPX and SPX protocol-related information.

**GLOBAL** To collect Server Global counter group data obtaining a general overview of the Agent server activity, including CPU utilization, connections, disk operation, communications, and other information.

**LANBOARD** To collect Router LAN board counter group data for communications device
drivers. One record is written for each LAN board driver. Therefore, you can have up to 16 LAN board records written for each collection interval and one summary record.

**ROUTER** To collect Router Global counter group data obtaining routing information about the router services (packets information).

**VOLUME** To collect Server Volume counter group data obtaining detailed storage information about disk volumes on the Agent server. One record is written for each volume. Therefore, you can have up to 64 volume records written for each collection interval and one summary record.

**ALL** To collect data on all of the NetWare counter groups.

If you choose the ALL option, the counters started depend on the specific resource type or generic resource type specified:

- Agent server starts all counters
- External router or server starts the COMM, LANBOARD, and ROUTER counters

See the NetView Performance Monitor Reference for more information about the NetWare counter groups.

```
\[monitor=(0,0)
\[monitor=(low_threshold, high_threshold)
```

Specifies the individual components of your network that are to be monitored. NPM monitors alert you when data falls outside the thresholds you specify on the threshold variable.

The monitor types you specify depend on the GROUP parameter as shown in Table 5.

### Table 5. NetWare Monitor Types on LWGCOLL Command

<table>
<thead>
<tr>
<th>Counter Group</th>
<th>Monitor Type</th>
<th>Monitor Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM</td>
<td>—</td>
<td>You cannot monitor this counter group</td>
</tr>
<tr>
<td>GLOBAL</td>
<td>CONNUTIL</td>
<td>Percentage of connections in use on the server Percentage utilization of the server’s CPU</td>
</tr>
<tr>
<td></td>
<td>SRVUTIL</td>
<td></td>
</tr>
<tr>
<td>LANBOARD</td>
<td>PACKRCVD</td>
<td>Total number of packets received by the LAN driver Total number of packets transmitted by the LAN driver</td>
</tr>
<tr>
<td></td>
<td>PACKXMIT</td>
<td></td>
</tr>
<tr>
<td>ROUTER</td>
<td>RTRBUFFS</td>
<td>Number of packets discarded because no receive buffers were available Number of packets discarded because of too many hops</td>
</tr>
<tr>
<td></td>
<td>RTRHOPS</td>
<td></td>
</tr>
<tr>
<td>VOLUME</td>
<td>VOLUTIL</td>
<td>Percentage of volume space used on the server</td>
</tr>
</tbody>
</table>

```
\[DYNAMIC=No
\[DYNAMIC=Yes
```
Determines whether a collection is to be started on resources that become defined in the future by a LWGRES command. If a resource is not defined when the LWGCOLL command is made, the resource goes into pending mode until the resource is defined using the LWGRES command or until the stop time is reached. In addition, if you code DYNAMIC=YES, NPM will not stop the collection if the resource is deleted, but will suspend the collection until the stop time is reached or the resource is added again.

**Example**

Use the following command to collect server global data daily and monitor the percentage utilization of the server’s CPU for all servers with the NPM NetWare Agent installed:

```
LWGCOLL RESOURCE=ALLNWAGE,
DAILY=YES,
CLOCK=(00.07.00,12.00.00),
SRVUTIL=(20,80),
XRES=NO,
GROUP=GLOBAL
```
The LWGRES command defines a NetWare resource for NPM collection purposes. With the LWGRES command, you can add or delete the one NetWare resource you specify.

```
LWGRES--SP=pu_name--.NETWORK=network_address--.NODEADDR=node_address--

SERVER=server_name.AGENT=agent_server_name

RESOURCE=NWAGE.RESOURCE=NWRTR.NWSRV

HOST=LOCAL.HOST=host_name.L=console_id.OPTION=ADD.OPTION=DELETE
```

Note: The L keyword is only available from the system console.

Authorization Needed: NetWare collection

Where: Console, FNMSRT, NPM EXEC

The following list describes the parameters you can code on the LWGRES command:

```
SP=pu_name

NETWORK=network_address.NODEADDR=node_address

SERVER=server_name

AGENT=agent_server_name

RESOURCE=NWAGE.RESOURCE=NWRTR.NWSRV

HOST=LOCAL.HOST=host_name.L=console_id.OPTION=ADD.OPTION=DELETE
```

Specifies the Service Point (SP) Physical Unit (PU) name. Names can be from one to eight characters. Valid characters are A to Z, 0 to 9, the at (@), pound (#), and dollar ($) symbols. The first character cannot be numeric.

```
NETWORK=network_address.NODEADDR=node_address
```

Specifies the IPX network address and the physical node address of a NetWare resource that identifies the node in a connectivity ring. The network address is a value from X‘1’ to X‘FFFFFFFE’. The node address is a value from X‘1’ to X‘FFFFFFFFFEE’.

```
SERVER=server_name
```

Specifies the name of a server. The server name can have from 2 to 47 characters. Valid characters are A to Z, 0 to 9, the dash (-), and the underscore (_).
Specifies the name of a server containing the NPM NetWare Agent. The server name can have from 2 to 47 characters. Valid characters are A to Z, 0 to 9, the dash (-), and the underscore (_).

```
,RESOURCE=NWAGE
```

Specifies the type of resource you are defining to NPM for collection.

- **NWAGE** NetWare agent server
- **NWRTR** NetWare external router
- **NWSRV** NetWare server

```
,L=console_id
```

Specifies the host that receives this command. You code this keyword only if you issue the command from the system console.

```
,OPTION=ADD
```

**ADD** Adds a NetWare resource. If you try to add a NetWare resource that is already defined, the command is ignored and a message is issued.

```
,OPTION=DELETE
```

**DELETE** Deletes a NetWare resource. If you try to delete a NetWare resource that is not defined, the command is ignored and a message is issued.

**Example**

Use the following command to add a server resource:

```
LWGRES SP=NWSRV1, NETWORK=100B,NODEADDR=100004, SERVER=SERV_NAME, AGENT=NW_SERV_NAM_01, RESOURCE=NWSRV
```
LWGSTOP

Use the LWGSTOP command to stop all active collections on all NetWare resources. (A collection becomes active when NPM receives an acknowledgement from NetWare that NetWare has started the collection.)

Before stopping NPM, if you have active NetWare collections, issue an LWGSTOP command from the system console to stop all active NetWare collections and to prevent the NPM NetWare Agent from collecting and forwarding data.

Note: You can only issue this command from the system console.

Note: The L keyword is only available from the system console.

Authorization Needed: NetWare collection

Where: Console, FNMSTRT, NPM EXEC

The following list describes the parameters you can code on the LWGSTOP command:

- **HOST=LOCAL**
  - Specifies the host that receives this command.

- **L=console_id**
  - Specifies the console that receives response messages. Code this keyword only if you issue the command from the system console.

**Example**

Use the following command to stop all active collections on all NetWare resources specifying the host to receive the command:

```
LWGSTOP HOST=NPMB
```
Use the NCP command to define NCP nodes to be used for network data collection and optionally for session data collection. You can also use the NCP command to add, replace, or delete NCPs. The command can also be used to add, replace, or delete 3746 APPN network nodes for which dummy VTAMLST and RRT members have been generated.

You can modify the network configuration information that NPM reads from the NCP RRT and from VTAMLST. The GENERIC, LINE, LU, and PU commands in NPM enable you to prevent collection on specific resources, change the line speed NPM uses to compute line utilization, and modify the SESSH value used for session data collection. When you issue an NCP command, it overrides all of the parameters previously specified by GENERIC, LINE, LU, and PU commands, except the SESSH keyword.

If you plan to use GENERIC, LINE, LU, and PU commands, you should code them in an NPM EXEC, following the NCP command that defines the NCP they modify. Each time you redefine the NCP, issue the EXEC so your GENERIC, LINE, LU, and PU commands are also executed.
Notes:
1 If the NCP does not support network collection, the default is DNC=NO.
2 Only from the system console

Authorization Needed: Control commands

Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the NCP command:

- **NAME=ncp_name**

  Specifies the NCP or 3746 APPN network node (NN) from which you collect network data. The name you specify for `ncp_name` must be the same as the name that is specified in the NCP load module. If this is the name of an NCP or NN that is new to NPM, NPM adds the NCP or NN.

  If this is the name of an existing NCP or NN, NPM replaces the parameters for the existing definition with the parameters specified in this NCP command.

- **,BACKUP=(lu_name,alias_name)**

  Specifies the backup NPALU used to collect network session accounting (NSA) data. In order to take over the collection of NSA data when the session with the primary NPALU is inactive, the LU name must match one of the possible seven backup NPALUs generated in the NCP. The session with the backup LU starts as soon as NPM and the primary LU become active. Each NPALU can be in session with only one NPM.

  **Note:** You must specify an alias name if the backup LU name is translated to an alias name in this network.

- **,DNC=(YES,ALL,YES,BSONLY,YES,NONE,SNAONLY,NO)**

  Determines whether dynamic network collection occurs for the LUs in this NCP. Dynamic network collection is available only for resources generated with NPACOLL=YES. HOSTCOLL=YES must be specified to collect accounting records and to start and stop dynamic network collection.

  **YES** NPM starts network data collection for an NCP’s LU when a session connection occurs, and stops network data collection when a session disconnects. The NPM’s host must own the LUs to collect DNC data as sessions start and stop.
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>NPM does not perform dynamic network collection.</td>
</tr>
<tr>
<td>ALL</td>
<td>NPM performs DNC collection on all of the NCP’s LU and terminal resources. ALL is the default if you code DNC=YES.</td>
</tr>
<tr>
<td>BSCONLY</td>
<td>NPM performs DNC collection on all terminal resources. Specify DNC=(YES,BSCONLY) when using network session accounting to prevent duplicate data collection.</td>
</tr>
<tr>
<td>NONE</td>
<td>NPM does not collect data from an NCP’s LUs. Coding DNC=(YES,NONE) is the same as coding DNC=NO.</td>
</tr>
<tr>
<td>SNAONLY</td>
<td>NPM performs DNC collection on all of the NCP’s LU resources. Use the NPM DNC parameter of the NCP generation definition to control dynamic network collection for individual LUs. This parameter is available only with the NCP/Emulation Program Definition Facility of NCP V3R3 or a later release.</td>
</tr>
</tbody>
</table>

You can override the DNC parameter for individual resources in the NCP generation by the DNC parameters in the LINE, PU, and LU control commands. The default is specified by the DNC keyword of the CONTROL initialization statement. If the NCP does not support network collection (NPA=NO is specified in the BUILD macro), DNC=NO is the default.

If DNC=NO is coded on the CONTROL statement in FNMINIT, NPM sets DNC=NO on this command.

```
,.DYINT=2
,.DYINT=n
```

Defines the collection interval for the NCP’s LU in dynamic network collection.

You can set DYINT to any number from 1 to 7. If you specify DNC=NO, DYINT is set to 0. If you specify DNC=YES, the interval you specify cannot also be used as the interval for the start network data collection commands that specify LU or terminal resources.

```
,.Host=LOCAL
,.Host=host_name
```

Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

```
,.ISTATUS=ACTIVE
,.ISTATUS=INACTIVE
```

Determines whether the NPM is to bind the primary NPALU during initialization. If ISTATUS=INACTIVE, an NPM operator with control authority must issue a bind request to the NPALU before this NCP’s network collection can occur. If LOGAPPL=APPLID is
specified on the NPALU’s VTAMLST definition, ISTATUS=INACTIVE should also be specified. The NPM automatically binds with the NPALU when the NPALU becomes active.

**Note:** The LOGAPPL parameter refers to the application ID specified on the VTAM initialization statement. When the NPALU session is re-established after a session failure, any outstanding NCP network collection commands are restarted.

\[ \text{console_id} \]

Specifies the console that receives response messages. You code this keyword only if you are issuing the command from the system console.

\[ \text{MAXL=nnnnn} \]

Defines the number of common storage area (CSA) entries reserved for collecting session data by node, LU, and LU group. You can set MAXL to any number from 1 to 32760. If you specify SESSCOLL=NO, there are no CSA LU entries and the MAXL keyword has no effect.

When you do not specify SESSCOLL=YES and MAXL, the number of CSA LU entries is determined by the number of LUs and terminals the NCP defines. If the specified MAXL value is greater than the number of LUs and terminals the NCP defines, NPM will not reset the MAXL value to that number. Extra CSA entries are allocated for dynamically added LUs. (This is possible with the dynamic control block function added in NCP V7R1). You must be very careful, therefore, to avoid wasting CSA when you define MAXL.

Consider all LUs when coding the MAXL keyword because it specifies the NCP’s cumulative maximum LU number for which NPM can collect session data. For example, if you start session collection on 50 LUs, stop collection, then start session collection on 50 different LUs, set MAXL to at least 100. If you exclude LUs from collection, their total must also be included on the MAXL keyword. Once the MAXL value has been reached, additional session collection requests are rejected.

\[ \text{NGA=(NO, NO)} \]

\[ \text{NGA=(YES, YES)} \]

Specifies whether NPM is able to receive network gateway accounting data when it is the current receiver. The first operand applies to the primary NPALU and the second operand applies to the backup NPALU for possible NPM sessions.

NPA=YES and SESSACC=YES must also be specified on the BUILD macro in the NCP generation definition.
Specifies the primary NPALU’s alias name in this network. The default is the primary NPALU name specified in the NCP definition. NPALU names must be unique in the network.

The default primary NPALU is the primary NPALU defined in the NCP generation definition. If you specify the name of an NPALU that has been defined as a backup NPALU in the NCP generation definition, the name you specify is ignored and the default name is used.

The NPALU keyword is ignored if NPA=NO is specified in the NCP’s BUILD definition statement.

Specifies whether NPM is able to receive network session accounting data when it is the current receiver. The first operand applies to the primary NPALU and the second operand applies to the backup NPALU for possible NPM sessions.

NPA=YES and SESSACC=YES must also be specified on the BUILD macro in the NCP generation definition. SNI=YES must be coded on NCP commands that define 3746 APPN network nodes to NPM, if there will be more than one such node defined. This is to avoid problems caused by duplicate resource names.

Specifies whether the NCP in this command is being deleted, added, or replaced. If you code NCP=DELETE, all other keywords except NAME are ignored. Specifying NPM=ADD adds an NCP definition to NPM.

Assigns a unique name associated with the CCU. There can be several NCP load modules with different names for the same CCU, but each NCP has the same PU name. The name references the resources in the NCP (including the NCP itself). When records are written with a configuration section, the subarea name shows the PU name.
The PU name is taken from the BUILD macro for NCPs generated for NCP Version 4 Release 3 or a later release. The default is the NCP name if the PU name is not specified on the NCP BUILD macro or in the NPM NCP command.

Specifies the name of an existing NCP that is being replaced. Only use this keyword if you are replacing an existing NCP with an NCP that has a different name. You do not need to code REPLNCP if you are replacing an NCP with the same name.

If the NCP you specify is not defined to NPM, NPM issues message FNM504W and continues as if you did not code REPLNCP.

Specifies whether the NCP’s LUs are available for session collection. If HOSTCOLL=NO or INTTRACE=YES is specified on the NPM initialization statement, CSA is not allocated and the SESSCOLL keyword has no effect. This keyword does not affect network collection.

**Note:** If you specify SESSCOLL=NO, do not code a CDRM initialization statement for this NCP.

Specifies whether NPM should build a separate symbol table for this NCP. The SRTSIZE keyword specifies the symbol table’s size.

Only use SNI=YES when the NCP resource names duplicate other NCP resource names. When you use SNI=YES, the NCP name becomes a qualifier for this NCP’s resources in collection commands. For example, in a start session collection command on a switched LU, you must code the CDRM keyword with the NCP name.

SNI=YES is highly recommended if any 3746 NNP resources are communicating with NPM. In this case, SNI=YES should be coded on each and every NCP command.

Specifies the NCP’s symbol resource table size if you code SNI=YES. The value must be a prime number. The default is calculated from the number of defined NCP resources divided by forty. The minimum value is thirteen and the maximum value is one half of the number of resources.
Specifies the subarea number of the NCP. You can set SUBAREA to any number from 1 to 65535. The default is the subarea defined in the NCP generation.

Unique subarea numbers are required for all hosts, cross-domain resources, and NCPs that are defined for session collection.

If this NCP is not used for session collection, is in another network, and duplicates an existing subarea number, you can use the SUBAREA keyword to replace the subarea defined in the NCP. This only changes NPM’s definition of the NCP’s subarea.

**Example**

Use the following console command to set the following conditions for an NCP named NX2NV3:

- Specify N02NPNU as a backup NCP
- Start DNC when the NCP is connected
- Bind the NPALU
- Set the maximum number of session collections to 100
- Enable NSA data reception
- Enable NGA data reception

```
NCP NAME=NX2NV3,
    BACKUP=N02NPNU,
    DNC=YES,
    ISTATUS=ACTIVE,
    MAXL=100,
    NSA=(YES,YES),
    NGA=(YES,YES)
```
**NETCOLL**

Use the NETCOLL command to start or stop NPM network collections.

You can have only one collection active at any one time for the same combination of resource, interval, and counter group.
Authorization Needed: Network collection

Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the NETCOLL command:
Specifies the name of the resource for which you want to start the network collection. It is a required keyword. You can also specify the resource as ALLLINES, ALLPUS, ALLLUS, or any of the following resource types:

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINE</td>
<td>SDLC, BSC, Start/Stop lines, or channels</td>
</tr>
<tr>
<td>PU</td>
<td>SDLC, BSC, or Start/Stop PUs</td>
</tr>
<tr>
<td>LOGLINK</td>
<td>NTRI logical links</td>
</tr>
<tr>
<td>PHYLINK</td>
<td>NTRI physical links</td>
</tr>
<tr>
<td>NX25LINK</td>
<td>NPSI links</td>
</tr>
<tr>
<td>XX25LINK</td>
<td>XI links</td>
</tr>
<tr>
<td>NEOLINK</td>
<td>NEO links</td>
</tr>
<tr>
<td>FRPHYLK</td>
<td>Frame relay physical links</td>
</tr>
<tr>
<td>FRLOGLK</td>
<td>Frame relay logical links</td>
</tr>
<tr>
<td>ETHERPL</td>
<td>Ethernet links</td>
</tr>
<tr>
<td>ODLCLNLK</td>
<td>ODLC links</td>
</tr>
<tr>
<td>XX25PU</td>
<td>XI PUs</td>
</tr>
<tr>
<td>NX25PU</td>
<td>NPSI PUs</td>
</tr>
<tr>
<td>NX25VC</td>
<td>NPSI virtual circuits</td>
</tr>
<tr>
<td>NEOPU</td>
<td>NEO PUs</td>
</tr>
<tr>
<td>ODLCLNPU</td>
<td>ODLC PUs</td>
</tr>
<tr>
<td>FRPHYST</td>
<td>Frame relay physical PUs</td>
</tr>
<tr>
<td>FRLMIPU</td>
<td>Frame relay LMI PUs</td>
</tr>
<tr>
<td>FRIPPU</td>
<td>Frame relay IP PUs</td>
</tr>
<tr>
<td>X25LN</td>
<td>X.25 ODLC lines</td>
</tr>
<tr>
<td>X250P</td>
<td></td>
</tr>
<tr>
<td>X25VC</td>
<td></td>
</tr>
</tbody>
</table>
**X25OP**  X.25 ODLC PUs  
**X25VC**  X.25 ODLC virtual circuits  

**Note:** X25LN, X25OP, and X25VC are valid for ODLC resources attached to a 3746-900 CCU under NCP V7R5M0+IR33900 or later.

If you use ALLLINES or ALLPUS, and you also set some monitors, NPM collects data for all the resources you have chosen but it monitors only the resources that are compatible with the monitors that you explicitly set. You can specify multiple resource names by separating them with commas within parentheses.

| INTERVAL=1  |
| INTERVAL=2  |
| INTERVAL=3  |
| INTERVAL=4  |
| INTERVAL=5  |
| INTERVAL=6  |
| INTERVAL=7  |

Specifies the number of the interval for which you want to start the network collection. The value can be from 1 to 7. It defaults to the INTERVAL parameter set on the DEFAULTS statement in FNMINIT. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.

**NCP=ncp_name**

Specifies the name of the NCP under which the specified resource resides. You must code the NCP keyword when you code DYNAMIC=YES. You must also code the NCP keyword when you code the UPPER keyword.

This keyword is used to specify which NCP controls the resources to be monitored by NPM. When you want to start a collection on the NCP itself, you must enter the NCP name in the RESOURCE keyword.

If the NCP keyword is not coded, all generic resources listed in the resource keyword will be monitored on all matching nodes.

**CLOCK=(start,stop)**

Specifies the times the command is to be started and stopped, in *hh.mm.ss* format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES.

See "Using the CLOCK Keyword" on page 220 for more information about the CLOCK keyword.
Specifies whether you want this collection to be started each day.

You can have only one collection active at any one time for the same combination of resource, interval, and counter group. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

Specifies whether this resource is a dynamically reconfigurable resource. Collection is started for all the LUs or PUs that are dynamically added if you code DYNAMIC=YES and the RESOURCE keyword as ALLLUS or ALLPUS. You must specify the NCP keyword when the DYNAMIC keyword is set to YES.

For switched resources, you should code DYNAMIC=YES to ensure that data is collected. In addition, if you code DYNAMIC=YES, NPM will not stop the collection if the resource is deleted, but will suspend the collection until the stop time is reached or the resource is added again.

Pay special attention in specifying resource names when you code DYNAMIC=YES. Because the collection you are going to start is dynamic, there is no verification of the resource name (any name is valid).

Specifies the console that receives response messages. You code this keyword only if you issue the command from the system console.

The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.
Note: You cannot specify the HOST keyword both in an EXEC and in FNMSTRT for the NETCOLL command. The HOST keyword can be specified only when the NETCOLL command is issued from the console.

\[ \text{DEST} = (\text{NPMLOG, VSAM}) \]

Specifies the destination of the network data records. You can define multiple destinations on this keyword, and the NONE setting is ignored if you code any other parameters.

Note: The operator can override the default as long as the target files are available.

- NONE: No network data records are to be written.
- NPMLOG: Network data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.
- SMF: Network data records are written to SMF.
- VSAM: Network data records are written to the data sets defined by the FILE initialization statements as FNMREVx. VSAM is the default.

\[ \text{UPPER} = \text{line_name} \]

Specifies to restrict the data recording to generic resource groups, such as ALLPUS or ALLLUS. You code the UPPER keyword with a \textit{line_name} if you code the RESOURCE keyword as ALLPUS, ALLLUS, or any of the following:

- PU: SDLC, BSC, or S/P PUs
- XX25PU: XI PUs
- NX25PU: NPSI PUs
- NX25VC: NPSI virtual circuits
- NEOPU: NEO PUs
- ODLCLNPU: ODLC PUs
- FRPHYST: Frame relay physical PUs
- FRLMIPU: Frame relay LMI PUs

This option restricts the data recording to all PUs or LUs on the line. You must code the NCP keyword if you code the UPPER keyword.

You code the UPPER keyword with a \textit{pu_name} if you code the RESOURCE keyword as ALLLUS. This option restricts data recording to all LUs on the PU.
Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.

See "Using the OPTION Keyword" on page 221 for more information about the OPTION keyword.

Specifies the destination of the network data exception records. You can define multiple destinations on this keyword. The NONE variable is ignored if you code any other parameters.

**ALERT**  
Network data exception records are formatted into alerts and sent to the NetView program, as long as ALERT=YES is coded on the NPM statement in FNMINIT.

**GLOBAL**  
Network data exception messages are broadcast to all NPM operators who are authorized as GLOBAL=YES. If none of the authorized operators are logged on, the messages are sent to the console.

**NONE**  
No network data exception records are to be written.

**NPMLOG**  
Network data exception records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

**SMF**  
Network data records are written to SMF.

**VSAM**  
Network data exception records are written to the data sets defined by the FILE initialization statements as FNMREVx.

**Note:** The operator can override the default as long as the target files are available.
Specifies whether to generate monitor resolutions when a previous exception condition has been resolved.

\[
\text{BACKCONG} = \begin{cases} 
  \text{low} \\
  \text{low, high} \\
  \text{high}
\end{cases}
\]

Specifies the monitor limits for backward congestion count during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

\[
\text{BUFUSE} = \begin{cases} 
  \text{low} \\
  \text{low, high} \\
  \text{high}
\end{cases}
\]

Specifies the monitor limits for percentage of NCP buffers used during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

\[
\text{BYTERAT} = \begin{cases} 
  \text{low} \\
  \text{low, high} \\
  \text{high}
\end{cases}
\]

Specifies the monitor limits for octets sent and received per second during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

\[
\text{BYTECVD} = \begin{cases} 
  \text{low} \\
  \text{low, high} \\
  \text{high}
\end{cases}
\]

Specifies the monitor limits for octets received per second during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

\[
\text{BYTETRAN} = \begin{cases} 
  \text{low} \\
  \text{low, high} \\
  \text{high}
\end{cases}
\]

Specifies the monitor limits for octets transmitted per second during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.
Specifies the monitor limits for CCU utilization during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for congestion count during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for datagrams discarded during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for frames discarded during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for number of temporary errors or retries during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.
Specifies the monitor limits for forward congestion count during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for the number of available buffers in the CCU during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for line utilization during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

 Specifies the monitor limits for the number of times more than one collision occurred during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for protocol data units sent and received per minute during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.
Specifies the monitor limits for negative polls per minute during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for NNP microprocessor utilization during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

This monitor is valid only when a network collection is started on a CCU that has a 3746-NNP expansion frame attached.

Specifies the monitor limits for APPN buffer utilization during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

This monitor is valid only when a network collection is started on a CCU that has a 3746-NNP expansion frame attached.

Specifies the monitor limits for APPN memory utilization during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

This monitor is valid only when a network collection is started on a CCU that has a 3746-NNP expansion frame attached.
Specifies the monitor limits for the number of times one collision occurred during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for fast program storage utilization during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

This monitor is valid only when a network collection is started on a CCU that has a 3746 model 900 expansion frame attached.

Specifies the monitor limits for PDUs discarded at the ODLC physical link during the last interval (the Unrecognized PDUs and Misaddressed Frames received are also included). Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for PDUs received per minute during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for protocol data units transmitted per minute during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.
Specifies the monitor limits for positive polls per minute during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for processor CPU utilization during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

This monitor is valid only when a network collection is started on a CCU that has a 3746 model 900 expansion frame attached.

Specifies the monitor limits for queue length during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for percentage of total octets retransmitted during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for percentage of total PDUs retransmitted during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.
Specifies the monitor limits for receive not ready (RNR-Rej) packets received during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for RNR-Rej packets transmitted during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the number of times the acknowledge timer expired for an ODLC LAN station PU during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for buffer storage utilization during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

This monitor is valid only when a network collection is started on a CCU that has a 3746 model 900 expansion frame attached.

Specifies the monitor limits for the percentage of time the CCU was in slowdown during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.
Specifies the monitor limits for TIC utilization during the last interval. Both numbers can range from 0 to 100. The low criteria value must be less than the high criteria value.

Specifies the monitor limits for transmission deferred by the Ethernet Transmission Subsystem (EES) during the last interval. Both numbers can range from 0 to 2,147,483,646. The low criteria value must be less than the high criteria value.

Examples

The following example NETCOLL command starts collection on all lines defined to NCP1 using interval 3. These lines include SDLC lines, NTRI logical links, NTRI physical links, NPSI links, XI links, NEO links, frame relay logical links, frame relay physical links, Ethernet links, and ODLC links. The default is OPTION=START.

```
NETCOLL RESOURCE=ALLLINES,
   NCP=NCP1,
   INTERVAL=3
```

The following example NETCOLL command starts collection on all NTRI physical links, using collection interval 7, and monitors TIC utilization over 72 percent:

```
NETCOLL RESOURCE=PHYLINK,
   NCP=NCP2,
   INTERVAL=7,
   TICUTIL=(0,72)
```

The following example NETCOLL command starts collection on all NTRI physical links, using collection interval 7, and monitors congestion counts over 5. The monitoring of TIC utilization from the last command is still active after this command is issued.

```
NETCOLL RESOURCE=PHYLINK,
   NCP=NCP2,
   INTERVAL=7,
   MONCONGT=(0,5),
```

The following example NETCOLL command starts collection on an LU named LUB. Because this resource is a dynamic resource, it is not currently defined to NPM. The command will be saved until LUB is added.

```
NETCOLL RESOURCE=LUB,
   INTERVAL=1,
   DYNAMIC=YES
```

The following example NETCOLL command stops collection on a line named LINEA. You can use this command to stop collections using an EXEC, or from the console.

```
NETCOLL RESOURCE=LINEA,
   INTERVAL=1,
   OPTION=STOP
```
NETCOLL Data Types and Resources

Not all data types can be monitored for every resource. An X in Table 6 indicates which NETCOLL data types can be monitored for different types of resources.

**Table 6. Netcoll Data Types and Resources**

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Resource Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>BACKCONG</td>
<td>C C U</td>
</tr>
<tr>
<td>BUFUSE</td>
<td>L I N E</td>
</tr>
<tr>
<td>BYTERAT</td>
<td>P U L U</td>
</tr>
<tr>
<td>BYTERCVD</td>
<td>P H Y L I N K</td>
</tr>
<tr>
<td>BYTETRAN</td>
<td>L O G L I N K</td>
</tr>
<tr>
<td>C U L I N K</td>
<td>N X 2 5 L I N K</td>
</tr>
<tr>
<td>CONGEST</td>
<td>N X 2 5 L I N K</td>
</tr>
<tr>
<td>DISDATAG</td>
<td>N X 2 5 P U</td>
</tr>
<tr>
<td>DLFrames</td>
<td>N X 2 5 V C</td>
</tr>
<tr>
<td>ERRCNTS</td>
<td>N E O P U</td>
</tr>
<tr>
<td>FWDCONG</td>
<td>F R P H Y L K</td>
</tr>
<tr>
<td>FREEBUF</td>
<td>F R L O G L K</td>
</tr>
<tr>
<td>LINEUTL</td>
<td>F R Y S T</td>
</tr>
<tr>
<td>MORECOLL</td>
<td>E T H E R P L</td>
</tr>
<tr>
<td>MSGRATE</td>
<td>O D L C L N K</td>
</tr>
<tr>
<td>NEGPOW</td>
<td>O D L C L N P U</td>
</tr>
<tr>
<td>NNPAW</td>
<td>X</td>
</tr>
<tr>
<td>NNPAUTIL</td>
<td>X</td>
</tr>
<tr>
<td>NNPCUTIL</td>
<td>X</td>
</tr>
<tr>
<td>ONECOLL</td>
<td>X</td>
</tr>
<tr>
<td>PDSUTIL</td>
<td>P D U S D I S C</td>
</tr>
<tr>
<td>PDUSDISC</td>
<td>X</td>
</tr>
<tr>
<td>PDURCVD</td>
<td>P D U R C V D</td>
</tr>
<tr>
<td>PDUTRAN</td>
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</tr>
<tr>
<td>POSPOL</td>
<td>P O S P O L</td>
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<tr>
<td>PROCUUTIL</td>
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<td>QUELEN</td>
<td>X</td>
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<td>REXPMB</td>
<td>X</td>
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<tr>
<td>REXMIT</td>
<td>X</td>
</tr>
<tr>
<td>RNRRCVD</td>
<td>X</td>
</tr>
<tr>
<td>RNRTRAN</td>
<td>X</td>
</tr>
<tr>
<td>RTIMEOUT</td>
<td>X</td>
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<tr>
<td>SDSUTIL</td>
<td>S L O W D O W N</td>
</tr>
<tr>
<td>SLOWDOWN</td>
<td>T I C U T I L</td>
</tr>
<tr>
<td>TRANSDEF</td>
<td>X</td>
</tr>
</tbody>
</table>
NGACNTL

Use the NGACNTL command to request NCP to enable or disable transmission of network gateway accounting (NGA) data. This command does not start or stop an NCP from collecting NGA data, it only controls the transmission of the data to NPM.

NPA=YES must be specified on the BUILD macro of the NCP generation along with GWSESAC=(YES,...) and SESSACC=(YES,...).

If GWSESAC=(YES,DEFER,...) is specified on the BUILD macro of the NCP generation, an NGAMDFY command is required to notify the NCP to start collecting NGA data.

Note: The Host and L keywords are only available from the system console.

Authorization Needed: Network accounting

Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the NGACNTL command:

ENABLE allows the transmission of network gateway accounting data from the NCP to NPM. This keyword does not start data collection. It is used only to enable the transmission after a previous disable request.

DISABLE prevents the transmission of network gateway accounting data from the NCP to NPM. This keyword does not stop data collection. The NCP continues to collect the data. If NPM becomes the current receiver of network gateway accounting data, the status is changed to ENABLE to be compatible with the NCP enable or disable status.

Specify the 1- to 7-character alphanumeric NCP name. The NCP name must be defined to NPM.
NGACNTL

Specifies the time to enable or disable the NCP’s transmission of network gateway accounting (NGA) data to this NPM. If you do not specify a time, the command is executed immediately.

\[ \text{DAILY=NO}, \text{DAILY=YES} \]

Specifies whether the command is to be executed each day. If DAILY=YES, you must specify a time on the CLOCK keyword.

\[ \text{Host=LOCAL}, \text{Host=host_name} \]

Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

\[ \text{L=console_id} \]

Specifies the console that receives response messages. You code this keyword only if you issue the command from the system console.

**Example**

Use the following console command to enable the transmission of NGA data from an NCP named NX2NV3 to NPM:

`NGACNTL ENABLE,NX2NV3`
Use the NGAMDFY command to request an NCP to modify collection parameters for network gateway accounting. If GWSESAC=(YES,DEFER,...) was specified on the BUILD macro in the NCP generation, this command also requests the NCP to start collection of NGA data. The NGAMDFY command does not affect the transmission of the data from the NCP to NPM. See “NGACNTL” on page 295.

NPA=YES must be specified on the BUILD macro of the NCP generation along with GWSESAC=(YES,...) and SESSACC=(YES,...).

Note: The Host keyword is only available from the system console.

Authorization Needed: Network accounting

Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the NGAMDFY command:

Note: The Host and L keywords are only available from the console. Specifies the name of the NCP.

Specifies the new byte threshold value. You can specify any number from 256 to 2 147 483 646. The byte threshold must always be greater than the PIU threshold. The range that NPM allows for this keyword is smaller than the range that NCP allows.
Specifies the time that the command is to be issued by NPM. If the NPM is not the current receiver of accounting data, the command is held until the NPM becomes the current receiver of the accounting data.

```
,DAILY=NO
,DAILY=YES
```

Specifies whether the command is to be executed each day. If you specify DAILY=YES, you must also specify a time on the CLOCK keyword.

```
,GWSESS=NO
,GWSESS=YES
```

Specifies whether the NCP should collect accounting data for gateway sessions. This keyword affects only new sessions.

```
,Host=LOCAL
,Host=host_name
```

Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

```
,L=console_id
```

Specifies the console that receives response messages. You code this keyword only if you issue the command from the system console.

```
,PIU=nnnnn
```

 Specifies the new PIU threshold value. You can set PIU to any number from 64 to 32767. It should always be less than the BYTE threshold. The range that NPM allows for this keyword is smaller than the range that NCP allows.

```
,PIUDS=(bound1,bound2,bound3,bound4,bound5,bound6)
```

Specifies up to six boundary byte values for the PIU distribution counts. The minimum PIU boundary byte value is 0. If 0 is specified in the first position, no distribution counts are
collected. If 0 is specified in any other position, all positions following it default to 0. The maximum PIU boundary byte value is 32767. The boundary values define up to seven collection buckets as follows:

- **Bucket 1**: Count of PIUs from 0 to boundary 1 bytes
- **Bucket 2**: Count of PIUs from boundary 1 to boundary 2 bytes
- **Bucket N**: Count of PIUs from boundary N-1 to boundary N bytes
- **Bucket N+1**: Count of PIUs greater than boundary N bytes.

**Example**

Use the following console command to modify the gateway session accounting data for an NCP named A03NCPG1. The new byte threshold is 3000. The new PIU threshold is 100.

```
NGAMDFY A03NCPG1, GWSESS=YES, OCTET=3000, PDU=100, PDUDS=(10,11,12,13,14,15)
```
NOTRACE

Use the NOTRACE command to stop NPM or VTAM traces.

```
NOTRACE ID=resource_name,TYPE=BUF

Host=LOCAL

,TYPE=OPER

SESS

,Host=host_name

,L=console_id
```

**Note:** The Host and L keywords are only available from the system console.

**Authorization needed to stop a buffer trace:** Console

**Authorization needed to stop other traces:** Problem determination

The following list describes the keywords you can code on the NOTRACE command:

```
ID=resource_name
```

Specifies the resource name. The ID coded here depends on the variable you code for the TYPE keyword:

- If you specify TYPE=BUF, `resource_name` is the name of a VTAM resource.
- If you specify TYPE=OPER, `resource_name` is an NPM operator ID.
- If you specify TYPE=SESS, `resource_name` is the name of a session collection resource.

```
,TYPE=BUF

,TYPE=OPER

SESS
```

Specifies the type of trace to stop:

**BUF**

Stops the VTAM buffer trace for the resource named by the ID keyword. GTF=NO is set for the session collection status of the resource.

**OPER**

Stops the NPM operator trace for the NPM operator named by the ID keyword.

**SESS**

Stops the NPM session trace for the VTAM resource named by the ID keyword. A session collection command for this resource must already have been issued for this resource to be affected.
Specifies the host that receives the command.

Specifies the console that receives response messages.

Example

Use the following console command to stop the buffer trace for the VTAM resource NR5153E1:

\[ F \text{ NPMV2R7,NOTRACE ID=NR5153E1,TYPE=BUF} \]

NPM alerts you when the command has been successfully completed by issuing the following message:

\[ FNM275I \text{ NOTRACE COMMAND COMPLETED} \]
Use the NSACNTL command to request NCP to enable or disable transmission of network session accounting (NSA) data. This command does not start or stop NCP from collecting NSA data, it only controls the transmission of the data to NPM.

NPA=YES must be specified on the BUILD macro of the NCP generation along with SESSACC=(YES,...). If SESSACC=(YES,DEFER,...) is specified on the BUILD macro of the NCP generation, an NSAMDFY command is required to set the PLU or SLU options and to notify the NCP to start collecting on these session types.

```
NSACNTL ENABLE,ncp_name,CLOCK=time,DAILY=NO
```

```
NSACNTL DISABLE,ncp_name,CLOCK=time,DAILY=NO
```

Note: The Host and L keywords are only available from the system console.

Authorization Needed: Network accounting

Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the NSACNTL command:

```
NSACNTL ENABLE,ncp_name
```

```
NSACNTL DISABLE,ncp_name
```

ENABLE allows the transmission of network session accounting data from the NCP to NPM. This keyword does not start data collection. It is used only to enable the transmission after a previous Disable request.

DISABLE prevents the transmission of network session accounting data from the NCP to NPM. This keyword does not stop data collection. The NCP continues to collect the data. If NPM becomes the current receiver of the data, the status is changed to ENABLE to be compatible with the NCP enable or disable status.

```
,ncp_name
```

```
,CLOCK=time
```

Specifies the 1- to 7-character alphanumeric NCP name. The NCP name must be defined to NPM.
NSACNTL

Specifies the time to enable or disable the NCP’s transmission of network session accounting (NSA) data to this NPM. If you do not specify a time, the command is executed immediately.

, DAILY=NO
, DAILY=YES

Specifies whether the command is to be executed each day. If you specify DAILY=YES, you must specify a time on the CLOCK keyword.

, Host=LOCAL
, Host=host_name

Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

, L=console_id

Specifies the console that receives response messages. You code this keyword only if you are issuing the command from the system console.

Example

Use the following console command to enable the transmission of NSA data from an NCP named NX2NV3 to NPM:

NSACNTL ENABLE,NX2NV3
NSAMDFY

Use the NSAMDFY command to request NCP to modify its collection parameters for network session accounting. If SESSACC=(YES,DEFER,...) was specified on the BUILD macro in the NCP generation, this command also requests the NCP to start collection of NSA data. The NSAMDFY command does not affect the transmission of data from the NCP to NPM. See "NSACNTL" on page 302.

NPA=YES must be specified on the BUILD macro of the NCP generation along with SESSACC=(YES,...). If you want to collect on all sessions, specify PLU=YES and SLU=YES. See "NSACNTL" on page 302.

Note: The Host and L keywords are only available from the system console.

Authorization Needed: Network accounting

Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the NSAMDFY command:

Specify the name of the NCP.

Specifies the new byte threshold value. You can set BYTE to any number from 256 to 2 147 483 646. The byte threshold must always be greater than the PIU threshold. The range that NPM allows for this keyword is smaller than the range that NCP allows.
Specifies the time that the command is to be issued by NPM. If the NPM is not the current receiver of accounting data, the command is held until the NPM becomes the current receiver of the accounting data.

Specifies whether the command is to be executed each day. If you specify DAILY=YES, you must specify a time on the CLOCK keyword.

Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

Specifies the console that receives response messages. You code this keyword only if you issue the command from the system console.

Specifies the thresholds for sending accounting data to NPM.

- **neoname**: The name of the NPSI, XI, or generic NEO application specified or to which defaulted in the NCP generation.
- **pduthresh**: The number of PDUs you want the NEO application to set as a threshold. `pduthresh` ranges from 65536 to 2,147,483,646 for NPSI and XI and from 0 to 2,147,483,646 for a generic NEO.
- **octthresh**: The number of octets you want the NEO application to set as a threshold. `octthresh` ranges from 65536 to 2,147,483,646 for NPSI and XI and from 0 to 2,147,483,646 for a generic NEO.

When the PDU or octet threshold is reached, the NCP sends accounting data to NPM.
Specifies the new PIU threshold value. You can set PIU to any number from 64 to 32767. It should always be less than the BYTE threshold. The range that NPM allows for this keyword is smaller than the range that NCP allows.

Specifies up to six boundary byte values for the PIU distribution counts. The minimum PIU boundary byte value is 0. If 0 is specified in the first position, no distribution counts are collected. If 0 is specified in any other position, all positions following it default to 0. The maximum PIU boundary byte value is 32767. The boundary values define up to seven collection buckets as follows:

**Bucket 1**  Count of PIUs from 0 to boundary 1 bytes
**Bucket 2**  Count of PIUs from boundary 1 to boundary 2 bytes
**Bucket N**  Count of PIUs from boundary N-1 to boundary N bytes
**Bucket N+1**  Count of PIUs greater than boundary N bytes.

Specifies whether the NCP should collect accounting data for the boundary-attached PLU half-sessions. This keyword affects only new sessions.

Specifies whether the NCP should collect accounting data for the boundary-attached SLU half-sessions. This keyword affects only new sessions.

**Example**

Use the following console command to request NCP A03NCPG to modify the collection parameters for network session accounting. The new byte threshold is 3000. The new PIU threshold is 100. The command is to be issued at 1:44 p.m.

```
NSAMDFY A03NCPG,
  OCTET=3000,
  PDU=100,
  CLOCK=13.44.00,
  PDUDS=(11,12,13,14,15,16)
```
This chapter lists the NPM system console commands from NSASOLCT to VVRCOLL in alphabetical sequence. There is a general description and a syntax diagram for every command. Each of the system console command keywords shown in the syntax diagrams are described.

The following information is also provided for each NPM command:

- **Console Authorization:** Identifies the authorization that you need to issue the command from the console.
- **Where:** Identifies where you can issue the command. You can issue commands from the system console, from FNMSTRT, or by running an NPM EXEC.

Many commands can either be issued from the system console or coded in FNMSTRT or in NPM EXECs. You must have CONTROL=COMMANDS authorization to run an NPM EXEC from an online panel.
Use the NSASOLCT command to request NCP to send NPM the current accounting counters for NSA or NGA. The SOLICIT command issues an ENABLE command if NSA or NGA is disabled for the type of accounting data requested.

**Note:** If the current accounting counters in the NCP are zero, no data is returned to NPM.

NPA=YES must be specified on the BUILD macro of the NCP generation along with SESSACC=(YES,...) for session accounting or SESSACC=(YES,...) and GWTSESAC=(YES,...) for gateway accounting.

```
NSASOLCT ncp_name,CLOCK=time,DAILY=NO,Host=LOCAL
```

```
,TYPE=NSA
```

```
,L=console_id
```

**Note:** The Host and L keywords are only available from the console.

**Authorization Needed:** Network accounting

**Where:** Console, FNMSSTR, NPM EXEC

The following list describes the keywords you can code on the NSASOLCT command:

```
ncp_name
```

Specifies the name of the NCP.

```
,CLOCK=time
```

Specifies the time that the command is to be issued.

This command is issued when this NCP’s first NPALU (with the accounting capability specified in this command) binds to this NPM. If the time specified has already passed and the NPALU in the NCP is bound to NPM, this command is issued immediately. If NPM is not bound to the NPALU in the NCP when the clock time specified on the command occurs, the command is held until NPM binds to the NPALU. The command is issued immediately once the NPALU is bound.
Specifies whether the command is to be executed each day. If you specify DAILY=YES, you must specify a time on the CLOCK keyword.

```bash
Host=LOCAL
```

Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

```bash
Host=host_name
```

Specifies the console that receives response messages. You code this keyword only if you issue the command from the system console.

```bash
L=console_id
```

Specifies the type of accounting data to be solicited and sent to NPM. Current interval data for all the active sessions is queued to be sent back to the requesting NPM.

**Example**

Use the following console command to request an NCP named A03NCPG2 to send NPM the current counters for network gateway accounting. The command is to be issued daily at 1:54 p.m.

```bash
NSASOLCT A03NCPG2,
CLOCK=13.54.00,
DAILY = YES,
TYPE = NGA
```
PU

Use the PU command to establish defaults for parameters of the LUs controlled by this PU.

All of the keywords on this command, except SESSH, are overridden by the information in the NCP RRT and VTAMLST each time the NCP is replaced. You should include the PU command in an NPM EXEC (along with the NCP command), to execute the PU command each time you update the NCP definition.

```
PU CLUSTER NAME=pu_name ,DNC=YES, Host=LOCAL
```

```
, L=console_id, NCP=ncp_name, NPACOLL=NO, SESSH=X
```

**Note:** The Host and L keywords are only available from the system console.

**Authorization Needed:** Control commands

**Where:** Console, FNMSRT, NPM EXEC

The following list describes the keywords you can code on the PU command:

```
NAME=pu_name
```

**Note:** The Host and L keywords are only available from the console.

Specifies the name of a PU defined in one of the NCPs.

```
,DNC=YES, NO
```

Specifies the dynamic network collection (DNC) parameter associated with the PU.

**YES**

Starts network data collection for the LUs on this PU when a session connection occurs, and stops network data collection when a session disconnection occurs.

**NO**

Stops DNC for any LUs defined on this PU.

The default is defined by the DNC parameter for the line to which this PU is connected.

If DNC=NO is specified on the CONTROL statement in FNMINIT, NPM sets DNC=NO on this command.
Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

Specifies the console that receives response messages. You code this keyword only if you issue the command from the system console.

Specifies the name of the NCP for this command. Only the PU in the specified NCP is updated. If you do not specify the NCP keyword, the first PU that matches the name is updated.

Specifies that network data collection commands on this PU or CLUSTER be rejected. You can use this option to exclude collection on inactive resources. This keyword does not change the NPACOLL value for LUs defined with this PU.

If you specify NPACOLL=NO to prevent collection on a resource, you cannot turn collection back on by reissuing the command. You must execute the NCP command again before you can collect on the resource.

Specifies the SESSH parameter associated with this PU. Use this parameter to exclude session data collection for LUs associated with this PU. The default is defined by the SESSH parameter for the line containing this PU.

An active session collection is not stopped for the resource. Use SESSH to prevent session collection of a resource when session collection was started by application. This option is typically used for printers.

**Example**

Use the following console command to establish defaults for the parameters of the LUs controlled by PU A70T0012. This example command also specifies to reject NETCOLL commands on the PU, identifies the PU’s NCP, and indicates dynamic network collection.
PU NAME=A70T0012,
NPACOLL= NO,
NCP = A70T01,
DNC = YES
SEND

Use the SEND command to send messages to other NPM operators.

\[\text{SEND 'message_text', ID=operator_id, ROUTE=GLOBAL, ROUTE=ALL, ROUTE=CONSOLE, ROUTE=EXTERNAL, Host=LOCAL, Host=host_name, L=console_id}\]

Notes:
1. If you specify the ID, the ROUTE keyword is ignored, except ROUTE=EXTERNAL. If you specify the L keyword, the default is ROUTE=CONSOLE.
2. The Host and L keywords are only available from the console.

Authorization Needed: None

Where: Console

The following list describes the keywords you can code on the SEND command:

\[\text{SEND 'message_text', ID=operator_id}\]

Specifies the text of the message to be sent. The maximum length of the message text is 64 characters.

\[\text{SEND 'message_text', ROUTE=GLOBAL, ROUTE=ALL, ROUTE=CONSOLE, ROUTE=EXTERNAL, Host=LOCAL, Host=host_name, L=console_id}\]

Identifies the operator who receives the message.

\[\text{SEND 'message_text', ROUTE=GLOBAL, ROUTE=ALL, ROUTE=CONSOLE, ROUTE=EXTERNAL, Host=LOCAL, Host=host_name, L=console_id}\]

Determines how to route the message:

**ALL** Sends the message to all active NPM operators.

**CONSOLE** Sends the message to the console operator.

**EXTERNAL** Sends the message to the indicated NPM operator, if logged on. If
EXTERNAL=YES is defined for the operator in the OPERATOR initialization statement, and the operator is not logged on, NPM sends the message to a TSO or CMS user with the same operator ID. If ROUTE=EXTERNAL, you must also specify operator_id.

GLOBAL
Sends the message to all active NPM operators who have GLOBAL=YES in their active profiles.

```
,Host=LOCAL
,Host=host_name
```

Specifies the host that receives the command.

```
,L=console_id
```

Specifies the console that receives response messages.

**Example**

Use the following console command to tell all NPM operators that you are shutting down NCP001 for a CE change:

```
F NPMV2R7,SE 'NCP001 will be down for a CE change',ROUTE=GLOBAL
```

NPM sends the message “NCP001 will be down for a CE change” to all operators and alerts you that it has successfully completed the command by issuing the following message:

```
FNM275I SEND COMMAND COMPLETED
```
SESSAPPL

Use the SESSAPPL commands to define application characteristics for applications executing in the same host as NPM. You can also use a SESSAPPL command to add, replace, or delete an application definition. Each SESSAPPL command is used to define a single application.

Notes:

1. To use the SESSAPPL command the HOSTCOLL initialization parameter of the FNMINIT member must be set to YES.

2. The REPLACE and DELETE OPTIONs are available only for applications added using the SESSAPPL command. The SESSAPPL command cannot replace or delete the applications defined using the APPL initialization statement. It is recommended that you migrate the APPL initialization statement into SESSAPPL commands.

3. The REPLACE and DELETE OPTIONs are also available to change or delete a dynamically-added application (an NPM undefined application on which a session collection was started).
Note: You can code up to 200 names for the SYN keyword.

Authorization Needed: Session commands

Where: Console, NPM EXEC

The following list describes the keywords you can code on the SESSAPPL command:

NAME=application_name

Specifies the application name to use when starting or stopping session collection. The application name can be from 1–8 alphanumeric characters in length.

Note: If you do not use the SYN or SYNMASK parameter, this name must match the name used by the application program to open its VTAM ACB.

CDRM=cdrm_name

Specifies the name from the CDRM statement that identifies the host in which this application is running. If you specify CDRM, the SESSAPPL command is used to provide configuration information only. The default is the value from the NAME parameter on the HOST statement, which is the name of the local NPM host.

DNC=(YES, NO)

Specifies whether dynamic network collection is activated when a logical unit starts a session with this application.

The following operands are optional for the DNC parameter:
**PASS** Specifies that this application passes control to a particular application. Dynamic network collection does not occur for a session with the primary application, such as TSO and the NetView program, but only for synonym collections. Synonyms must be defined for these applications.

**NOPASS**

Specifies that dynamic network collection occurs for both the application and its synonyms.

\[ \text{EOT=RSTKBYD} \]

Specifies the End of Transaction Mode, which determines when NPM calculates host transit times for TSO applications. The EOT parameter tells NPM what to consider as the final output for a specific application. When the application writes its final output, the timestamp related to this PIU is used by NPM to calculate the Host Transit Time.

When EOT=RSTKBYD is set, NPM considers as End of Host Transit Time the first outbound PIU that has its Keyboard Restore bit set to ON and either an only-in-chain (OIC) or a last-in-chain (LIC) indicator.

\[ \text{EXIT=exit\_name} \]

Specifies the name of an exit routine to call to determine the host and network transit times. If you do not specify an exit parameter, no exit routine is called and the standard NPM transit times are calculated. For LU 6.2 sessions running the half-duplex flip-flop mode, specify EXIT=FNMSDCA2 to correctly create reports using FNMTAP.

\[ \text{MAXL=2} \]
\[ \text{MAXL=nnnnn} \]

Specifies the maximum number of LUs that maintain sessions with the application during two consecutive session intervals. The SESSINT parameter of the NPM statement determines the session interval. You can set MAXL to any value from 1–32760.

**Note:** The value specified for MAXL does not allocate storage in CSA for collection control blocks. The storage for applications is allocated from the NPM private address space.

\[ \text{MAXRUSZ=32764} \]
\[ \text{MAXRUSZ=nnnnn} \]

Specifies the largest amount of RU (request/response unit) data that NPM copies to the VTAMLOG data set when you specify MIN=NO on the SESSCOLL command. You can set MAXRUSZ to any value from 2–32764. The value of MAXRUSZ is set to MINRUSZ if its specified value is less than MINRUSZ.
SESSAPPL

MINRUSZ=nn

Specifies the minimum PIU size for application data recorded when you specify MIN=YES in the SESSCOLL command. You can set MINRUSZ to any value from 2–43.

RSP=NO
RSP=YES

Specifies whether session collection can be started for the application with SESSH=R (dynamic definite response).

NULLDDR=NO
NULLDDR=YES

Specifies whether the NULL RUs (PIUs carrying a zero-length RU) can be used if a session collection has been started with DDR.

SYN=(name1)

Specifies up to 200 synonyms for the named application. You can define additional synonyms with the SYNCOUNT and SYNMASK keywords.

When choosing a synonym name, the following rules apply:

- All synonyms must be defined to VTAM.
- A synonym cannot duplicate another application name specified in an NPM SESSAPPL command or in the NPM APPL initialization statement.
- The synonym cannot be all numbers. The first character must be a letter or a national character (@, #, $).

Note: Do not specify the SYN parameter for session manager SLU applications using the NetView synergy interface.

SYNCOUNT=nnnn

Specifies the number of synonyms to generate for this application. You can set SYNCOUNT to any number from 1–9999. Do not code SYNCOUNT without coding SYNMASK. See the SYNMASK description for more information.
Note: Do not specify the SYNCOUNT parameter for session manager SLU applications using the NetView synergy interface.

Specifies a synonym for the named application. The *mask_name* has the format of APPLIDnnnn, where the synonym count replaces nnnn. The value of nnnn is the first application synonym name generated and the number of n characters indicates how many characters in the synonym are numbers. For example, TSO0001 allows for up to 9999 TSO synonyms, beginning with TSO0001.

When choosing a mask name, the following rules apply:

- All synonyms must be defined to VTAM.
- The first character must be a letter or a national character (@, #, $).
- nnnn must match the requirements of the radix value. For example, if the *radix* is DEC then nnnn must consist of numeric digits only.
- You can define the position and length of the variable part of the synonym by the *pos* and the *len* values.

Note: Do not specify the SYNMASK parameter for session manager SLU applications using the NetView synergy interface.

*radix*

Is the value used to generate the synonyms. It can be one of the following:

**DEC**

The generated synonyms use a radix value of 10.

The characters used to generate the synonyms range from 0–9. This is the default.

**HEX**

The generated synonyms use a radix value of 16.

The characters used to generate the synonyms range from 0–9 and from A–F.

**ALPHA**

The generated synonyms use a radix value of 36.

The characters used to generate the synonyms range from 0–9 and from A–Z.

**NAT**

The generated synonyms use a radix value of 39.

The characters used to generate the synonyms range from 0–9, A–Z, and the characters @, #, and $.
**pos**
Is the position in the SYNMASK string where the replacement character string is to be generated. A value from 2–7 is allowed.

**len**
Is the length of the replacement character string in the SYNMASK string. A value from 2–5 is allowed.

**Notes:**
1. The sum of pos and len cannot exceed nine.
2. If you define the len value, you must also define the pos value.
3. If pos is not defined, the string is scanned for characters to define the starting value.

**Example 1:**
```
SESSAPPL NAME=APNDC,SYNCOUNT=72,SYNMASK=(APNDC00,ALPHA,6,2)
```
generates the following synonyms:
- APNDC00, APNDC01, ..., APNDC09, APNDC0A, APNDC0E, ..., APNDC0Z
- APNDC10, APNDC11, ..., APNDC19, APNDC1A, APNDC1E, ..., APNDC1Z

**Example 2:**
```
SESSAPPL NAME=NSM,SYNCOUNT=32,SYNMASK=(NSM30J,HEX,4,2)
```
generates the following synonyms:
- NSM40J, NSM41J, NSM42J, ..., NSM49J, NSM4AJ, NSM4BJ, ..., NSM4FJ

Specifies network transit time calculation parameters.

**For LU0 and LU2 sessions:**

**DR**
Specifies that network transit time is calculated only for user data PIUs that have definite responses.

**DFC**
Specifies that data control PIUs are included in the network transit time calculations.

**For LU 6.2 sessions:**

**APPC1**
Specifies that network transit time is calculated using those PIUs that specify confirm.

**APPC2**
Specifies that network transit time is calculated using the elapsed time between an outbound PIU and the next inbound PIU.
Specifies special processing for certain types of applications.

CICS  Defines the Customer Information Control System (CICS) application.

IMS   Specifies for NPM to ignore the clear screen, and PA2 (message advance) and unlock keyboard messages when computing transit times. NPM still counts these messages in the volume statistics.

NVAS  Defines session manager applications such as NetView Access Services.

SM    Defines session manager applications such as TPX.

SMX   Defines session manager applications such as TPX. It enables you to collect data for applications running either on the same host on which NPM is running, or on a different host.

TSO   Defines the Time Sharing Option.

Specifies the option for application definition.

ADD   Adds an application definition.

REPLACE Replaces an application definition.

DELETE Deletes an application definition.

Note: The DELETE and REPLACE OPTIONs are available only for applications added using the SESSAPPL command and not for those applications defined using the APPL statement in the FNMINIT member.
Use the SESSCOLL command to start a session collection.

\[ \text{SESSCOLL} \quad \text{RESOURCE} = \text{resource_name} \]

\[ \text{BVAL} = (\text{value1}, \text{value2}, \text{value3}, \text{value4}) \]

\[ \text{CLOCK} = (\text{start,}, \text{stop}) \]

\[ \text{DAILY} = \text{NO}, \text{YES} \]

\[ \text{DYNAMIC} = \text{NO}, \text{YES} \]

\[ \text{GTF} = \text{NO}, \text{YES} \]

\[ \text{H} = \text{LOCAL} \]

\[ \text{H} = \text{host_name} \]

\[ \text{L} = \text{console_id} \]

\[ \text{MIN} = \text{NO}, \text{YES} \]

\[ \text{NETWORK} = (0,0) \]

\[ \text{NETWORK} = (\text{low_threshold}, \text{high_threshold}) \]

\[ \text{OPERATOR} = (0,0) \]

\[ \text{SESSH} = \text{Y, N} \]

\[ \text{VLOG} = 0, 1, 2, 3 \]

\[ \text{Note:} \quad \text{The H and L keywords are only available from the console.} \]

**Authorization Needed:** Session commands

**Where:** Console, FNMSTRT, NPM EXEC
The following list describes the keywords you can code on the SESSCOLL command:

```
RESOURCE=resource_name

RESOURCE=resource_name, CDRM=cdrm_name
```

Specifies the resource name for which you want session data collection started. The following list describes the available resource types:

**RESOURCE=resource_name**

The resource name can be the name of an LU, an IP address, a group, a CDRM, or an APPL. If the LU name is either defined in an NCP defined to NPM, or defined in an LU command, the CDRM keyword is not required.

The IP address is the client’s remote address/port number. If only the remote address is specified, session collection is started for all clients that have that address (regardless of the client’s port number).

If the resource is an LU and a switched resource, or if it is an IP address, you must code the CDRM keyword with the node name to which the LU dials in.

**CDRM=cdrm_name**

Specifies a CDRM name, from 1- to 8-alphanumeric characters. This name is the name from the HOST or CDRM initialization statement or from the NCP command.

The CDRM keyword is the same as the Node Name field on the Start Session panel (FNM02SCL). You can use the term NODE as an alias for CDRM.

If the CDRM name is an NCP that has an NCP PU name, use the NCP PU name as the CDRM name. You need to specify the CDRM name only when the resource for which you want to collect data is an LU not defined to NPM.

For switched major node resources and locally attached LUs, the NODENAME keyword must be the host PU name. This is because the switched major node resources and the locally attached LUs are owned by VTAM in the NPM host.

```
BVAL=(value1,value2,value3,value4)
```

Specifies the upper boundary values that define the distribution groups in the Logical Unit Distributions panel. When operator transit time is measured, the count is incremented for the distribution group in which it falls.

You must specify four boundary values in ascending order and none can equal zero. The fifth upper boundary value is infinity, for all transit times that are above the fourth distribution boundary. BVAL can range from 0.01 to 9999.99 in hundredths of seconds.

The defaults are specified by the THRESHOLD initialization statement.

```
CLOCK=(start, stop)
```

---

**SESSCOLL**

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Specifies the times the command is to be started and stopped, in *hh.mm.ss* format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES. If the stop time is omitted, the operation continues until the collection is stopped, or until NPM ends.

**Notes:**

1. If there is any conflict between the stop times specified in SESSCOLL commands for the same resource, the earlier stop time prevails.

2. If you are using a VTAM release earlier than Version 3 Release 4.1, NPM collects session data using the VTAM buffer trace. If you stop the VTAM buffer trace for a resource, NPM session collection is stopped, regardless of the stop time specified.

See "Using the CLOCK Keyword" on page 220 for more information on the CLOCK keyword.

Specifies whether the command is to be executed each day.

Specifies whether session collection is started dynamically even for resources that are currently inactive. If you specify DYNAMIC=YES to start a session collection for a resource that is not yet defined to VTAM, NPM displays a message stating that a collection is started but the resource is not defined to VTAM. When the resource has been defined to VTAM, NPM starts collecting data for the resource.

**Note:** If you are using the SESSCOLL command via the system console, you must also set CDRM=LOCAL.

Specifies whether to send PIUs to GTF for logging. The GTF keyword overrides VTAM buffer trace requests made by a VTAM operator. If you specify GTF=NO, NPM stops any request from a VTAM operator to send VTAM buffer trace entries to GTF. If you specify GTF=YES, the VTAM buffer trace continues to be written to GTF after NPM ends, unless it is specifically stopped in NPM before NPM ends. You can also stop the VTAM buffer trace after NPM has ended with the VTAM MODIFY command.

To avoid conflicts, specify GTF=YES when a VTAM operator needs to start a VTAM buffer trace to GTF in the VTAM program product and session collection is also requested in NPM. When you start a VTAM buffer trace to GTF for any resource, trace entries are recorded for all resources that have session collection with GTF=YES specified.
The default is specified by the GTF parameter of the DEFAULTS initialization statement.

**Note:** If you have VTAM Version 3 Release 4.1 and code GTF=YES, NPM resets it to GTF=NO. No message is issued.

```
,H=LOCAL
,H=host_name
```

Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the NPM initialization statement.

**Note:** You cannot specify the HOST keyword in an EXEC for the SESSCOLL command.

```
,HOST=(0,0)
,HOST=(low_threshold)
,HOST=(low_threshold, high_threshold)
```

Specifies the lower and upper threshold values for application or host transit time data. This keyword is the same as the host transit threshold specified on the Start Session Collection panel. Data is monitored against these thresholds. If host transit time falls outside either of these values, the data is highlighted in the session analysis panels.

Threshold values are given in seconds and can range from 0 to 4620. The lower boundary is given first. If both values are zero (the default), no monitoring occurs.

The specified threshold should not be greater than the value of the MAXHOST keyword on the THRESHOLD initialization statement. The default is specified by the THRESHOLD statement.

```
,L=console_id
```

Specifies the console that receives response messages. You code this keyword only if you issue the command from the system console.

```
,MIN=YES
,MIN=NO
```

Specifies whether to write abbreviated PIUs to the VTAM log. Entire PIUs are written if MIN=NO.

The default is specified by the MIN parameter of the DEFAULTS initialization statement.
Specifies the monitor data types that are possible to start using the online panels or the SESSCOLL command. NPM can monitor the following types of data:

**MONATMOP**
Average operator transit time. This is the total operator transit time divided by the total number of operator transactions. Low and high criteria values for this monitor data type must be set within the range of 0.00 to 4620.00.

**MONATMHT**
Average host transit time. This is the total host transit time divided by the total number of host transactions. Low and high criteria values for this monitor data type must be set within the range of 0.00 to 4620.00.

**MONATMNT**
Average network transit time. This is the total network transit time divided by the total number of network transactions. Low and high criteria values for this monitor data type must be set within the range of 0.00 to 4620.00.

**MONMTMOP**
Maximum operator transit time in the interval. Low and high criteria values for this monitor data type must be set within the range of 0.00 to 4620.00.

**MONMTMHT**
Maximum host transit time in the interval. Low and high criteria values for this monitor data type must be set within the range of 0.00 to 4620.00.

**MONMTMNT**
Maximum network transit time in the interval. Low and high criteria values for this monitor data type must be set within the range of 0.00 to 4620.00.

**MONPCTOP**
The percentage of the total operator transactions that have exceeded the operator high threshold that was specified on the OPERATOR keyword. Low and high criteria values for this monitor data type must be set within the range of 0 to 100.

**MONPCTHT**
The percentage of the total host transactions that have exceeded the host high threshold that was specified on the HOST keyword. Low and high criteria values for this monitor data type must be set within the range of 0 to 100.

**MONPCTNT**
The percentage of the total network transactions that have exceeded the network high threshold that was specified on the NETWORK keyword. Low and high criteria values for this monitor data type must be set within the range of 0 to 100.

**MONLUSUM**
Number of active LUs added to create the APPL/NODE/HOST summary record. This monitor data type is not applicable when the resource is an LU. Low and high criteria values for this monitor data type must be set within the range of 0 to 21,474,836.
MONAPIUS  Average number of PIUs per minute. Low and high criteria values for this monitor data type must be set within the range of 0 to 21,474,836. The per minute calculation for APPLs and nodes is based on the length of the session interval, but for LUs the interval time is based on the time of the last PIU minus the first PIU during the interval.

MONABYTE  Average number of bytes per second. Low and high criteria values for this monitor data type must be set within the range of 0 to 21,474,836. The per minute calculation for APPLs and nodes is based on the length of the session interval, but for LUs the interval time is based on the time of the last PIU minus the first PIU during the interval.

 specifying the upper and lower threshold values for network transit time data. This parameter is the same as the network transit thresholds parameter specified on the Start Session Collection panel. Data is monitored against these thresholds. If network transit time falls outside either of these values, the data is highlighted in the session analysis panels.

Threshold values are given in seconds and can range from 0 to 4,620. The lower boundary is given first. If both values are zero (the default), no monitoring occurs.

The specified threshold should not be greater than the value of the MAXNET parameter on the THRESHOLD initialization statement. The default is specified by the THRESHOLD statement.

specifying the upper and lower threshold values for total or operator transit time data. This keyword is the same as the operator transit thresholds specified on the Start Session Collection panel. Data is monitored against these thresholds. If operator transit time falls outside either of these values, the data is highlighted in the session analysis panels.

Threshold values are given in seconds and can range from 0 to 4,620. The lower boundary is given first. If both values are zero (the default), no monitoring occurs.

The specified threshold should not be greater than the value of the MAXOPER parameter of the THRESHOLD initialization statement. The default is specified by the THRESHOLD statement.
Specifies how data is compiled and written to the session file:

Y Collects session data and writes it to the session file.
R Turns on definite response and writes data to the session file.
V Collects only volume data for this LU and writes it to the session file.
X Excludes this LU from session collection if it is in session with an application for which data is being collected.
N Does not collect session data or write it to the session file. Session monitors are not allowed if SESSH=N.

The default is specified by the SESSH parameter of the DEFAULTS initialization statement.

Specifies whether PIUs should be written to the VTAM log, and what type of logging should occur:

0 Do not log PIUs
1 Write inbound and outbound PIUs to the VTAM log
2 Write only inbound PIUs to the VTAM log
3 Write inbound and outbound PIUs plus internal trace records to the VTAM log

The VTAM API trace must be active before you start NPM if internal trace records are to be collected and written to the VTAM log for later analysis.

If INTTRACE=YES is specified on the NPM initialization statement, the VTAM internal trace is started. If INTTRACE=NO, and you specify VLOG=3 (log PIUs and internal trace records), VLOG is automatically set to 1 (log PIUs only).

Note: If you have VTAM Version 3 Release 4.1 and you code VLOG=3, NPM resets it to VLOG=1. No message is issued.

The default is specified by the VLOG parameter of the DEFAULTS initialization statement.

Example

Use the following console command to set the following conditions for session collection:

- Start session collection for any logical unit in session with the application NPM
- Stop collection when a stop command is issued or NPM terminates
- Write inbound and outbound PIUs to the NPM VTAM log
- Monitor the percentage of operator transactions that exceed the high operator thresholds of 0.5 seconds. If the percentage is above 75 percent, NPM should send an alert to NetView or send a message to the NPM Session data set.

```
SESSCOLL RESOURCE=NPM,
    SESSH=Y,
    OPERATOR=(0.0,0.5),
    VLOG=1,
    HOST=(0.0,0.2),
    NET=(0.0,0.2),
    BVAL=(0.1,0.3,0.5,1.0),
    MONPCTOP=(0,75)
```

To start session collection on a grouping of logical units (LUs), issue the following command:

```
SESSCOLL RESOURCE=LUGROUP3,CDRM=cdrm_name
```

LUGROUP3 is a member in FNMSCMDS in which the LUs that comprise the grouping are defined.
The SMFCNTL command defines options for processing SMF and RTM data. The following conditions must be met to use SMFCNTL:

- You must be using an operating system with SMF in operation.
- The SMF IEFU83 and IEFU84 exits must include FNMU83X1.
- If you specify RTM=YES, the SMF IEFU83 exit must include FNMU83X2.
- SMF=YES must be coded on the CONTROL initialization statement.

See the NetView Performance Monitor Installation and Customization and the NetView Performance Monitor Concepts and Planning for more information about the SMF exit.

**Note:** The Host and L keywords are only available from the system console.

**Authorization Needed:** SMF control

**Where:** Console, FNMSRT, NPM EXEC

The following list describes the keywords you can code on the SMFCNTL command:

- **NAME=** member_name
  - Specifies a member of the FNMSCMDS partitioned data set. member_name can be from 1- to 8-alphanumeric characters. This member contains SMFTYP statements that describe the processing options for SMF record types. See the NetView Performance Monitor Installation and Customization for more information about SMFTYP statements.

- **Host=** LOCAL
  - Specifies the host that receives the command. You code this keyword only if you are issuing the command from the system console.

- **L=** console_id
  - Specifies the console that receives response messages. You code this keyword only if you issue the command from the system console.
Specifies whether to initialize the SMF control table. The SMF logging options are set in this control table. On subsequent starts of NPM the table is not updated unless you specify RELOAD=YES.

Specifies whether to process RTM SMF records written by the NetView program. The RTM parameter of the NPM statement determines where the reformatted RTM records are written.

**Note:** The RTM parameter of the CONTROL initialization statement determines if NPM collects RTM records from the NetView program.

**Example**

The following example command specifies MEMBER2 as the FNMSCMDS member to be executed. The command also specifies that the SMF control table is not to be initialized if NPM is restarted, and allows processing of RTM SMF records from the NetView program.

```
SMFCNTL NAME = MEMBER2,
   RELOAD = NO,
   RTM = YES
```
SNAP

Use the SNAP command to take a formatted dump of the NPM address space.

```plaintext
SNAP
   CODE=code
   CLASS=sysout_class
   DDName=FNMSNAP
   Host=LOCAL
   FORM=form_name
   USER=user_name
```

**Authorization Needed:** Problem determination

**Where:** Console

The following list describes the keywords you can code on the SNAP command:

- **CODE=**
  Specifies a number from 1 to 255 that is used to identify the SNAP dump.

- **CLASS=**
  Specifies a character from A to Z that identifies the SYSOUT class of the SNAP SYSOUT data set. The default is taken from the SYSOUT parameter of the DEBUG initialization statement.

- **DDName=**
  Specifies the DDNAME of a data set in which to write the dump. The SYSOUT data set is allocated if a data set is not specified. The default is taken from the SNAP parameter of the DEBUG initialization statement.

- **FORM=**
  Specifies the 4-character form name for the SNAP SYSOUT data set.
Specifies the host that receives the command.

Specifies the console that receives response messages.

Specifies the eight-character name of the user who receives the SNAP SYSOUT data set.

**Example**

Use the following console command to dump NPM:

```
F NPMV2R7,SNAP CODE=33,CLASS=P
```

NPM alerts you when the command has been successfully completed by issuing the following message:

```
FNM275I SNAP COMMAND COMPLETED
```
SNMPTGT

Use the SNMPTGT command to determine whether MIB data should be retrieved from a router (both NHD and generic) and whether the TN3270E-RT-MIB Service Level Agreement (SLA) capability should be enabled.

```
SNMPTGT
  name
    ,COMM=public
    ,COMM=community string
    ,TIMEOUT=3
    ,TIMEOUT=nnnnnnnnnnn
    ,RETRY=2
    ,RETRY=nnnnnnnnnn
    ,OPTION=ADD
    ,OPTION=DELETE
    ,PORT=161
    ,PORT=nnnnnnnnnn
    ,LUMAP=NO
    ,LUMAP=YES
```

Authorization Needed: Problem determination

Where: Console

The following list describes the keywords you can code in the SNMPTGT command:

```
name
  NAME=host_name or IP_address
```

Specifies the host name or IP address of a host from which data can be retrieved via the SNMP protocol.

```
,COMM=public
 ,COMM=community string
```

This field is set with the SNMPv1 or SNPPv2c community string that the snmp component should use when attempting to retrieve MIB data from a target. If null, then the winsnmp assumes that the target is an snmpv3 entity. Null (0) fills any unused portion of this field. Defaults to public in lowercase.
**Note:** This field is case-sensitive. The command should only be issued from the console for community names that are uppercase. Use the NPM EXEC for lower or mixed-case community names.

Specifies the SNMP request timeout in seconds. Maximum value is 4 294 967 295. Defaults to 3.

Specifies the SNMP retry count on timeout condition. Maximum value is 4 294 967 295. Defaults to 2.

Specifies whether the SNMP target should be deleted or added.

Specifies the UDP port of the SNMP agent in the SNMP-manageable network element. Maximum value is 4 294 967 295. Defaults to 161.

Specifies whether the retrieval of IP client to SLU mapping for the router is enabled (YES) or disabled (NO). The router must support the TN3270E MIB as defined by RFC 2561. Defaults to NO.
STOP

Use the STOP command to stop NPM.

```
stop [NORMAL|IMMED],Host=LOCAL[,Host=host_name[,L=console_id]]
```

**Authorization Needed:** Control commands

**Where:** Console

The following list describes the keywords you can code on the STOP command:

```
NORMAL, IMMED
```

Specifies whether to end NPM normally or immediately. In the case of an immediate end, NPM ends the console task and posts the main task to end all other tasks.

```
,Host=LOCAL[,Host=host_name]
```

Specifies the host that receives the command.

```
,L=console_id
```

Specifies the console that receives response messages.

**Example**

Use the following console command to stop NPM:

```
F NPMV2R7, P
```

NPM alerts you when the command has been successfully completed by issuing the following message:

```
FNM275I STOP COMMAND COMPLETED
```

**Note:** You can also use the STOP command to stop NPM:

```
stop procname
```

In this command, `procname` is the name of the procedure used to start NPM.
TIME

Use the TIME command to display the current time at the local or a remote NPM.

Authorization Needed: None

Where: Console

The following list describes the keywords you can code on the TIME command:

- Host=LOCAL
- Host=host_name
- L=console_id

Specifies the host that receives the command.

Specifies the console that receives response messages.

Example

Use the following console command to display the time at the remote NPM in host NYC:

F NPMV2R7,TIME H=NYC

NPM displays the following message in response to this command:

FN9401 LOCAL: 09/30/00 10:35:33, GMT: 09/30/00 16:35:33, ELAPSED: 2.40, HOST: NYC

This message lists the local and Greenwich Mean Time at the named host. See the NetView Performance Monitor Messages and Codes for more information about this message.
TRACE

Use the TRACE command to start NPM or VTAM traces.

```
TRACE ID=resource_name,TYPE=BUF
```

**Authorization needed to start a buffer trace:** Console

**Authorization needed to start other traces:** Problem determination

The following list describes the keywords you can code on the TRACE command:

```
ID=resource_name
```

Specifies the resource name. The name you code here depends on the variable you code for TYPE:

- If you specify TYPE=BUF, `resource_name` is the name of a VTAM resource.
- If you specify TYPE=OPER, `resource_name` is an NPM operator ID.
- If you specify TYPE=SESS, `resource_name` is the name of a session collection resource.

```
,TYPE=BUF
```

```
,TYPE=OPER
```

```
,TYPE=SESS
```

Specifies the type of trace to start:

**BUF** Starts a VTAM buffer trace for the resource named by the ID keyword. GTF=NO is set for the session collection status of the resource.

**OPER** Starts an NPM operator trace for the NPM operator named by the ID keyword.

**SESS** Starts an NPM session trace for the VTAM resource named by the ID keyword. A session collection command for this resource must already have been issued for this resource to be affected.

```
,Host=LOCAL
```

```
,Host=host_name
```

Specifies the host that receives the command.

```
,L=console_id
```

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Specifies the console that receives response messages.

**Example**

Use the following console command to start a buffer trace on VTAM resource NR5153E1:

```
F NPMV2R7,TRACE ID=NR513E1,TYPE=BUF
```

NPM alerts you when the command has been successfully completed by issuing the following message:

```
FNM275I TRACE COMMAND COMPLETED
```
Use the VADRCOLL command to automatically start and stop collection for address spaces that have active VTAM applications. You can collect data such as the number of pending sessions in a specific address space.

You can have only one collection active at any one time for the same combination of resource and interval.

**Note:** The VTAMCOLL keyword must be coded YES on the NPM statement before you can start data collection.

**Authorization Needed:** Network collection

**Where:** Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the VADRCOLL command:

- **RESOURCE=(resource_name)**
  - **ALLADR** Starts collection on all address spaces that have active VTAM applications.
  - Starts collection on a specific address space. You can specify more than one address space. The name consists of 1 to 8 alphanumeric characters.
Note: NPM starts collection using the first address space name it finds that matches the name specified for the RESOURCE keyword. Avoid selecting address spaces with duplicate names to ensure collection on the correct address space.

\[ ,\text{CLOCK} = \{ \text{start,stop} \} \]

Specifies the times the command is to be started and stopped, in \textit{hh.mm.ss} format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES.

See “Using the CLOCK Keyword” on page 220 for more information about the CLOCK keyword.

\[ ,\text{DAILY} = \text{NO} \]
\[ ,\text{DAILY} = \text{YES} \]

Specifies whether the command is to be executed daily.

You can have only one active collection at any one time for the same combination of resource and interval. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

\[ ,\text{DEST} = \{ \text{NPMLOG, VSAM} \} \]
\[ ,\text{DEST} = \{ \text{NONE} \} \]
\[ ,\text{DEST} = \{ \text{NPMLOG, SMF, VSAM} \} \]

Specifies the destination of the VTAM statistics data records. You can define multiple destinations on this keyword. The NONE setting is ignored if you code any other parameters.

\textbf{NONE} No VTAM statistics data records are to be written.

\textbf{NPMLOG} VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

\textbf{SMF} VTAM statistics data records are written to SMF.

\textbf{VSAM} VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMREVx.
Note: The operator can override the default as long as the target files are available.

Permits collection to be started on resources that become active in the future. In addition, if you code DYNAMIC=YES, NPM will not stop the collection if the resource is deleted, but will suspend the collection until the stop time is reached or the resource is added again.

The resource name can be any resource specified with the RESOURCE keyword. Pay special attention in specifying resource names when you code DYNAMIC=YES. Because the collection you are going to start is dynamic, there is no verification of the resource name (any name is valid).

Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

Note: You cannot specify the HOST keyword in an EXEC for this VTAM statistics collection command.

Specifies the collection interval number for which you want to start VTAM collection. The value can be from 1 to 7. It defaults to the VTAMINIT parameter on the DEFAULTS statement. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.
Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.

See “Using the OPTION Keyword” on page 221 for more information about the OPTION keyword.

Example

Use the following command to collect data on an address space called NETVIEW between 8 am and 6 pm every day:

```
VADRCOLL RESOURCE=NETVIEW,
   CLOCK=(08.00.00,18.00.00),
   DAILY=YES,
   DYNAMIC=NO
```
Use the VAPLCOLL command to automatically start and stop collection of VTAM application data. You can collect data such as the number of active sessions to a specific application.

You can have only one collection active at any one time for the same combination of resource and interval.

**Note:** The VTAMCOLL keyword must be coded YES on the NPM statement before you can start data collection on VTAM applications.

**Authorization Needed:** Network collection

**Where:** Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the VAPLCOLL command:

- **RESOURCE=(resource_name)**
  - Specifies the resource on which to start a collection.
  - **ALLAPPL**  Starts collection on all applications known to VTAM.
  - **resource_name**  Starts collection on a specific application. You can specify more than one application. The name consists of 1 to 8 alphanumeric characters.
Specifies the times the command is to be started and stopped, in \textit{hh.mm.ss} format. You must specify the start and stop times on the \texttt{CLOCK} keyword if you code the \texttt{DAILY} keyword as \texttt{DAILY=YES}.

See “Using the \texttt{CLOCK Keyword}” on page 220 for more information about the \texttt{CLOCK} keyword.

Specifies whether the command is to be executed daily.

You can have only one active collection at any one time for the same combination of resource and interval. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

Specifies the destination of the VTAM statistics data records. You can define multiple destinations on this keyword. The \texttt{NONE} setting is ignored if you code any other parameters.

- **NONE**: No VTAM statistics data records are to be written.
- **NPMLOG**: VTAM statistics data records are written to the data sets defined by the \texttt{FILE} initialization statements as \texttt{FNMLOGx}.
- **SMF**: VTAM statistics data records are written to SMF.
- **VSAM**: VTAM statistics data records are written to the data sets defined by the \texttt{FILE} initialization statements as \texttt{FNMREVx}.

\textbf{Note}: The operator can override the default as long as the target files are available.
Permits collection to be started on resources that become active in the future. In addition, if you code DYNAMIC=YES, NPM will not stop the collection if the resource is deleted, but will suspend the collection until the stop time is reached or the resource is added again.

The resource name can be any resource specified with the RESOURCE keyword. Pay special attention in specifying resource names when you code DYNAMIC=YES. Because the collection you are going to start is dynamic, there is no verification of the resource name (any name is valid).

Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

**Note:** You cannot specify the HOST keyword in an EXEC for this VTAM statistics collection command.

Specifies the collection interval number for which you want to start VTAM collection. The value can be from 1 to 7. It defaults to the VTAMINIT parameter on the DEFAULTS statement. See “Using the INTERVAL Keyword” on page 223 for more information on the INTERVAL parameter.

Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.
See "Using the OPTION Keyword" on page 221 for more information about the OPTION keyword.

Example

Use the following command to collect on all applications between 8 am and 6 pm every day:

```
VAPLCOLL RESOURCE=ALLAPPL,
   CLOCK=(08.00.00,18.00.00),
   DAILY=YES,
   DYNAMIC=NO
```
Use the VAPNCOLL command to automatically start and stop collection of VTAM APPN topology and directory services data. You can collect data such as the number of network nodes in the topology database.

You can have only one collection active at any one time for the same combination of resource and interval.

**Note:** The VTAMCOLL keyword must be coded YES on the NPM statement before you can start data collection on VTAM APPN data.

**Authorization Needed:** Network collection

**Where:** Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the VAPLCOLL command:

**GROUP** Specifies the counter group on which to start a collection. The keyword RESOURCE will also be accepted in place of GROUP.

**TOPOLOGY** Starts collection on the APPN topology counter group to collect data such as the number of network nodes in the topology database.

**DIR** Starts collection on the APPN directory services counter group to collect data such as the current number of entries in the cache.
Specifies the times the command is to be started and stopped, in *hh.mm.ss* format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES.

See "Using the CLOCK Keyword" on page 220 for more information about the CLOCK keyword.

Specifies whether the command is to be executed daily.

You can have only one active collection at any one time for the same combination of resource and interval. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

Specifies the destination of the VTAM statistics data records. You can define multiple destinations on this keyword. The NONE setting is ignored if you code any other parameters.

**NONE**  No VTAM statistics data records are to be written.

**NPMLOG**  VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

**SMF**  VTAM statistics data records are written to SMF.

**VSAM**  VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMREVx.

**Note:** The operator can override the default as long as the target files are available.
Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

**Note:** You cannot specify the HOST keyword in an EXEC for this VTAM statistics collection command.

Specifies the collection interval number for which you want to start VTAM collection. The value can be from 1 to 7. It defaults to the VTAMINIT parameter on the DEFAULTS statement. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.

Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.

See "Using the OPTION Keyword" on page 221 for more information about the OPTION keyword.

**Example**

Use the following command to collect topology data between 8 am and 6 pm every day:

```plaintext
VAPNCOLL GROUP=TOPOLOGY,
  CLOCK=(08.00.00,18.00.00),
  DAILY=YES
```
VARY

Use the VARY command to modify the status of the following NPM resources:

- Session, review, LAN work group, NPM log, VTAM log, FNMSMF, and FNMAalert files
- NPALU sessions with NPM
- NPM-to-NPM sessions
- Operator station terminals
- LU 6.2 sessions

These resources must have been defined to NPM during initialization.

```
VARY action, ID=resource_name, Host=LOCAL, Host=host_name, L=console_id
```

Authorization Needed: Console

Where: Console

The following list describes the keywords you can code on the VARY command:

```
VARY action, ID=resource_name
```

Specifies how to modify the status of the resource:

**ACT**  Activates the resource. If the resource is a file name, the file is opened. For NPALUs and NPMs, the session is started.

**INACT**  Ends the connection between NPM and the resource. If the resource is a file name, the file is closed. For NPALUs and NPMs, a CLSDST is issued. For an operator station terminal, the operator is logged off and a CLSDST is issued.

**LOCK**  Prevents NPM and NPM operators from using the file or the NPM-to-NPM session until an UNLOCK request is issued.

**RESET**  Empties the data set and makes it available to record new data. You can reset a closed file or an open file which is not active. This option is valid only with file resources.

**SWITCH**  Makes the current file the new primary file. If the resource is the current primary file, the file is closed and an attempt is made to start recording on the next available file. This option is valid only with file resources.

**UNLOCK**  Allows NPM and NPM operators to use the file or the NPM-to-NPM session.
Identifies the resource to modify.

The VARY command affects different resources in different ways. Table 7 shows the status changes that VARY causes for each type of resource.

**Table 7. VARY Command Options Available for NPM Resources**

<table>
<thead>
<tr>
<th>Resource</th>
<th>ACT</th>
<th>INACT</th>
<th>LOCK</th>
<th>UNLOCK</th>
<th>SWITCH</th>
<th>RESET</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALERT</td>
<td>Unlock</td>
<td>Lock</td>
<td>Lock</td>
<td>Unlock</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FILE</td>
<td>Open</td>
<td>Close</td>
<td>Lock</td>
<td>Unlock</td>
<td>Switch</td>
<td>Reset</td>
</tr>
<tr>
<td>LOG</td>
<td>Open</td>
<td>Close</td>
<td>Lock</td>
<td>Unlock</td>
<td>Switch</td>
<td>Reset</td>
</tr>
<tr>
<td>LU 6.2</td>
<td>-</td>
<td>Unbind</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>LWG</td>
<td>Open</td>
<td>Close</td>
<td>Lock</td>
<td>Unlock</td>
<td>Switch</td>
<td>Reset</td>
</tr>
<tr>
<td>NPALU</td>
<td>Bind</td>
<td>Unbind</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NPM</td>
<td>Bind</td>
<td>Unbind</td>
<td>Lock</td>
<td>Unlock</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>OPERATOR</td>
<td>-</td>
<td>Unbind</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>REV</td>
<td>Open</td>
<td>Close</td>
<td>Lock</td>
<td>Unlock</td>
<td>Switch</td>
<td>Reset</td>
</tr>
<tr>
<td>SES</td>
<td>Open</td>
<td>Close</td>
<td>Lock</td>
<td>Unlock</td>
<td>Switch</td>
<td>Reset</td>
</tr>
<tr>
<td>SMF</td>
<td>Unlock</td>
<td>Lock</td>
<td>Lock</td>
<td>Unlock</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>VLOG</td>
<td>Open</td>
<td>Close</td>
<td>Lock</td>
<td>Unlock</td>
<td>Switch</td>
<td>Reset</td>
</tr>
</tbody>
</table>

```
,Host=LOCAL
,Host=host_name
```

Specifies the host that receives the command.

```
,L=console_id
```

Specifies the console that receives response messages.

**Example**

Use the following console command to make the file FNMSES1 inactive:

```
F NPVM2R7,V INACT,ID=FNMSES1
```

NPM alerts you when the command has been successfully completed by issuing the following message:

```
FNM275I VARY COMMAND COMPLETED
```
Use the VBPLCOLL command to automatically start and stop collection and monitoring of VTAM buffer pool data. You can collect data such as the maximum number of buffers allocated since the last collection interval, and determine whether a particular buffer pool is in fixed or pageable storage.

You can have only one collection active at any one time for the same combination of resource and interval.

**Note:** The VTAMCOLL keyword must be coded YES on the NPM statement before you can start data collection on VTAM buffer pools.
Authorization Needed: Network collection

Where: Console, FNMSRT, NPM EXEC

The following list describes the keywords you can code on the VBPLCOLL command:

```
RESOURCE=(buf_pool_id, ALLBP)

Specifies the buffer pool ID.
ALLBP Starts collection on all buffer pools.
buf_pool_id Assigns different monitor values to individual buffer pools.

CLOCK=(start, stop)

Specifies the times the command is to be started and stopped, in hh.mm.ss format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES.

DAILY=NO, DAILY=YES

Specifies whether the command is to be executed daily.

You can have only one active collection at any one time for the same combination of resource and interval. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.
Specifies the destination of the VTAM statistics data records. You can define multiple destinations on this keyword. The NONE setting is ignored if you code any other parameters.

**NONE**  
No VTAM statistics data records are to be written.

**NPMLOG**  
VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

**SMF**  
VTAM statistics data records are written to SMF.

**VSAM**  
VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMREVx.

**Note:** The operator can override the default as long as the target files are available.

Specifies the destination of the VTAM statistics data exception records. You can specify multiple destinations on this keyword. The NONE parameter is ignored if you code any other parameters.

**ALERT**  
VTAM statistics data exception records are formatted into alerts and sent to the NetView program, as long as ALERT=YES is coded on the NPM statement in FNMINIT.

**GLOBAL**  
VTAM statistics data exception messages are broadcast to all NPM operators who are authorized as GLOBAL=YES. If none of the authorized operators are logged on, the messages are sent to the console.

**NONE**  
No VTAM statistics data exception records are to be written.

**NPMLOG**  
VTAM statistics data exception records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

**SMF**  
VTAM statistics data records are written to SMF.

**VSAM**  
VTAM statistics data exception records are written to the data sets defined by the FILE initialization statements as FNMREVx.
Note: The operator can override the default as long as the target files are available.

Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

Note: You cannot specify the HOST keyword in an EXEC for this VTAM statistics collection command.

Specifies the collection interval number for which you want to start VTAM collection. The value can be from 1 to 7. It defaults to the VTAMINIT parameter on the DEFAULTS statement in FNMINIT. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.

Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.

See "Using the OPTION Keyword" on page 221 for more information about the OPTION keyword.

Specifies the lower and upper threshold values for the degree of VTAM buffer pool thrashing. The degree of thrashing is calculated using the following formula:
Number of expansions * Expansion increment
----------------------------------------- X 20 = Thrashing_coefficient
Maximum total buffers used

The thrashing coefficient is 20 when the ratio of these three variables is equal to 1. The range for this monitor is from 20 to 9999. Values higher than 9999 are converted to 9999, values below 20 are converted to 20. A value larger that 100 suggests that thrashing is occurring.

Specifies the lower and upper threshold values for highest percentage of VTAM copy request parameter list (CRPL) buffer used by any single user. The users of the CRPL buffer pool are identified by their jobnames. This monitor is only valid for the CRPL buffer pool name.

Specifies the lower and upper threshold values for highest percentage of VTAM I/O buffer use. The I/O buffers are classified by general SSCP traffic count, VR pacing response traffic count, and so on. This monitor is valid only for I/O buffer pool names.

Specifies the lower and upper threshold values for the highest percentage of VTAM I/O buffers in use within the I/O buffer expansion limit specified in the VTAM start option list. This monitor is valid only for I/O buffer pool names.

Specifies the lower and upper threshold values for the VTAM buffer pool expansion rate.
Determines whether exception or resolution mode is used for all exceptions generated by exceeded threshold conditions. The default is specified by the XRES keyword of the DEFAULTS initialization statement.

**NO**  
Exception messages, records, or alerts are generated for every interval in which the threshold is exceeded.

**YES**  
Exception messages, records, or alerts are generated for the first interval in which a threshold is exceeded. No more exception messages are generated. When the threshold condition ceases to exist, a resolution message, record, or alert is generated, containing a correlation that matches the original exception notification.

The following conditions cause the threshold conditions to be resolved:

- The data value being monitored is no longer outside the thresholds
- The monitor threshold is stopped
- The monitor threshold is eliminated
- The resource is deleted
- A destination field is changed to not receive any more exception notifications, and an exception was previously sent to this destination
- NPM is stopping

**Examples**

Use the following command to monitor the expansion rate and degree of thrashing between 11 am and 2 pm one day:

```
VBPLCOLL RESOURCE=IO00,
    VBUFTHR=(20,200),
    CLOCK=(11.00.00,14.00.00),
    VXPNRATE=(30,90)
```

Use the following command to monitor the expansion rate and I/O buffer users occurring daily, between 9 am and 11:30 am:

```
VBPLCOLL RESOURCE=IO00,
    CLOCK=(09.00.00,11.30.00),
    DAILY=YES,
    VXPNRATE=(30,90),
    VIOUSAGE=(0,70)
```
VCSMCOLL

Use the VCSMCOLL command to automatically start and stop collection of VTAM APPN topology and directory services data. You can collect data such as the number of buffer pools in the ECSA or in the data space.

You can have only one collection active at any one time for the same combination of resource and interval.

**Note:** The VTAMCOLL keyword must be coded YES on the NPM statement before you can start data collection on VTAM APPN data.

**Authorization Needed:** Network collection

**Where:** Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the VCSMCOLL command:

**GROUP**

Specifies the counter group on which to start a collection. The keyword RESOURCE will also be accepted in place of GROUP.

**BUFFER**

Starts collection on the CSM buffer pool to collect data such as the number of buffer pools available and the number of buffer pools currently in the data space or in ECSA.

**STORAGE**

Starts collection on the CSM storage data to collect data such as the maximum storage to use for ECSA and how much is actually being used.
Specifies the times the command is to be started and stopped, in \textit{hh.mm.ss} format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES.

See "Using the CLOCK Keyword" on page 220 for more information about the CLOCK keyword.

Specifies whether the command is to be executed daily.

You can have only one active collection at any one time for the same combination of resource and interval. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

Specifies the destination of the VTAM statistics data records. You can define multiple destinations on this keyword. The NONE setting is ignored if you code any other parameters.

\begin{itemize}
  \item **NONE** No VTAM statistics data records are to be written.
  \item **NPMLOG** VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.
  \item **SMF** VTAM statistics data records are written to SMF.
  \item **VSAM** VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMREVx.
\end{itemize}

\textbf{Note:} The operator can override the default as long as the target files are available.
Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

**Note:** You cannot specify the HOST keyword in an EXEC for this VTAM statistics collection command.

Specifies the collection interval number for which you want to start VTAM collection. The value can be from 1 to 7. It defaults to the VTAMINIT parameter on the DEFAULTS statement. See “Using the INTERVAL Keyword” on page 223 for more information on the INTERVAL parameter.

Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.

See “Using the OPTION Keyword” on page 221 for more information about the OPTION keyword.

**Example**

Use the following command to collect topology data between 8 am and 6 pm every day:

```
VCSMCOLL GROUP=STORAGE,
    CLOCK=(08.00.00,18.00.00),
    DAILY=YES
```
Use the VDEVCOLL command to automatically start and stop collection and monitoring of channel-activity data for channel-attached resources. You can collect data such as the number of inbound PIUs, number of outbound PIUs, and the total attentions received for a channel.

You can have only one collection active at any one time for the same combination of resource and interval.

Note: The VTAMCOLL keyword must be coded YES on the NPM statement before you can start data collection on attached channels.
Authorization Needed: Network collection

Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the VDEVCOLL command:

```
RESOURCE=(<channel_address>, channel_address),
           (mpcgroup_name, mpcgroup_name)
```

Specifies the resource on which to start a collection.

**channel_address**
Starts collection on a specific channel address. You can specify more than one channel address. If you specify a *channel_address*, you cannot specify an *mpcgroup_name*. The *channel_address* must be 4-characters long. For example, use 0361 if the channel address is 361.

**mpcgroup_name**
Starts collection on a particular MPC group. If you specify an *mpcgroup_name*, you cannot specify a *channel_address*. You can specify more than one MPC group name.

**ALLDEV** Starts collection on all channel-attached resources.

**ALLLOCAL** Starts collection on all PU type 2 resources.

**ALLNCP** Starts collection on all PU type 4 resources.

**ALLCTC** Starts collection on all PU type 5 resources.

**ALLMPCD** Starts collection on all MPC devices for all MPC groups. If you specify a MPC group name on the MPC keyword, collection is started on all MPC devices for just the MPC group you specify in the MPC keyword.

**ALLMPCG** Starts collection on all MPC groups.

Note: If you specify ALLDEV and a particular resource name or a generic PU type within the same statement, collection occurs on all channels. The other values are ignored.
Specifies the times the command is to be started and stopped, in *hh.mm.ss* format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY= YES.

See "Using the CLOCK Keyword" on page 220 for more information about the CLOCK keyword.

Specifies whether the command is to be executed daily.

You can have only one active collection at any one time for the same combination of resource and interval. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

Specifies the destination of the VTAM statistics data records. You can define multiple destinations on this keyword. The NONE setting is ignored if you code any other parameters.

- **NONE**: No VTAM statistics data records are to be written.
- **NPMLOG**: VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.
- **SMF**: VTAM statistics data records are written to SMF.
- **VSAM**: VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMREVx.

Note: The operator can override the default as long as the target files are available.
Specifies the destination of the VTAM statistics data exception records. You can specify multiple destinations on this keyword. The NONE parameter is ignored if any other parameters are coded.

**ALERT** VTAM statistics data exception records are formatted into alerts and sent to the NetView program as long as ALERT=YES is coded on the NPM statement.

**GLOBAL** VTAM statistics data exception messages are broadcast to all NPM operators that are authorized as GLOBAL=YES. If none of the authorized operators are logged on, the messages are sent to the console.

**NONE** No VTAM statistics data exception records are to be written.

**NPMLOG** VTAM statistics data exception records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

**SMF** VTAM statistics data records are written to SMF.

**VSAM** VTAM statistics data exception records are written to the data sets defined by the FILE initialization statements as FNMREVx.

**Note:** The operator can override the default as long as the target files are available.

Permits collection to be started on resources that become active in the future. In addition, if you code DYNAMIC=YES, NPM will not stop the collection if the resource is deleted, but will suspend the collection until the stop time is reached or the resource is added again.

The resource name is any resource that you can specify with the RESOURCE keyword. Pay special attention in specifying resource names when you code DYNAMIC=YES. Because the collection you are going to start is dynamic, there is no verification of the resource name (any name is valid).
Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

**Note:** You cannot specify the HOST keyword in an EXEC for this VTAM statistics collection command.

```
,INTERVAL=1
2
3
4
5
6
7
```

Specifies the collection interval number for which you want to start VTAM collection. The value can be from 1 to 7. It defaults to the VTAMINIT parameter on the DEFAULTS statement. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.

```
,MPC=mpcgroup_name
```

Specifies the particular MPC group name for which you want to start a collection. In this case, specify ALLMPCD on the RESOURCE keyword.

```
,MPCGROUP=NO
YES
```

Use the YES option this keyword to start a collection on the MPC group identified by the MPC group name on the RESOURCE keyword.

```
,OPTION=START
STOP
STOPALL
```

Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.

See "Using the OPTION Keyword" on page 221 for more information about the OPTION keyword.
Specifies the lower and upper threshold values for the percentage of time a particular channel is in slowdown during the specified interval. If the slowdown rate falls outside either of these values, the statistic is highlighted in the VTAM analysis panel. Slowdown for a channel is an indication that the attached node to VTAM is in a slowdown situation. For example, when an NCP is in slowdown, the channel to the NCP also goes into slowdown.

This alert is not valid if you start a collection on an MPC group.

Determines whether exception or resolution mode is used for all exceptions generated by exceeded threshold conditions. The default is specified by the XRES keyword of the DEFAULTS initialization statement.

**NO**
Exception messages, records, or alerts are generated for every interval in which the threshold is exceeded.

**YES**
Exception messages, records, or alerts are generated for the first interval in which a threshold is exceeded. No more exception messages are generated. When the threshold condition ceases to exist, a resolution message, record, or alert is generated, containing a correlation matching the original exception notification.

The following conditions cause the threshold conditions to be resolved:
- The data value being monitored is no longer outside the thresholds
- The monitor threshold is stopped
- The monitor threshold is eliminated
- The resource is deleted
- A destination field is changed to not receive any more exception notifications, and an exception was previously sent to this destination
- NPM is stopping

**Example**
Use the following command to collect data on all NCPs (all type 4 PUs) and monitor the percentage of slowdown time between 8 am and 6 pm daily. Any newly activated channels to NCPs will also have data collected.

```
VDEVCOLL RESOURCE=ALLNCP,
   CLOCK=(08.00.00,18.00.00),
   DAILY=YES,
   VDVSLWDN=(0,30),
   DYNAMIC=YES
```
Use the VGBLCOLL command to automatically start and stop collection and monitoring of VTAM environment and storage use data. You can collect data such as the maximum CSA used since VTAM was started.

You can have only one collection active at any one time for the same combination of resource and interval.

**Note:** The VTAMCOLL keyword must be coded YES on the NPM statement before you can start data collection on VTAM global data.

**Authorization Needed:** Network collection

**Where:** Console, FNMSTRT, NPM EXEC
The following list describes the keywords you can code on the VGBLCOLL command:

- **RESOURCE=VTAM**

  Specifies the resource on which to start a collection. The RESOURCE keyword must be coded RESOURCE=VTAM for EXEC and console support for the VGBLCOLL command.

- **CLOCK=(start,stop)**

  Specifies the times the command is to be started and stopped, in \textit{hh.mm.ss} format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES.

  See "Using the CLOCK Keyword" on page 220 for more information about the CLOCK keyword.

- **DAILY=NO**

  - **DAILY=YES**

    Specifies whether the command is to be executed daily.

    You can have only one active collection at any one time for the same combination of resource and interval. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

- **DEST=(NPMLOG,VSAM)**

  Specifies the destination of the VTAM statistics data records. You can define multiple destinations on this keyword. The NONE setting is ignored if you code any other parameters.

  - **NONE**
    
    No VTAM statistics data records are to be written.

  - **NPMLOG**
    
    VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

  - **SMF**
    
    VTAM statistics data records are written to SMF.
VSAM

VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMREVx.

Note: The operator can override the default as long as the target files are available.

Specifies the destination of the VTAM statistics data exception records. You can specify multiple destinations on this keyword. The NONE parameter is ignored if you code any other parameters.

ALERT

VTAM statistics data exception records are formatted into alerts and sent to the NetView program, as long as ALERT=YES is coded on the NPM statement.

GLOBAL

VTAM statistics data exception messages are broadcast to all NPM operators that are authorized as GLOBAL=YES. If none of the authorized operators are logged on, the messages are sent to the console.

NONE

No VTAM statistics data exception records are to be written.

NPMLOG

VTAM statistics data exception records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

SMF

VTAM statistics data records are written to SMF.

VSAM

VTAM statistics data exception records are written to the data sets defined by the FILE initialization statements as FNMREVx.

Note: The operator can override the default as long as the target files are available.

Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

Note: You cannot specify the HOST keyword in an EXEC for this VTAM statistics collection command.
Specifies the collection interval number for which you want to start VTAM collection. The value can be from 1 to 7. It defaults to the VTAMINIT parameter on the DEFAULTS statement. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.

Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.

See "Using the OPTION Keyword" on page 221 for more information about the OPTION keyword.

Specifies the lower and upper threshold values for total VTAM CSA use. This is the total CSA above and below the line used by VTAM.

This monitor is based on the VTAM start option CSALIMIT specification. CSALIMIT=0 means there is no limit on how much CSA VTAM uses. In this case, the monitor computes the percentage of maximum total CSA that VTAM is using. CSALIMIT=n means there is a cap limit of n for how much total CSA VTAM uses. In this case, the monitor computes the percentage of maximum total CSA VTAM is using in relation to the defined limit of n.
Specifies the lower and upper threshold values for VTAM CSA24 use. CSA24 use monitors only the explicitly requested 24-bit addressable storage (GETMAIN LOC=BELLOW) by VTAM. The CSA24 use monitor does not apply if VTAM does not explicitly request the desired storage location (GETMAIN LOC=ANY) and a 24-bit addressable storage is returned.

This monitor is based on the VTAM start option CSA24 specification. CSA24=0 means there is no limit on how much CSA24 VTAM uses. In this case, the monitor computes the percentage of maximum total CSA24 that VTAM is using. CSA24=n means there is a cap limit of n for how much total CSA24 VTAM uses. In this case, the monitor computes the percentage of maximum total CSA24 VTAM is using in relation to the defined limit of n.

Specifies the lower and upper threshold values for VTAM total page-ins per second. The statistic is highlighted on the VTAM analysis panel if the number of VTAM total page-ins falls outside either of these two values.

Determines whether exception or resolution mode is used for all exceptions generated by exceeded threshold conditions. The default is specified by the XRES keyword of the DEFAULTS initialization statement.

**NO**  
Exception messages, records, or alerts are generated for every interval in which the threshold is exceeded.

**YES**  
Exception messages, records, or alerts are generated for the first interval in which a threshold is exceeded. No more exception messages are generated. When the threshold condition ceases to exist, a resolution message, record, or alert is generated, containing a correlation matching the original exception notification.

The following conditions cause the threshold conditions to be resolved:

- The data value being monitored is no longer outside the thresholds
- The monitor threshold is stopped
- The monitor threshold is eliminated
The resource is deleted

A destination field is changed to not receive any more exception notifications, and an exception was previously sent to this destination

NPM is stopping

Examples

Use the following command to monitor VTAM CSA use and VTAM CSA24 use occurring between 11 am and 2 pm on one day. Any newly activated channels to NCPs also have data collected.

```
VGBLCOLL RESOURCE=VTAM,
    VCSAUS=(0,90),
    CLOCK=(11.00.00,14.00.00),
    VCSA24US=(30,90)
```

Use the following command to monitor the VTAM total page-ins and VTAM CSA use occurring daily between 9 am and 11:30 pm:

```
VGBLCOLL RESOURCE=VTAM,
    CLOCK=(09.00.00,11.30.00),
    DAILY=YES,
    VCSAUS=(0,90),
    VTOTPGIN=(10,80)
```
VMNPCOLL

Use the VMNPCOLL command to automatically start and stop collection of VTAM MNPS application data. You can collect data such as the number of session bytes written to CF for an application.

You can have only one collection active at any one time for the same combination of resource and interval.

**Note:** The VTAMCOLL keyword must be coded YES on the NPM statement before you can start data collection on VTAM applications.

**Authorization Needed:** Network collection

**Where:** Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the VMNPCOLL command:

```
VMNPCOLL RESOURCE=(resource_name)

DAILY=NO, DAILY=YES

DEST=(NONE, NPMLOG, VSAM)

HOST=LOCAL, HOST=host_name

INTERVAL=1, 2, 3, 4, 5, 6, 7

OPTION=START, OPTION=STOP, OPTION=STOPALL
```

Specifies the resource on which to start a collection.

**ALLMNPS** Starts collection on all MNPS applications known to VTAM.

**resource_name** Starts collection on a specific application. You can specify more than one application. The name consists of 1 to 8 alphanumeric characters.
Specifies the times the command is to be started and stopped, in \textit{hh:mm:ss} format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES.

See “Using the CLOCK Keyword” on page \textbf{220} for more information about the CLOCK keyword.

Specifies whether the command is to be executed daily.

You can have only one active collection at any one time for the same combination of resource and interval. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

Specifies the destination of the VTAM statistics data records. You can define multiple destinations on this keyword. The NONE setting is ignored if you code any other parameters.

\textbf{NONE} No VTAM statistics data records are to be written.

\textbf{NPMLOG} VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

\textbf{SMF} VTAM statistics data records are written to SMF.

\textbf{VSAM} VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMREVx.

\textbf{Note:} The operator can override the default as long as the target files are available.
Permits collection to be started on resources that become active in the future. In addition, if you code DYNAMIC=YES, NPM will not stop the collection if the resource is deleted, but will suspend the collection until the stop time is reached or the resource is added again.

The resource name can be any resource specified with the RESOURCE keyword. Pay special attention in specifying resource names when you code DYNAMIC=YES. Because the collection you are going to start is dynamic, there is no verification of the resource name (any name is valid).

Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

**Note:** You cannot specify the HOST keyword in an EXEC for this VTAM statistics collection command.

Specifies the collection interval number for which you want to start VTAM collection. The value can be from 1 to 7. It defaults to the VTAMINIT parameter on the DEFAULTS statement. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.
Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.

See "Using the OPTION Keyword" on page 221 for more information about the OPTION keyword.

**Example**

Use the following command to collect on all applications between 8 am and 6 pm every day:

```plaintext
VMNPCOLL RESOURCE=ALLMNPS,
    CLOCK=(08.00.00,18.00.00),
    DAILY=YES,
    DYNAMIC=YES
```
VRTPCOLL

Use the VRTPCOLL command to automatically start and stop collection of VTAM RTP data. You can collect data such as the number of path switches that occur for an RTP or the status of an RTP resource.

You can have only one collection active at any one time for the same combination of resource and interval.

**Note:** The VTAMCOLL keyword must be coded YES on the NPM statement before you can start data collection on VTAM applications. The minimum requirement for RTP collections is two VTAM V4R4 systems connected to each other (configured to support APPN and to support HPR running RTP).

**Authorization Needed:** Network collection

**Where:** Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the VRTPCOLL command:

**RESOURCE=(resource_name)**

Specifies the resource on which to start a collection.

**ALLRTP** Starts collection on all RTP resources known to VTAM.
resource_name

Starts collection on a specific application. You can specify more than one RTP application. The name consists of 1 to 8 alphanumeric characters, generally starting with CNR.

```
CLOCK=(
   start,
   stop
)
```

Specifies the times the command is to be started and stopped, in *hh.mm.ss* format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES.

See "Using the CLOCK Keyword" on page 220 for more information about the CLOCK keyword.

```
DAILY=NO
DAILY=YES
```

Specifies whether the command is to be executed daily.

You can have only one active collection at any one time for the same combination of resource and interval. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

```
DEST=(NPMLOG,VSAM)
DEST=(NONE)
```

Specifies the destination of the VTAM statistics data records. You can define multiple destinations on this keyword. The NONE setting is ignored if you code any other parameters.

**NONE**

No VTAM statistics data records are to be written.

**NPMLOG**

VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

**SMF**

VTAM statistics data records are written to SMF.

**VSAM**

VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMREVx.
**Note:** The operator can override the default as long as the target files are available.

Permits collection to be started on resources that become active in the future. In addition, if you code DYNAMIC=YES, NPM will not stop the collection if the resource is deleted, but will suspend the collection until the stop time is reached or the resource is added again.

The resource name can be any resource specified with the RESOURCE keyword. Pay special attention in specifying resource names when you code DYNAMIC=YES. Because the collection you are going to start is dynamic, there is no verification of the resource name (any name is valid).

Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

**Note:** You cannot specify the HOST keyword in an EXEC for this VTAM statistics collection command.

Specifies the collection interval number for which you want to start VTAM collection. The value can be from 1 to 7. It defaults to the VTAMINIT parameter on the DEFAULTS statement. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.
Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.

See “Using the OPTION Keyword” on page 221 for more information about the OPTION keyword.

**Example**

Use the following command to collect on all applications between 8 am and 6 pm every day:

```
VRTPCOLL RESOURCE=ALLRTP,
    CLOCK=(08.00.00,18.00.00),
    DAILY=YES,
    DYNAMIC=NO
```
Use the VVRCOLL command to automatically start and stop collection and monitoring of VTAM virtual route data. You can collect data such as virtual route state, flow control state, and the amount of time that a virtual route is blocked. DESTSA, VR, and TP are the keywords that provide flexibility to collect virtual route data from all subareas and specific VRs with a particular transmission priority (TP).

You can have only one collection active at any one time for the same combination of resource and interval.

**Note:** The VTAMCOLL keyword must be coded YES on the NPM statement before you can start data collection on virtual routes.

**Authorization Needed:** Network collection
Where: Console, FNMSTRT, NPM EXEC

The following list describes the keywords you can code on the VVRCOLL command:

`VR=(vr_number,tp_number)`

Specifies collection on one or more VR/TP pair routes. `vr_number` is a VR number from 0 to 7. The `tp_number` is a TP number from 0 to 2. The DESTSA keyword is required if you code one or more VR/TP pair routes.

Specifying `VR=ALLVR` starts collection on all VR/TP pairs to destination subareas specified in the DESTSA keyword. The DESTSA keyword is optional if you code `VR=ALLVR`.

`CLOCK=(start,stop)`

Specifies the times the command is to be started and stopped, in `hh.mm.ss` format. You must specify the start and stop times on the CLOCK keyword if you code the DAILY keyword as DAILY=YES.

See “Using the CLOCK Keyword” on page 220 for more information about the CLOCK keyword.

`DAILY=NO,DAILY=YES`

Specifies whether the command is to be executed daily.

You can have only one active collection at any one time for the same combination of resource and interval. If you have a daily collection that is deferred because its start time is in the future, the deferred collection is not started if another collection is active when the deferred collection is due to start. In this situation, the deferred collection fails and is enqueued for the next day.

`DESTSA=sa_number`

Specifies the subarea number of a specific host. `sa_number` allows collection on virtual routes to a specific destination subarea. The `sa_number` can be from 1 to 65535.

Note: See the VR keyword description for this command for more information about the DESTSA keyword.
Specifies the destination of the VTAM statistics data records. You can define multiple destinations on this keyword. The NONE setting is ignored if you code any other parameters.

**NONE**
No VTAM statistics data records are to be written.

**NPMLOG**
VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

**SMF**
VTAM statistics data records are written to SMF.

**VSAM**
VTAM statistics data records are written to the data sets defined by the FILE initialization statements as FNMREVx.

**Note:** The operator can override the default as long as the target files are available.

Specifies the destination of the VTAM statistics data exception records. You can specify multiple destinations on this keyword. The NONE parameter is ignored if you code any other parameters.

**ALERT**
VTAM statistics data exception records are formatted into alerts and sent to the NetView program, as long as ALERT=YES is coded on the NPM statement.

**GLOBAL**
VTAM statistics data exception messages are broadcast to all NPM operators that are authorized as GLOBAL=YES. If none of the authorized operators are logged on, the messages are sent to the console.

**NONE**
No VTAM statistics data exception records are to be written.

**NPMLOG**
VTAM statistics data exception records are written to the data sets defined by the FILE initialization statements as FNMLOGx.

**SMF**
VTAM statistics data records are written to SMF.

**VSAM**
VTAM statistics data exception records are written to the data sets defined by the FILE initialization statements as FNMREVx.
Note: The operator can override the default as long as the target files are available.

Permits collection to be started on resources that become active in the future. In addition, if you code DYNAMIC=YES, NPM will not stop the collection if the resource is deleted, but will suspend the collection until the stop time is reached or the resource is added again.

The resource name is any resource that you can specify with the RESOURCE keyword. Pay special attention in specifying resource names when you code DYNAMIC=YES. Because the collection you are going to start is dynamic, there is no verification of the resource name (any name is valid).

Specifies the host to which this command is applied. The host name you specify can be any host defined to NPM with the ANPM initialization statement.

To collect on the host where NPM is running, use HOST=LOCAL; otherwise, use the ANPM statement.

Note: You cannot specify the HOST keyword in an EXEC for this VTAM statistics collection command.

Specifies the collection interval number for which you want to start VTAM collection. The value can be from 1 to 7. It defaults to the VTAMINIT parameter on the DEFAULTS statement. See "Using the INTERVAL Keyword" on page 223 for more information on the INTERVAL parameter.
Specifies whether to start or stop a collection, or to stop all collections. The effect of this command depends on whether collections are already active or deferred, the current time of day, and how the CLOCK keyword is coded. The STOPALL option stops all active collections on a resource for all intervals.

See “Using the OPTION Keyword” on page 221 for more information about the OPTION keyword.

Specifies the lower and upper threshold values for the percentage of time a particular virtual route is blocked during the specified interval.

Determines whether exception or resolution mode is used for all exceptions generated by exceeded threshold conditions. The default is specified by the XRES keyword of the DEFAULTS initialization statement.

**NO**
Exception messages, records, or alerts are generated for every interval in which the threshold is exceeded.

**YES**
Exception messages, records, or alerts are generated for the first interval in which a threshold is exceeded. No more exception messages are generated. When the threshold condition ceases to exist, a resolution message, record, or alert is generated, containing a correlation matching the original exception notification.

The following conditions cause the threshold conditions to be resolved:

- The data value being monitored is no longer outside the thresholds
- The monitor threshold is stopped
- The monitor threshold is eliminated
- The resource is deleted
- A destination field is changed to not receive any more exception notifications, and an exception was previously sent to this destination
- NPM is stopping

**Example**

Use the following command to collect on virtual route 2, with a transmission priority of 1, to destination subarea 4, daily between 8 am and 5 pm, and monitoring the percentage of time the VR is blocked.
Use the following command to collect on virtual route 1, with a transmission priority of 1, to destination subarea 8, without monitoring.

\texttt{VVRColl DESTSA=(8), VR=(1,1)}
Part III. Appendixes
Archiving and Rebuilding Data Sets and Files

Archiving and Rebuilding Data Sets and Files

The session data collected by NPM is useful for historical analysis as well as for solving immediate problems. You can use session data to project growth and performance based on how the network (or a component of the network) performed in the past. To make such projections, archive the collected data for later analysis using the archiving and rebuilding programs provided with NPM.

Archiving and rebuilding session files enables you to tailor session files for modeling, capacity planning, or trend analysis, or for resolving problems of configuration changes. Such flexibility in redefining and recreating session files also enables you to obtain an accurate definition of network performance problems.

To archive session files, define more than one session (FNMSERx) file. When the current session file becomes full, NPM automatically switches to the next defined session file. You can then archive the full session file to the NPM archived file using standard facilities of VSAM access method services (AMS). An NPM operator can also archive files that are not full by forcing NPM to switch to the next file.

This appendix contains step-by-step instructions for archiving and rebuilding files, and describes the sample JCL provided for this purpose.

Archiving and Rebuilding Session Files

To write records from a session file to an archive file, modify and execute the sample FNMArchV procedure, provided in NPM.V2R7M0.SFNMJCL1, and shown in Figure 262 on page 392.
Archiving

//NPMARCHV JOB (ACCOUNTING,INFORMATION),PROGRAMMER.NAME,
// MSGLEVEL=1,MSGCLASS=A,CLASS=A
//NPMARCHV PROC HLQ=NPM,REL=V2R7M0,
// OUT='*',
// UNIT=SYSDA,
// DATAIN='NPM.V2R7M0.SESS02',
// SORTLIB='SYS1.SORTLIB',
// OSE=CX000XX
//*************************************************************************************
//STEP0 EXEC PGM=IDCAMS
//*************************************************************************************
//****
//** STEP0: COPY SESSION FILE TO SEQUENTIAL DATA SET FOR FNMSLCT **
//****
//************************************************************************************
//SYSPRINT DD SYSOUT=&OUT.
//NPMSESS1 DD DSN=&DATAIN,DISP=SHR
//NPMSESS0 DD DSN=&&NPMSES0,UNIT=&UNIT,
// DCB=(RECFM=VB,LRECL=4096,BLKSIZE=4100),
// DISP=(NEW,PASS,DELETE),SPACE=(CYL,(2,1),RLSE)
//STEP1 EXEC PGM=FNMSLCT
//*************************************************************************************
//****
//** STEP1: EXECUTE FNMSLCT TO SELECT AND/OR PRINT THE RECORDS **
//****
//************************************************************************************
//STEPLIB DD DSN=&HLQ..&REL..SFNMLMD1,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT.
//NPMIN DD DSN=&&NPMSES0,DISP=(OLD,DELETE,DELETE)
//NPMOUT DD DSN=&NPMSES1,UNIT=&UNIT,
// DCB=(RECFM=VB,LRECL=4096,BLKSIZ=4100),
// DISP=(NEW,PASS,DELETE),SPACE=(CYL,(2,1),RLSE)
//SYSUDUMP DD SYSOUT=&OUT.
//STEP2 EXEC PGM=FNMPINT
//*************************************************************************************
//****
//** STEP2: EXECUTE FNMPINT TO ADD POINTER RECORDS **
//****
//************************************************************************************
//STEPLIB DD DSN=&HLQ..&REL..SFNMLMD1,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT.
//NPMIN DD DSN=&&NPMSES1,DISP=(OLD,DELETE)
//NPMOUT DD DSN=&&NPMSES2,UNIT=&UNIT,
// DCB=(RECFM=VB,LRECL=4096,BLKSIZ=4100),
// DISP=(NEW,PASS,DELETE),SPACE=(CYL,(2,1),RLSE)
//SYSUDUMP DD SYSOUT=&OUT.

Figure 262. Sample NPMARCHV (Part 1 of 2)
There are five steps to archiving and rebuilding a session file:

- Archive the session file.
- Sort output from FNMPOINT.
- Delete previous session data set (if any).
- Define new session cluster.
- Copy archived data file to cluster.

Figure 262. Sample NPMARCHV (Part 2 of 2)
Select records from the session data archived file.
Add pointer records to the file.
Sort the indexed file.
Build the session data VSAM key sequenced data set (KSDS).

**Step 0. Archive the File**

To archive a session file, STEP0 of the NPMARCHV procedure copies the file to a sequential data set. The following list describes the data sets needed for archiving a file:

- **NPMSESS1** Specifies the session data VSAM data set to be archived.
- **NPMSESS0** Specifies the sequential data set to which the data is written. This data set can include previously archived data. The NPMSESS0 data set must have the following characteristics:
  - **Organization:** Sequential
  - **Record format:** Variable block
  - **Record length:** 4096
  - **Block size:** 4100 minimum; you can specify another size if necessary

**Step 1. Select Records from the Session Data Archived File**

You can select records from the archived file to be written to a tailored session data file by coding control statements. In addition to creating a tailored file, you can obtain a formatted printout of the selected records. See the *NetView Performance Monitor Reference* for more information about printing session records from an archived file.

The following list describes the data sets used in STEP1 of the NPMARCHV procedure:

- **STEPLIB** The library containing the load module
- **SYSPRINT** The data set to which output is written
- **NPMSEL** A PDS member containing the control statements
- **NPMIN** The data set containing the NPM archived file
- **NPMOUT** The output data set containing the selected records
- **SYSUDUMP** The data set to which a dump is written if this step fails

**Coding Control Statements**

Control statements enable you to specify selection criteria for the records to include in your rebuilt session file. For example, you can specify that only data pertaining to one application be archived.

Code the control statements in the data set to which the NPMSEL statement points in the example JCL. The control statements consist of primary selectors and selection restrictors. The primary selector is the first network resource identified in a control statement. The selection restrictors define additional record selection criteria.

A control statement can consist of only a primary selector or a primary selector and one or more selection restrictors. For example, the following control statement consists of only a primary selector; it selects all session data records for the LU LUIMS01:

```
LU=LUIMS01
```

To further restrict the records selected, you can add more selection restrictions. For example, the following control statement selects RTM records for LUIMS01 from the time it was in
session with IMS (and its traffic was traversing virtual route 2 at transmission priority 1.)
The primary selector in this example is LU and the selection restrictors are APPL, VR, TPR, and RECTYPE:

LU=LUIMS01,APPL=IMS,VR=2,TPR=1,RECTYPE=RTM

Specifying ALL on any primary selector with no selection restrictors results in the selection of the entire archived data set.

You can also use some primary selectors as selection restrictors. The syntax diagrams for each primary selector show the valid combinations.

Control statements can start in any column, but cannot extend beyond column 72. You can code more than one control statement with any primary selector. However, new statements must begin on a new line. A statement ends when a blank is encountered and the last character is not a comma. Commas are used to separate operands within a control statement. To include comments with the control statements, type an asterisk (*) in the first column of each comment statement.

The format of control statements is shown in the following syntax diagrams. Figure 263 on page 399 shows example control statements and provides an explanation of the keywords.
Archiving

Primary Selector=LU

Primary Selector=NODE

Primary Selector=PU
The following list describes the keywords and operands you can code in control statements.

Prints the selected records to the SYSPRINT data set. You must code PRINT as the first control statement if you use it.

A 1- to 8-character alphanumeric name of an application running on a host in the network.

A 1- to 8-character alphanumeric name of a line in the network.
A 1- to 8-character alphanumeric name of a logical unit in the network.

A 1- to 8-character alphanumeric name of a node in the network.

A 1- to 8-character alphanumeric name of a physical unit in the network.

The 1-digit number of a virtual route in the network.

Beginning date of the report.

Ending date of the report.

A 1- to 8-character alphanumeric name of a host on the network. This name is specified in a HOST NPM initialization statement.
Specifies whether selected records contain NPM data, RTM data, or both NPM and RTM data:

- **NPM** Selects only NPM data
- **RTM** Selects only RTM data
- **ALL** Selects both NPM and RTM data

Beginning time of the report. The TIMBE and TIMSP selection restrictors work on a daily basis. Records must fall between the specified times on each selected day to be included.

Time is based on a 24-hour clock. Note that the separator between hours and minutes is a colon, not a period.

Ending time of the report. The TIMBE and TIMSP selection restrictors work on a daily basis. Records must fall between the specified times on each selected day to be included.

Time is based on a 24-hour clock. Note that the separator between hours and minutes is a colon, not a period.

A 1-digit transmission priority number. The number must be 0, 1, or 2. If you specify TPR, you must also supply VR.

Figure 263 shows how you can code the control statements.

### Step 2. Add Pointer Records to the File

After selecting the records for your rebuilt file, NPMARCHV creates index records for the primary selectors.

The following list describes the DD statements needed for adding pointer records:
The library containing the load module

The data set to which output is written

The selected session data that is the input to STEP2

The session data set containing pointer index records

The data set to which the dump is written if NPMARCHV abends

**Pointer Report**

STEP2 of NPMARCHV generates a hard-copy report listing the index records that it creates. An example pointer report is shown in **Figure 264**.

```
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>N</td>
<td>CDRMD04</td>
<td>HOST01</td>
</tr>
<tr>
<td>A</td>
<td>A</td>
<td>TESTCICS</td>
<td>HOST01</td>
</tr>
<tr>
<td>R000111</td>
<td>R000112</td>
<td>T02D0101</td>
<td>T02D0102</td>
</tr>
<tr>
<td>A</td>
<td>P</td>
<td>CL02CD01</td>
<td>HOST01</td>
</tr>
<tr>
<td>T02D0101</td>
<td>T02D0102</td>
<td>T02D0103</td>
<td>T02D0104</td>
</tr>
<tr>
<td>A</td>
<td>N</td>
<td>CHAMB01</td>
<td>HOST01</td>
</tr>
<tr>
<td>T02D0101</td>
<td>T02D0102</td>
<td>T02D0103</td>
<td>T02D0104</td>
</tr>
<tr>
<td>A</td>
<td>L</td>
<td>G01LN020</td>
<td>HOST01</td>
</tr>
<tr>
<td>T02D0101</td>
<td>T02D0102</td>
<td>T02D0103</td>
<td>T02D0104</td>
</tr>
<tr>
<td>A</td>
<td>A</td>
<td>TSO</td>
<td>HOST01</td>
</tr>
<tr>
<td>T02D0101</td>
<td>T02D0104</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>P</td>
<td>PU02C01</td>
<td>HOST01</td>
</tr>
<tr>
<td>U02C0101</td>
<td>U02C0102</td>
<td>U02C0103</td>
<td>U02C0104</td>
</tr>
<tr>
<td>A</td>
<td>L</td>
<td>G03LN02C</td>
<td>HOST01</td>
</tr>
<tr>
<td>U02C0101</td>
<td>U02C0102</td>
<td>U02C0103</td>
<td>U02C0104</td>
</tr>
<tr>
<td>A</td>
<td>A</td>
<td>NCF06000</td>
<td>HOST01</td>
</tr>
<tr>
<td>U02C0103</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>A</td>
<td>NCF06</td>
<td>HOST01</td>
</tr>
<tr>
<td>U02C0103</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

**Figure 264. Example Pointer Report**

The headings for the pointer report contain the following information:

1. The record type for a pointer record. The record types can be either of the following:
   - A NPM pointer record
   - B RTM pointer record

2. The primary selector type. Primary selector types can be any of the following:
   - A Application
   - H Host
   - L Line
   - N Node
   - P Physical unit
   - V Virtual route

3. The primary selector name. If blank, NPM uses the default ALL.

4. The host name.

The line or lines following the heading, **5**, give a list of LU names associated with that particular index record.
For example, the heading for the first index record shown in Figure 264 on page 400 indicates that this is an NPM pointer record (A), the primary selector type is a node (N), the primary selector name is CDRM04, and the host name is HOST01. The LUs associated with this index record are R000111 and R000112.

**Step 3. Sort the Indexed File**

After NPMARCHV creates an indexed file of the selected session records, it sorts the file back into VSAM key sequence. The following list describes the DD statements used in the sort:

- **SORTLIB** The library containing the sort module
- **SYSOUT** The data set to which the output is written
- **SORTIN** The tailored session data file
- **SORTOUT** The sorted output file
- **SORTWK01** A work area needed for the sort module
- **SORTWK02** A work area needed for the sort module

**Step 4. Build the Session Data VSAM KSDS**

Once your indexed file is reformatted, STEP4 builds a new session data VSAM KSDS using the VSAM REPRO function.

The following list describes the DD statements for this step:

- **SYSPRINT** The data set to which the output for FNMGDEF is written
- **NPMSESS3** The data set name of the sorted indexed input file
- **NPMSESS4** The new VSAM KSDS session data file

You can now use the rebuilt file for NPM’s online panels.
Glossary

A

ACB
(1) In VTAM programs, access method control block. (2) In NCP, adapter control block. (3) Application control block.

access method control block (ACB)
(1) A control block that links an application program to VSAM or VTAM. (2) In VTAM statistics collection, the control block passed to VTAM when an application is establishing itself as able to send and receive data.

access method services (AMS)
The facility used to define and reproduce VSAM key-sequenced data sets (KSDS).

active collection
In NPM, the process of collecting data at the current time about a resource.

ACTPU
Activate physical unit. In SNA, a command used to start a session on a physical unit.

adapter control block (ACB)
In NCP, a control block that contains line control information and the states of I/O operations for BSC lines, SS lines, or SDLC links.

address space
A set of addresses used to uniquely identify network accessible units, sessions, adjacent link stations, and links in a node for each network in which the node participates. A type 2.1 node has one address space for intranode routing and one for each transmission group on which it can send message units.

ADP
Automatic data processing.

advanced peer-to-peer networking (APPN) end node
A type 2.1 node that provides full SNA end-user services and supports sessions between its local control point (CP) and the CP in an adjacent network node, to dynamically register its resources with the adjacent CP (its network node server), to send and receive directory search requests, and to obtain management services; it can also attach to a subarea network as a peripheral node.

advanced peer-to-peer networking (APPN) network
An SNA network consisting of APPN network nodes, APPN end nodes, and, optionally, LEN end nodes.

advanced peer-to-peer networking (APPN) network node
A type 2.1 node that, besides offering full SNA end-user services, provides intermediate routing services within a type 2.1 network and network services to its local LUs and attached type 2.1 end nodes in its domain; it can also attach to a subarea network as a peripheral node.

advanced peer-to-peer networking (APPN) node
An APPN network node or an APPN end node.

advanced peer-to-peer networking (APPN)
An extension to SNA featuring (a) greater distributed network control that avoids critical hierarchical dependencies, thereby isolating the effects of single points of failure, (b) dynamic exchange of network topology information to foster ease of connection and reconfiguration, adaptive route selections, and simplified network definition, and (c) automated resource registration and directory lookup. APPN extends the LU 6.2 peer orientation for end-user services to network control; APPN also uses LU 6.2 protocols on its own control point sessions that provide the network control.

advanced program-to-program communication (APPC)
An implementation of the SNA/SDLC LU6.2 protocol that allows interconnected systems to communicate and share the processing of programs.
agent
Reports to the managing process, such as a network control station, on the status of managed network elements and performs actions on these elements as directed by the managing process. Examples of network elements are devices such as hosts, routers, and terminal servers.

alert
(1) A message sent to a management services focal point in a network to identify a problem or an impending problem. (2) In the NetView program, a high priority event that warrants immediate attention. A database record is generated for certain event types that are defined by user-constructed filters.

alert condition
A problem or impending problem for which some or all of problem determination, diagnosis, or resolution is expected at a collection point or a system problem determination focal point.

alias address
An address used by a gateway NCP and a gateway system services control point (SSCP) in one network to represent a logical unit (LU) or SSCP in another network.

alias name
A name unique within one of two or more interconnected networks that is assigned by a gateway SSCP and is used in that subnetwork to represent an NAU that resides in another subnetwork. Alias names must be predefined within a gateway SSCP; if an alias is not provided, it is assumed to be the same as the real name.

APF
(1) Authorized program facility. (2) Application processing function.

APPC
See advanced program-to-program communication.

APPL
Application program.

application identifier (APPLID)
The name of an application as defined to VTAM.

APPLID
Application ID.

APPN
Advanced peer-to-peer networking.

APPN network
See advanced peer-to-peer networking network.

APPN network node
See advanced peer-to-peer networking (APPN) network node.

APPN node
See advanced peer-to-peer networking (APPN) node.

B

base collection interval
The primary unit, in seconds or minutes, which NPM uses to calculate the span of time in which data is collected.

bracket protocol
In SNA, a data flow control protocol in which exchanges between two session partners are achieved through the use of brackets, with one partner designated at session activation as the first speaker and the other as the bidder. The bracket protocol involves bracket initiation and termination rules.
buffer pool
(1) An area of storage in which all buffers of a program are kept. (2) In ACF/TCAM, a group of buffers having the same size. A buffer pool is established at initialization time in the message control program. The buffers are built in extents chained together.

cache
(1) An optional part of the directory database in network nodes where frequently used directory information may be stored to speed directory searches. (2) To place, hide, or store in a cache.

collection interval
In NPM, a user-specified value that controls the time at which performance data is transmitted.

command list (CLIST)
A list of commands and statements designed to perform a specific function for the user.

command procedure (PROC)
In the NetView program, either a command list or a command processor.

Communications storage manager (CMS).
A component of VTAM that enables host applications to share data with VTAM and other CSM users without having to physically copy the data.

CSM
Communications storage manager.

dsn
data set name.

dump
(1) To record, at a particular instant, the contents of all or part of one storage device in another storage device. Dumping is usually for the purpose of debugging. (2) Data that has been dumped. (3) To copy data in a readable format from main or auxiliary storage onto an external medium such as tape, diskette, or printer. (4) To copy the contents of all or part of virtual storage for the purpose of collecting error information.

exec
(1) In a VM operating system, a user-written command file that contains CMS commands, other user-written commands, and execution control statements, such as branches. (2) In NPM, a user-written command file that contains NPM commands that can be run at NPM startup, online, or through the console. Also called NPM EXEC.

fast path
In SAA Basic Common User Access® architecture, a method of doing something more directly and quickly than the usual way; for example, pressing a function key is faster than typing a command.

flow control
In SNA, the process of managing the rate at which data traffic passes between components of the network. The purpose of flow control is to optimize the rate of flow of message units with minimum congestion in the network; that is, to neither overflow the buffers at the receiver or at intermediate routing nodes, nor leave the receiver waiting for more message units.
frame
(1) The unit of transmission in some local area networks, including the IBM Token-Ring Network. It includes delimiters, control characters, information, and checking characters. (2) In SDLC, the vehicle for every command, every response, and all information that is transmitted using SDLC procedures.

FSB
File service buffer.

FST
File service task.

G
gateway
A functional unit that interconnects two computer networks with different network architectures. A gateway connects networks or systems of different architectures. A bridge interconnects networks or systems with the same or similar architectures.

generation
The process of assembling and link editing definition statements so that resources can be identified to all the necessary programs in a network.

GTF
Generalized trace facility.

H
half-duplex (HD, HDX)
In data communication, pertaining to transmission in only one direction at a time.

historical data
Indicates that the data displayed in the HISTORICAL DataView window was requested within a specified time span in the past from the NPM host VSAM data files. The performance data collection is not currently active. No data forwarding is required.

I
IPX
Internetwork package exchange

ISTATUS
In VTAM and NCP, a definition specification method for indicating the initial status of resources.

J
JCL
Job control language.

JES
Job entry subsystem (MVS).

job control language (JCL)
A control language used to identify a job to an operating system and to describe the job’s requirements.

K
keyword
(1) A name or symbol that identifies a parameter. (2) The part of a command operand that consists of a specific character string (such as DNAME=).
KSDS

Key-sequenced data set.

L

line

The portion of a data circuit, external to data circuit-terminating equipment (DCE), that connects the DCE to a data switching exchange (DSE), that connects a DCE to one or more other DCEs, or that connects a DSE to another DSE. Synonymous with channel and circuit.

line speed

The number of binary digits that can be sent over a telecommunication line in one second, expressed in bits per second (bps).

link

In SNA, the combination of the link connection and the link stations joining network nodes, for example a System/370™ channel and its associated protocols or a serial-by-bit connection under the control of Synchronous Data Link Control (SDLC). A link connection is the physical medium of transmission. A link, however, is both logical and physical. Synonymous with data link.

load module

All or part of a computer program in a form suitable for loading into main storage for execution. A load module is usually the output of a linkage editor.

logical unit (LU)

(1) A type of network accessible unit that enables end users to gain access to network resources and communicate with each other. (2) In SNA, a port through which an end user accesses the SNA network and the functions provided by system services control points (SSCPs). An LU can support at least two sessions, one with an SSCP and one with another LU, and may be capable of supporting many sessions with other LUs.

logical unit (LU) 6.2

A type of logical unit that supports general communication between programs in a distributed processing environment. LU 6.2 is characterized by (a) a peer relationship between session partners, (b) efficient utilization of a session for multiple transactions, (c) comprehensive end-to-end error processing, and (d) a generic application program interface (API) consisting of structured verbs that are mapped into a product implementation.

LPA

Link pack area.

LRECL

Logical record length.

LU

Logical unit.

LU group

In the NetView Performance Monitor (NPM), a file containing a list of related or unrelated logical units. The LU group is used to help simplify data collection and analysis.

LU type

The classification of an LU in terms of the specific subset of SNA protocols and options it supports for a given session, namely:

- The mandatory and optional values allowed in the session activation request
- The usage of data stream controls, function management headers (FMHs), request unit parameters, and sense data values
- Presentation services protocols such as those associated with FMH usage

LU types 0, 1, 2, 3, 4, 6.1, 6.2, and 7 are defined.

LU type 6.2 (LU 6.2)

A type of logical unit that supports general communication between programs in a distributed processing environment. LU 6.2 is characterized by (a) a peer relationship between session partners, (b) efficient utilization
of a session for multiple transactions, (c) comprehensive end-to-end error processing, and (d) a generic application program interface consisting of structured verbs that are mapped into a product implementation.

**LU 6.2**

Logical unit 6.2.

**LU 6.2 session**

A session that is initiated by VTAM on behalf of a logical unit (LU) 6.2 application program, or a session initiated by a remote LU in which the application program specifies that VTAM is to control the session by using the APPCCMD macroinstruction.

**LU 6.2 verb**

A syntactical unit in the LU 6.2 application program interface representing an operation.

**M**

**MIB**

Management information base.

**module**

A program unit that is discrete and identifiable with respect to compiling, combining with other units, and loading; for example, the input to or output from an assembler, compiler, linkage editor, or executive routine.

**monitor**

In the IBM Token-Ring Network, the function required to initiate the transmission of a token on the ring and to provide soft-error recovery in case of lost tokens, circulating frames, or other difficulties. The capability is present in all ring stations.

**monitor event message**

A message created in response to a value that has exceeded a user-defined threshold.

**monitor resolution message**

A message created when a value that has exceeded a user-defined threshold falls into normal range.

**MVS**

(1) Multiple virtual storage. Implies MVS/370, the MVS/XA™ product, and the MVS/ESA™ product. (2) Multiple Virtual Storage, consisting of MVS/System Product Version 1 and the MVS/370 Data Facility Product operating on a System/370 processor.

**MVS/ESA product**

Multiple Virtual Storage/Enterprise Systems Architecture.

**MVS/XA product**


**MWA**

Message work area.

**N**

**NCP**

Network Control Program.

**NCP/token ring interconnect (NTRI)**

An NCP function that allows a communication controller to attach to the IBM Token-Ring Network and that provides both subarea and peripheral node DLC services in the SNA network.

**NCP/EP definition facility (NDF)**

A program that is part of System Support Programs (SSP) and is used to generate a partitioned emulation program (PEP) load module or a load module for a Network Control Program (NCP) or for an Emulation Program (EP).
**NCP/Token Ring interconnect (NTRI)**
An NCP function that allows a communication controller to attach to the IBM Token-Ring Network and that provides both subarea and peripheral node data link control (DLC) services in the SNA network.

**NEO**
Network extension option.

**NEOPU**
Network extension option physical unit.

**NetView Performance Monitor (NPM)**
An IBM-licensed program that collects, monitors, analyzes, and displays data relevant to the performance of a VTAM telecommunication network. It runs as an online VTAM application program.

**NetView Program**
An IBM-licensed program used to monitor a network, manage it, and diagnose its problems.

**Network Control Program (NCP)**
An IBM-licensed program that provides communication controller support for single-domain, multiple-domain, and interconnected network capability.

**network gateway accounting (NGA)**
The NetView Performance Monitor (NPM) subsystem that receives traffic information from the gateway NCP for sessions that flow throughout a network.

**network node (NN)**
Synonym for APPN network node. A node that offers full SNA end-user services and that can provide the following to its local LUs and client end nodes:

- Distributed directory services
- Intermediate routing services within an APPN network
- Network services

The APPN network node cooperates with other network nodes to maintain a network topology database, which is used to select optimal routes for LU-LU sessions based on requested classes of service. An APPN network node can also attach to a subarea network as a peripheral node or to other end nodes.

**network session accounting (NSA)**
The NetView Performance Monitor (NPM) subsystem that receives session accounting information from the NCP for sessions that flow throughout a network.

**network transit time**
In the NetView Performance Monitor (NPM), the average time (in seconds) that all transactions spend in the network.

**NGA**
Network gateway accounting.

**node type**
A designation of a node according to the protocols it supports and the network accessible units that it can contain. Five types are defined: 1, 2.0, 2.1, 4, and 5. Within a subarea network, type 1, type 2.0, and type 2.1 nodes are peripheral nodes, while type 4 and type 5 nodes are subarea nodes.

**non-BC**
Non-broadcast.

**NPALU**
Network performance analysis logical unit.

**NPM**
NetView Performance Monitor.

**NPM log**
In NPM, a data set in which NPM data can be stored.
NPM security profile
In NPM, a data set that can be created to restrict operator access to data and functions.

octet
(1) A byte that consists of 8 bits. (2) A byte composed of 8 binary elements.

ODAI
Origin destination assignment indicator.

ODLC
Outboard data link control.

operand
(1) An entity on which an operation is performed. (2) That which is operated upon. An operand is usually identified by an address part of an instruction. (3) Information entered with a command name to define the data on which a command processor operates and to control the execution of the command processor. (4) An expression to whose value an operator is applied.

operator transit time
In the NetView Performance Monitor (NPM), the sum of host and network transit times.

OS/390 operating system
An IBM licensed program that not only includes and integrates functions previously provided by many IBM software products (including the MVS operating system) but also (a) is an open, secure operating system for the IBM S/390 family of enterprise servers, (b) complies with industry standards, (c) is Year 2000 ready and enabled for network computing and e-business, and (d) supports technology advances in networking server capability, parallel processing, and object-oriented programming.

partitioned data set (PDS)
A data set in direct access storage that is divided into partitions, called members, each of which can contain a program, part of a program, or data.

path information unit (PIU)
A message unit consisting of a transmission header (TH) alone, or a TH followed by a basic information unit (BIU) or a BIU segment.

PDS
Partitioned data set.

PDU
Protocol data unit.

pending active session
In VTAM, the state of an LU-LU session recorded by the system services control point (SSCP) when it finds both logical units (LUs) available and has sent a CINIT request to the primary logical unit (PLU) of the requested session.

PEP
Partitioned emulation programming.

physical unit (PU)
The component that manages and monitors the resources (such as attached links and adjacent link stations) associated with a node, as requested by an SSCP via an SSCP-PU session. An SSCP activates a session with the physical unit in order to indirectly manage, through the PU, resources of the node such as attached links. This term applies to type 2.0, type 4, and type 5 nodes only.

PIU
Path information unit.
PLU
Primary logical unit.

poll
(1) To determine whether any remote device on a telecommunication line is ready to transmit data. (2) To execute a polling sequence.

polling
(1) On a multipoint connection or a point-to-point connection, the process whereby data stations are invited, one at a time, to transmit. (2) Interrogation of devices for such purposes as to avoid contention, to determine operational status, or to determine readiness to send or receive data.

positive poll
A positive response to polling in a binary synchronous terminal.

positive response
In SNA, a response indicating that a request was received and processed.

protocol data unit (PDU)
A unit of data in a network. For SDLC protocols, a PDU is a path information unit. For token-ring protocols, a PDU is an I-frame.

PST
(1) Process scheduling table. (2) Program scheduling table.

PU
Physical unit.

PU type
(1) Deprecated term for node type. (2) The type of physical unit in a node.

Q

QCB
Queue control block.

R

RACF
Resource Access Control Facility.

real-time data
Indicates an active data forwarding collection. The performance information is current, and the data is displayed online in a REAL-TIME DataView window. Real-time performance data is collected at regular intervals and the DataView is refreshed automatically, as soon as the data arrives.

refresh interval
The interval at which NPM displays the most recent data collected from VTAM.

resolution message
A message created when a value that has exceeded a user-defined threshold falls into normal range.

Resource Access Control Facility (RACF)
An IBM-licensed program that provides for access control by identifying and verifying the users of the system, by authorizing access to protected resources, by logging the detected unauthorized attempts to enter the system, and by logging the detected accesses to protected resources.

resource table
In ACF/TCAM extended networking, a main-storage table that associates each resource identifier with an external logical unit (LU) or application program.
resource types
In the NetView program, a concept to describe the organization of panels. Resource types are defined as central processing unit, channel, control unit, and I/O device for one category; and communication controller, adapter, link, cluster controller, and terminal for another category. Resource types are combined with data types and display types to describe display organization.

response time monitor (RTM)
A feature available with certain hardware devices to allow measurement of response times, which may be collected and displayed by NetView.

RNR
Receive not ready.

router
(1) A computer that determines the path of network traffic flow. The path selection is made from several paths based on information obtained from specific protocols, algorithms that attempt to identify the shortest or best path, and other criteria such as metrics or protocol-specific destination addresses. (2) An attaching device that connects two LAN segments, which use similar or different architectures, at the reference model network layer. (3) In OSI terminology, a function that determines a path by which an entity can be reached.

routing
(1) The process of determining the path to be used for transmission of a message over a network. (2) The assignment of the path by which a message will reach its destination.

S

sampling interval
The interval at which NPM updates its own counters. This updated data is not displayed until the next refresh interval. If a sampling interval is set higher than a refresh interval, the sampling interval is automatically reset to the refresh interval.

SDLC
Synchronous Data Link Control.

secondary logical unit (SLU)
In SNA, the logical unit (LU) that contains the secondary half-session for a particular LU-LU session. An LU may contain secondary and primary half-sessions for different active LU-LU sessions.

segment
In the IBM Token-Ring Network, a section of cable between components or devices. A segment may consist of a single patch cable, several patch cables that are connected, or a combination of building cable and patch cables that are connected.

service point (SP)
An entry point that supports applications that provide network management for resources not under the direct control of itself as an entry point. Each resource is either under the direct control of another entry point or not under the direct control of any entry point. A service point accessing these resources is not required to use SNA sessions (unlike a focal point). A service point is needed when entry point support is not yet available for some network management function.

session collection
The NPM subsystem that collects, monitors, and displays data collected in the host for analysis.

session data
Data about sessions collected by NPM.

session monitor
The component of the NetView program that collects and correlates session-related data and provides online access to this information.

session partner
In SNA, one of the two network accessible units (NAUs) having an active session.
session trace
In NetView, the function that collects session trace data for sessions involving specified resource types or involving a specific resource.

Simple Network Management Protocol (SNMP)
In the Internet suite of protocols, a network management protocol that is used to monitor routers and attached networks. SNMP is an application layer protocol. Information on devices managed is defined and stored in the application’s Management Information Base (MIB).

SIO
Start I/O.

SLU
Secondary logical unit.

SMF
System management facility.

SNA
Systems Network Architecture.

SNMP

soft error
(1) An error that occurs sporadically and that may not appear on successive attempts to read data. (2) An intermittent error on a network that requires retransmission.

Note: A soft error by itself does not affect overall reliability of a network, but reliability may be affected if the number of soft errors reaches the ring error limit.

SSCP
System services control point.

subarea
A portion of the SNA network consisting of a subarea node, attached peripheral nodes, and associated resources. Within a subarea node, all network accessible units (NAUs), links, and adjacent link stations (in attached peripheral or subarea nodes) that are addressable within the subarea share a common subarea address and have distinct element addresses.

Systems Network Architecture (SNA)
The description of the logical structure, formats, protocols, and operational sequences for transmitting information units through, and controlling the configuration and operation of, networks.

teleprocessing request block (TPRB)
A function used by NPM to control input/output requests to or from terminals to files.

threshold
(1) In NetView, a percentage value, set for a resource and compared to a calculated error-to-traffic ratio. (2) In NPM, high or low values supplied by the user to monitor data and statistics being collected.

TP
(1) Transmission priority. (2) Transaction program.

TPR
Transaction processing routine.

TPRB
Teleprocessing request block.
transit time
In NPM, transit time is the same as response time.

U
unbind
In SNA, a request to deactivate a session between two logical units (LUs).

V
Virtual Storage Access Method (VSAM)
An access method for direct or sequential processing of fixed and variable-length records on direct access devices. The records in a VSAM data set or file can be organized in logical sequence by a key field (key sequence), in the physical sequence in which they are written on the data set or file (entry-sequence), or by relative-record number.

Virtual Telecommunications Access Method (VTAM)
An IBM-licensed program that controls communication and the flow of data in an SNA network. It provides single-domain, multiple-domain, and interconnected network capability.

VSAM
Virtual Storage Access Method.

VTAM
Virtual Telecommunications Access Method.

W
write-to-operator with reply (WTOR)
An optional user-coded service whereby a message can be written to the system console operator informing the operator of errors and unusual system conditions that may need correcting.

WTOR
Write-to-operator with reply.
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