Tivoli® NetView® for z/OS™

Automated Operations Network User’s Guide

Version 5 Release 1
Tivoli NetView for z/OS Automated Operations Network User’s Guide

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Programming Interfaces

This publication primarily documents information that is NOT intended to be used as Programming Interfaces of Tivoli NetView for z/OS.
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Preface

This document describes how to use the NetView® automation functions to improve system and network efficiency.

NetView automation also eliminates or simplifies much of the routine work that operators perform.

Who Should Read This Document

This document is for those who use Automated Operations Network (AON) to perform network automation. The book is intended for those who are new to automation and for network operators who need to control and to manage the NetView network automation policy and functions.

What This Document Contains

This book includes the following parts, which contain chapters, and appendixes:

- **Part 1. Introducing Automated Operations Network** on page 1 contains background material that you should know before planning an automation environment.
  
  Many benefits result from automating network operations. The chapters in this part of the book provide introductory information about using the NetView program and associated products to automate systems and networks.
  
  - **Part 2. Using AON/SNA** on page 87 describes how you can use AON in a Systems Network Architecture (SNA) network.
  
  
  - **Appendix A. Implementing X.25 Monitoring Support** on page 209 describes how X.25 monitoring support can help in problem determination.
  
  - **Appendix B. Using the Browse Facility** on page 215 explains about browsing logs.
  
  - **Appendix C. AON Command Synonyms** on page 217 contains AON command synonyms, which are used for automation.

Publications

This section lists prerequisite and related documents. It also describes how to access Tivoli® publications online, how to order Tivoli publications, and how to make comments on Tivoli publications.

Prerequisite and Related Documents

To read about the new functions offered in this release, refer to the Tivoli NetView for z/OS™ Installation: Migration Guide.

You can find additional product information on these Internet sites:

<table>
<thead>
<tr>
<th>Table 1. Resource Web sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM®</td>
</tr>
<tr>
<td>Tivoli Systems</td>
</tr>
</tbody>
</table>
The Tivoli NetView for z/OS Web site offers demonstrations of the NetView product, related products, and several free NetView applications you can download. These applications can help you with tasks such as:

- Getting statistics for your automation table and merging the statistics with a listing of the automation table
- Displaying the status of a JES job or cancelling a specified JES job
- Sending alerts to the NetView program using the program-to-program interface (PPI)
- Sending and receiving MVS™ commands using the PPI
- Sending TSO commands and receiving responses

### Accessing Publications Online

You can access many Tivoli publications online using the Tivoli Information Center, which is available on the Tivoli Customer Support Web site:


These publications are available in PDF format. Translated documents are also available for some products.

### Ordering Publications

You can order many Tivoli publications online at the following Web site:


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](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/](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:

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:** Additional support for Tivoli NetView for z/OS is available at the NetView for z/OS Web site:

[http://www.tivoli.com/nv390](http://www.tivoli.com/nv390)

Under Related Documents, select Other Online Sources.

The page displayed contains a list of newsgroups, forums, and bulletin boards.

---

**Accessibility Information**

Refer to *Tivoli NetView for z/OS User's Guide* for information about accessibility.

**Keyboard Access**

Standard shortcut and accelerator keys are used by the product and are documented by the operating system. Refer to the documentation provided by your operating system for more information.

Refer to *Tivoli NetView for z/OS User's Guide* for more information about keyboard access.

---

**Conventions Used in This Document**

The document uses several typeface conventions for special terms and actions. These conventions have the following meaning:

**Bold**

Commands, keywords, flags, and other information that you must use literally appear like *this, in bold.*

**Italics**

Variables and new terms appear like *this, in italics.* Words and phrases that are emphasized also appear like *this, in italics.*

**Monospace**

Code examples, output, and system messages appear like *this, in a monospace font.*

**ALL CAPS**

Tivoli NetView for z/OS commands are in ALL CAPITAL letters.

---

**Platform-specific Information**

For more information about the hardware and software requirements for NetView components, refer to the *Tivoli NetView for z/OS Licensed Program Specification.*
Terminology

For a list of Tivoli NetView for z/OS terms and definitions, refer to:

http://www.networking.ibm.com/nsg/nsgmain.htm

For brevity and readability, the following terms are used in this document:

NetView
- Tivoli NetView for z/OS Version 5 Release 1
- Tivoli NetView for OS/390 Version 1 Release 4
- Tivoli NetView for OS/390 Version 1 Release 3
- TME 10™ NetView for OS/390 Version 1 Release 2
- TME 10 NetView for OS/390 Version 1 Release 1
- IBM NetView for MVS Version 3
- IBM NetView for MVS Version 2 Release 4
- IBM NetView Version 2 Release 3

MVS OS/390 or z/OS operating systems.

RACF®
RACF is a component of the SecureWay® Security Server for z/OS and OS/390, providing the functions of authentication and access control for OS/390 and z/OS resources and data, including the ability to control access to DB2® objects using RACF profiles. Refer to:


Tivoli Enterprise™ software
Tivoli software that manages large business networks.

Tivoli environment
The Tivoli applications, based upon the Tivoli Management Framework, that are installed at a specific customer location and that address network computing management issues across many platforms. In a Tivoli environment, a system administrator can distribute software, manage user configurations, change access privileges, automate operations, monitor resources, and schedule jobs. You may have used TME 10 environment in the past.

TME 10
In most product names, TME 10 has been changed to Tivoli.

V and R
Specifies the version and release.

VTAM® and TCP/IP
VTAM and TCP/IP are included in the IBM Communications Server element of the OS/390 and z/OS operating systems. Refer to

http://www.ibm.com/software/network/commserver/about/

Unless otherwise indicated, references to programs indicate the latest version and release of the programs. If only a version is indicated, the reference is to all releases within that version.

When a reference is made about using a personal computer or workstation, any programmable workstation can be used.
Reading Syntax Diagrams

Syntax diagrams start with double arrowheads on the left (►) and move along the main line until they end with two arrowheads facing each other (◄).

As shown in the following table, syntax diagrams use position to indicate the required, optional, and default values for keywords, variables, and operands.

<table>
<thead>
<tr>
<th>Element Position</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>On the command line</td>
<td>Required</td>
</tr>
<tr>
<td>Above the command line</td>
<td>Default</td>
</tr>
<tr>
<td>Below the command line</td>
<td>Optional</td>
</tr>
</tbody>
</table>

Table 2. How the Position of Syntax Diagram Elements Is Used

Required Syntax

The command name, required keywords, variables, and operands are always on the main syntax line. Figure 1 specifies that the resname variable must be used for the CCPLOADF command.

CCPLOADF

Figure 1. Required Syntax Elements

Keywords and operands are written in uppercase letters. Lowercase letters indicate variables such as values or names that you supply. In Figure 2, MEMBER is an operand and membername is a variable that defines the name of the data set member for that operand.

TRANSMSG

Figure 2. Syntax for Variables

Optional Keywords and Variables

Optional keywords, variables, and operands are below the main syntax line. Figure 3 specifies that the ID operand can be used for the DISPREG command, but is not required.

DISPREG

Figure 3. Optional Syntax Elements
Default Values

Default values are above the main syntax line. If the default is a keyword, it appears only above the main line. You can specify this keyword or allow it to default.

If an operand has a default value, the operand appears both above and below the main line. A value below the main line indicates that if you choose to specify the operand, you must also specify either the default value or another value shown. If you do not specify an operand, the default value above the main line is used.

Figure 4 shows the default keyword STEP above the main line and the rest of the optional keywords below the main line. It also shows the default values for operands MODNAME=* and OPTION=* above and below the main line.

Long Syntax Diagrams

When more than one line is needed for a syntax diagram, the continued lines end with a single arrowhead (►). The following lines begin with a single arrowhead (►), as shown in Figure 4.

Syntax Fragments

Commands that contain lengthy groups or a section that is used more than once in a command are shown as separate fragments following the main diagram. The fragment name is shown in mixed case. See Figure 5 on page xiii for a syntax with the fragments ReMote and FromTo.
Commas and Parentheses

Required commas and parentheses are included in the syntax diagram. When an operand has more than one value, the values are typically enclosed in parentheses and separated by commas. In Figure 6 on page xiv, the OP operand, for example, contains commas to indicate that you can specify multiple values for the testop variable.
If a command requires positional commas to separate keywords and variables, the commas are shown before the keyword or variable, as in Figure 4 on page xii.

For example, to specify the BOSESS command with the \textit{sessid} variable, enter:

\texttt{NCCF BOSESS applid,,sessid}

You do not need to specify the trailing positional commas. Positional and non-positional trailing commas either are ignored or cause the command to be rejected. Restrictions for each command state whether trailing commas cause the command to be rejected.

**Highlighting, Brackets, and Braces**

Syntax diagrams do not rely on highlighting, underscoring, brackets, or braces; variables are shown italicized in hardcopy or in a differentiating color for NetView help and BookManager® online books.

In parameter descriptions, the appearance of syntax elements in a diagram immediately tells you the type of element. See Table 3 for the appearance of syntax elements.

**Table 3. Syntax Elements Examples**

<table>
<thead>
<tr>
<th>This element...</th>
<th>Looks like this...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyword</td>
<td>CCPLOADF</td>
</tr>
<tr>
<td>Variable</td>
<td>\textit{resname}</td>
</tr>
<tr>
<td>Operand</td>
<td>MEMBER=\textit{membername}</td>
</tr>
<tr>
<td>Default</td>
<td>today or INCL</td>
</tr>
</tbody>
</table>
Abbreviations

Command and keyword abbreviations are described in synonym tables after each command description.
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<td>Reissuing Notifications</td>
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<tr>
<td>Searching Log Entries</td>
<td>84</td>
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</tbody>
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Chapter 1. Introducing Automated Operation Network (AON)

This chapter describes how to use the Automated Operations Network (AON) component of NetView by showing you how to display and use its panels. Many of the AON functions can be accessed without displaying a panel if you provide all the parameters with the command and function. For a list of these commands, refer to the *Tivoli NetView for z/OS Command Reference*.

The AON operator interface enables you to use operator functions to view color-coded status displays, change automation settings, receive messages, issue commands, and perform many other functions that control automation and resources.

To use the operator interface, log on to NetView. If you log on as a NetView-NetView task (NNT), the operator interface is bypassed; however, you can use AON by issuing commands from the command line.

Displaying the AON: Operator Commands Main Menu

You can display the operator interface from any command line within NetView. The main panel of the AON operator interface is the AON: Operator Commands Main Menu panel.

To display the AON: Operator Commands Main Menu panel:
1. Type `AON` on the command line.
2. Press `Enter`.
   
   The AON: Operator Commands Main Menu panel shown in [Figure 7](#) is displayed.

![Figure 7. AON: Operator Commands Main Menu Panel](image-url)

<table>
<thead>
<tr>
<th>Command</th>
<th>F1=Help</th>
<th>F2=End</th>
<th>F3=Return</th>
<th>F6=Roll</th>
<th>F12=Cancel</th>
</tr>
</thead>
<tbody>
<tr>
<td>AON: Operator Commands Main Menu</td>
<td>EZLK0000</td>
<td>AON: Operator Commands Main Menu</td>
<td>CNM01</td>
<td>Select an option</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0. Tutorial</td>
<td>1. AON Base Functions</td>
<td>2. SNA Automation</td>
<td>3. TCP/IP Automation</td>
<td></td>
</tr>
</tbody>
</table>
If an automation component is not enabled, the menu option for that component is displayed in a different, dimmer color from that of the installed options.

If you use the AON functions to disable all or part of AON automation, the option on the main menu panel for the disabled component is displayed in the dimmer color. The main menu panel enables you to access base AON, SNA, and TCP/IP automation functions.

### Displaying the AON Base Functions Panel

To access AON functions, use the AON Base Functions panel:

1. Display the **AON: Operator Commands Main Menu** panel.

   **Note:** To display the AON: Operator Commands Main Menu panel, see “Displaying the AON: Operator Commands Main Menu” on page 3

2. On the AON: Operator Commands Main Menu panel, type 1 in the entry field.
3. Press Enter.

   The AON: Base Functions panel shown in Figure 8 is displayed.

   **Note:** You can also display the AON: Base Functions panel by typing **AON 1** on any command line. The following chapters explain how to use several of the options on this panel.

![Figure 8. AON: Base Functions Panel](image-url)
Understanding How a Panel Is Organized

This section describes using the AON operator interface panels. The panels have a similar structure. Each panel has a heading at the top that displays basic information about the panel. Under the heading, many panels display lists or rows of data, as well as interactive entry fields, such as menus and data entry fields.

Some panels display pop-up command windows, providing additional entry fields for issuing commands. Some panels support selection lists from which you can select previously defined entries. Some panels support the use of wildcard characters.

Finally, each panel has an area near the bottom where messages are displayed in response to actions you issue on the panel. At the bottom of each panel, a set of function keys is available for navigating through the interface.

Each of these panel parts is described in detail in the following subsections.

Headings

The heading is located at the top of a panel, as shown in Figure 9, and provides information about the panel.

1. EZLK5000
2. AON: Cross Domain Logon
3. CNM01
4. More: +

Figure 9. Example of a Panel Heading

1. The panel ID.
2. The name of the panel.
3. The domain name. (The name is not displayed on all panels.)
4. If there is more information for this panel, you can display the information by scrolling the panel. (This field is not displayed on all panels.)

Note: When applicable, the time of day is also displayed on panels.

Entry Fields

Most panels have menu choices or data entry fields, as shown in Figure 10, in which you can type data to be processed. Menu choices and data entry fields differ from panel to panel.
An example of a data entry field

An example of a menu choice entry field

Data Panels

Some panels display data arranged in columns or rows for informational purposes. The Domain, Status, Operator, Type, Init, and Description columns shown in Figure 11 are examples. The data that is displayed on a particular panel differs from panel to panel.

Figure 11. Example of Information Displays

1 Action codes
2 Entry fields

Pop-up Command Windows

On some panels, the F4 key is activated. When you press the F4 key, a pop-up window is displayed that lists commands that you can issue against a resource. The commands that are displayed in the pop-up window depend on the type of
resource that has been selected. Figure 12 shows an example of a pop-up command window.

![Figure 12. Pop-up Command Window](image)

From this pop-up command window, you can choose any of the seven actions.

**Message Display Area**

AON frequently displays messages on the panels of the operator interface in response to actions. These messages are displayed in the lower portion of a panel, where the message EZL910I ENTER A SELECTION is displayed in Figure 13.

![Figure 13. Message Displayed in Message Area](image)

These messages can be of various types. Some tell you whether a function completed successfully, and others tell you what further actions you need to take, why a function failed, and other useful information.

**Note:** Some functions use the NetView command facility to display messages. For example, if you are defined as a notification operator for a resource, AON optionally sends messages to you when there are problems with that resource. Those messages are displayed on your NetView command facility and stay there until you clear them. You can use the DM command to clear them.

Online help for AON messages is available. To view message help:

1. Type **HELP messagenumber**.
Function Keys (F Keys)

The function keys are displayed at the bottom of each panel (except tutorials), as shown in Figure 14. Use the function keys to perform functions on the interface.

<table>
<thead>
<tr>
<th>F1=Help</th>
<th>F2=Main Menu</th>
<th>F3=Return</th>
<th>F4=Commands</th>
<th>F5=Refresh</th>
<th>F6=Roll</th>
</tr>
</thead>
<tbody>
<tr>
<td>F7=Forward</td>
<td>F8=Backward</td>
<td>F10=Left</td>
<td>F11=Right</td>
<td>F12=Cancel</td>
<td></td>
</tr>
</tbody>
</table>

Figure 14. Function Keys

The keys used on each panel vary according to the functions required. The following keys usually have these functions:

- **F1** Displays contextual help. Detailed help for the entire AON product, the AON base, or the specialized automation components is included in the tutorials. The Help key shows you only the instructions you need for using the panel currently displayed.
- **F2** Displays the AON: Operator Commands Main Menu panel.
- **F3** Displays the previous panel.
- **F4** Displays a pop-up command window.
- **F5** Updates the information on the panel.
- **F6** Rolls the display among the various active functions.
- **F7** Moves the interface backward one panel if MORE is indicated.
- **F8** Moves the interface forward one panel if MORE is indicated.
- **F10** Scrolls the panel to the left.
- **F11** Scrolls the panel to the right.
- **F12** Cancels the current function.

Selection Lists

Some of the panels of the AON interface display the following prompt beside an entry field:

(Type ? for a selection list)

Use selection lists to see a complete list of the available responses.

Using the Wildcard Function

Some of the fields of the AON interface require that you fill in information and specify search parameters. When you want to locate all instances of a certain resource you can define your search parameters with a wildcard character. AON enables you to use two different wildcard characters:

- & Multiple character wildcard
- % Single character wildcard

2. Press Enter.

For more information about AON messages, refer to the Tivoli NetView for z/OS Messages and Codes.
For example, both PU0& and PU% are matches for PU01. ENTRY=ENVI searches for all entries starting with ENVI.

### Navigating through AON Panels

You can navigate through the panels of the AON operator interface by using several methods:

- Selecting menu choices
- Using fast path commands
- Using AON command synonyms

Selecting menu choices enables new AON operator interface users to navigate through the panels. Users experienced with the arrangement of the panels throughout the interface can use the fast path method or command synonyms to navigate through the panels more quickly. Each of these methods of navigation is described in the following subsections.

#### Selecting Menu Options

One way to navigate the AON operator interface is by selecting menu choices. The following example shows how you use menu choices to display the comprehensive AON tutorial:

1. Display the AON: Operator Commands Main Menu panel shown in Figure 7 on page 3.

   Note: To display the AON: Operator Commands Main Menu panel, see “Displaying the AON: Operator Commands Main Menu” on page 3.

2. Type 0 for Tutorial in the Select an option entry field.

3. Press Enter.

   The AON tutorial shown in Figure 15 is displayed:

   ![Figure 15. AON Tutorial](image-url)

   The following tutorial defines automated operations and how they are implemented on a Tivoli system using the NetView product.

   Before discussing automated operations, it is helpful to know what is meant by:

   - Availability
   - System operations
   - Network operations
   - The operator

   Command ===>

   F2=End  F3=Return  F4=Top  F5=Bottom  F6=Roll
   F8=Forward  F11=Entry Point
Using Fast Path Commands

Fast path commands enable you to display a panel directly from a panel that is not adjacent without displaying intervening panels. You can use the fast path from the NetView command facility or from any command line in the AON operator interface.

For example, to use the fast path method to display the tutorial shown in Figure 15 on page 9:
1. Type AON 0 on any command line.
2. Press Enter.

You can use the fast path method to reach a panel that is up to three levels away from the AON: Operator Commands Main Menu.

For example, the Reinitialize Automation panel is three levels below the AON: Operator Commands Main Menu panel. To display that panel by using the fast path method:
1. Type AON 1.8.2 on any command line.
2. Press Enter.

The AON: Reinitialize Automation panel is displayed:

![AON: Reinitialize Automation Panel](image)

Using AON Command Synonyms

You can also display specific panels by using AON command synonyms. AON command synonyms are commands you type on the command line to display another panel.

Note: If you issue a command from a panel and you select an option or fill in an input field at the same time, the command takes precedence over the panel entries. AON does not process any of the panel entries.
As an example, use the command synonym AONINFO to display the AON tutorial in Figure 15 on page 9.
1. Type AONINFO on any NetView or AON command line.
2. Press Enter.
   The AON tutorial shown in Figure 15 on page 9 is displayed.

You can use command synonyms to reach a panel that is up to three levels away from the AON: Operator Commands Main Menu.

For example, the Reinitialize Automation panel is three levels below the AON: Operator Commands Main Menu panel. To display that panel by using the command synonym:
1. Type AONINIT on any command line.
2. Press Enter.
   The AON: Reinitialize Automation panel shown in Figure 16 on page 10 is displayed.

Using AON Commands

You can issue AON commands from any NetView command line.

For most AON functions, you can bypass the operator interface completely by using these commands. This enables you to use the automation functions from within your own user-written programs. To issue commands, type the command and its parameters. If you issue the command with all of the required parameters entered correctly, AON processes the command without going through the operator interface. If you enter the command name without any parameters or with the parameters entered incorrectly, AON displays the appropriate operator interface panel.

Note: If you issue a command from a panel and you select an option or fill in an input field at the same time, the command takes precedence over the panel entries. AON does not process any of the panel entries.

Getting Help

To access help for AON, use the extensive online help facilities that come with the program. AON offers online tutorials, which answer basic questions about how AON works, and contextual help, which answers questions about the fields of a particular panel.

Displaying the AON Tutorial

The AON comprehensive tutorial is one of several help facilities that come with the AON program. This tutorial explains how the AON program works by defining automated operations and how they are implemented on a Tivoli system using AON.

To display the main AON tutorial:
1. Display the AON: Operator Commands Main Menu panel.
2. On the AON: Operator Commands Main Menu panel, type 0 in the entry field.
3. Press Enter. The following panel is displayed:

![AON Tutorial Panel](image)

As you can see in the top right corner of the panel, the first AON tutorial consists of seven panels. Use the function keys at the bottom of the panel to scroll through the panels.

**Using Contextual Help**

In addition to extensive online tutorials, AON provides contextual help for each of the panels of the operator interface. Press F1 to display help for a panel and the entry fields on it.

**Using Message Help**

You can get online help for any of the messages you receive. To see the message help:

1. Type `HELP message number`.
2. Press Enter.

A help panel is displayed that explains the message.

For more information about AON messages, refer to the Tivoli NetView for z/OS Messages and Codes.

**Using Command Help**

You can get online help for most of the AON commands. If the command takes you to a panel, you can display online help for that panel. If the command performs other functions, you can display a help panel that explains what you can do with the command.

To see the online help for a command:

1. Type `HELP command name` on the command line of any panel.
2. Press Enter.
A help panel is displayed for the command.
Chapter 2. Solving Network Problems with Help Desks

You can solve problems on the network by using automated help desks. You use the AON: Help Desk panel to display all of the help desks that are available to you. The help desks for all of the components function similarly, but the displays and options vary according to the needs of the type of network.

Any automation component that has a defined help desk is displayed as an option on the AON: Help Desk panel. You can use help desks to display color-coded pictures of how resources are connected to networks, stop and start resources, perform problem determination, and issue commands to solve network problems.

This chapter describes how to use the AON: Help Desk panel. "Using the SNA Help Desk" on page 17 provides an overview of the SNA Help Desk.

Displaying the AON Help Desk

To display the AON Help Desk panel:

1. Display the Base Functions panel.

   Note: To display the Base Functions panel, see "Displaying the AON Base Functions Panel" on page 4.

2. Type 1 in the entry field.

3. Press Enter.

   The AON: Help Desk panel shown in Figure 18 is displayed.

   Note: You can also display the AON: Help Desk panel by entering AON 1.1 or AONHD on any command line.

   EZLK1000 AON: Help Desk CNM01

   Resource Name _______________________________

   Resource Type ____________________ (Optional)

   Select an Option - n displays the NetView HelpDesk

   (Optional) 0. All

   1. SNA

   TO SEE YOUR KEY SETTINGS, ENTER 'DISPFK'

   Figure 18. AON: Help Desk Panel
The AON: Help Desk panel displays the following entry fields and options:

**Resource Name**
Enables you to specify the resource that is having a problem. The resource name is required.

**Resource Type**
Enables you to specify the type of resource. For example, resource types in the SNA environment include physical unit (PU), logical unit (LU), Network Control Program (NCP), and application (APPL). The resource type is optional.

**Select an Option**
Enables you to specify the help desk for the kind of network on which the specified resource is located. You can select one of the following options:

- **All** Searches all of the automation components listed on the panel for the resource and displays the resource on its help desk.
- **SNA** Searches the SNA automation component for the resource.

If you leave this field blank, AON searches all of the automation components for the resource.

The following sections explain how to use each option.

**Searching AON Components for a Resource**
To search all AON components listed on the AON: Help Desk panel for a resource and display the resource in each of the help desks:

1. Display the AON: Help Desk panel.
   
   **Note:** To display the AON: Help Desk panel, see “Displaying the AON Help Desk” on page 15.

2. Type the name of the resource in the Resource Name field on the AON Help Desk panel.
3. Optionally, type the resource type in the Resource Type field.
4. Leave the Select an Option entry field blank.
5. Press Enter.
   
   If the resource is defined to more than one automation component, the AON: Component Selection panel shown in Figure 19 on page 17 lists each occurrence of the resource.
6. Type the number of the option you want in the Select an Option entry field. You can select any of the options that appear on the panel. In the following example, AON found the resource in AON/SNA.

7. Press Enter.

AON displays the Help Desk panel that you selected. See the following sections for more information about the AON/SNA Help Desk.

Using the SNA Help Desk

You can use the SNA Help Desk when a user terminal is experiencing a problem. If the problem is with a SNA resource on a remote NetView domain, you must have a NetView-NetView Task (NNT) or a remote commands session to that domain to use the SNA Help Desk.

To use the SNA Help Desk:

1. Display the AON: Help Desk panel.

   Note: To display the AON: Help Desk panel, see “Displaying the AON Help Desk” on page 15.

2. Type the name of the resource in the Resource Name field on the AON: Help Desk panel. This example uses resource TA1PT209.

3. Type the resource type in the Resource Type field. AON/SNA resource types are generic resource groups such as PU, LU, NCP, and APPL.

4. Type 2 in the Select an Option entry field.

5. Press Enter.

The SNA Automation: Help Desk panel shown in Figure 20 on page 18 is displayed.
6. To search for a different resource than is displayed in the Enter Name field, type over the existing resource name.

7. Type the option you want in the Select Option entry field. You can select one of the following options:

   - **Recycle resource**: Forces the resource inactive then activates it again. If AON/SNA could not recycle the resource, it displays additional panels with further options.

   - **Problem Determination**: Displays the current status of the resource. You can perform additional queries and tests on the resource.

   - **NetView Access Services User ID**: Works with user IDs that are logged on NetView Access Services and their applications on the same VTAM where AON/SNA resides.

   - **NetView Help Desk**: This option takes you to the main NetView Help Desk facility.

8. Press Enter.
Chapter 3. Displaying Resource Information with AutoView

The AutoView function works with more than one setting for a single resource. The AutoView function displays all known data for the resource and tries to determine which automation components are interested in the resource.

Displaying the AON: AutoView Panel

To display the AON: AutoView panel:
1. Display the Base Functions panel.
2. Type 2 in the entry field.
3. Press Enter.

The AON: AutoView panel shown in Figure 21 is displayed.

Note: You can also display the AON: AutoView panel by entering AON 1.2 or AUTOVIEW on any command line.

Figure 21. AON: AutoView Panel

The AON: AutoView panel displays the following entry fields and options:

**Resource Name**
Enables you to specify a resource for which you want to display current information or change settings.

**Resource Type**
Enables you to specify the resource type.

**Select an Option**
Specifies the component to which the resource is defined. Each component has predefined information that it displays about the resource. Each component has commands that you can use to get
further information about the resource or set and change automation settings. The list of options varies, depending on which components have the resource defined. The following components are provided:

**APPN**  Looks for the resource as an Advanced Peer-to-Peer Networking® (APPN®) network resource.

**SNBU**  Looks for the resource as a switched network backup (SNBU) network resource.

**TCPIP**  Looks for the resource as a Tivoli NetView for UNIX® or z/OS Communication Server IP resource.

**SNA**  Looks for the resource as a SNA network resource.

**Note:** These options might appear in a different order on your panels, because the panel changes depending on the configuration of your site.

The following sections provide an example of how AutoView works for a SNA resource.

**Usage Notes:**

- The AutoView function utilizes UNIX System Services to monitor and display IP resource status through TCP autotasks. These autotasks are defined in the control file and must be authorized to access UNIX System Services.

- The AutoView function queries SNMP MIB variables to determine the status of IP resources. The SNMP Community name defined in the control file for each TCP390 stack must match the one configured by the z/OS communication server for each stack. The Community name can be dynamically updated by using the IP Resource Manager function.

For more information about UNIX System Services authorization and the SNMP Community name, refer to the Tivoli NetView for z/OS Security Reference. The Community name definition is described in the TCP390 definition in the Tivoli NetView for z/OS Administration Reference.

### Displaying Resource Information (A SNA Example)

To display information about a SNA resource:

1. Display the AON: AutoView panel.

   **Note:** To display the AON: AutoView panel, see Displaying the AON: AutoView Panel on page 13.

2. Type the name of a SNA resource in the Resource Name field. This example uses resource TA1P523A.

3. Optionally, type the resource type in the Resource Type field. Resource types are LU, PU, NCP, or APPL.

4. Optionally, to select SNA, type the number for SNA in the Select an Option entry field.

5. Press Enter.

   If you selected SNA, or left the option blank, and the resource is defined to a SNA network, the panel in Figure 23 on page 23 is displayed. Proceed to Step 6 on page 23.
If you left the option blank and the resource is defined to more than one type of network, the AON: Component Selection panel shown in Figure 22 is displayed. Proceed to Step 5a.

On the AON: Component Selection panel, follow these steps:

a. Type 1 in the select an option field.

b. Press Enter.

The following panel is displayed:
Although the appearance of the AON: AutoView panel differs among automation components, the panel in Figure 23 displays the following information and options:

1. Summarizes information about the resource including the resource name, resource type, status, automation settings for the resource, DDF message for the resource (if any) and other information, depending on the automation component.

2. Displays a list you can use for the resource. The following actions are supported:

   Automation
   Sets the RECOVERY flags for the resource. If none are found, DEFAULTS is displayed. For detailed information about Automation settings, see “Displaying the Recovery Settings Panel” on page 27.

   Thresholds
   Sets the THRESHOLDS processing for errors received on this resource. The default is DEFAULTS if none is defined. For detailed information about setting thresholds, see “Displaying Thresholds” on page 33.

   Active Monitoring
   Sets the ACTMON entry for this resource. If none are found, the DEFAULTS value is used. For detailed information about setting active monitoring, see “Displaying the Active Monitor Settings Panel” on page 37.

   Monitor Intervals
   Sets the MONIT intervals for the resource, defaulting to the type of resource if intervals are defined for that type. Otherwise, DEFAULTS are used if no intervals are found. For
detailed information about setting monitor intervals, see “Displaying the Monitor Intervals Panel” on page 35.

**Timer** Sets a timer command for the resource. For detailed information about setting timers, refer to the information on timer commands in the *Tivoli NetView for z/OS User’s Guide*.

**Display Network LOG Information** Displays only the Netlog information for the resource using the NetView BLOG command.

3 Displays which control file entry is currently defining the settings for the commands listed in the second group. For example, in Figure 23 on page 22, the settings for option 1 (Automation) are defined in the RECOVERY DEFAULTS control file entry.

For commands that do not have a corresponding control file entry, such as option 5 (Timer), the information in parentheses tells you if any settings exist. In Figure 23 on page 22, no timers are set for the resource TA1P523A.

6. To continue with the example, type 6 for Display Network LOG Information in the Resource Definitions field.

7. Press Enter.

The NetView Log shown in Figure 24 is displayed with the resource you specified.

```
STATMON.BROWSE ACTP NETWORK LOG FOR 04/29/00 (96120) COLS 017 096 15:20
HOST: HOST1 +1+ +2+ +3+ +4+ SCROLL: CSR
---2---------3---------4---------5---------6---------7---------8---------9----
CNM01 P% 11:49:06 IST2591 INOP RECEIVED FOR TA1P523A CODE = 01
CNM01 P% 11:49:06 IST6191 ID = TA1P523A FAILED - RECOVERY IN PROGRESS
CNM01 ¼ 11:49:08 CNM0941 STATUS UPDATE FOR RESOURCE = TA1P523A IN NETWORK =
CNM01 ¼ 11:49:20 CNM0941 STATUS UPDATE FOR RESOURCE = TA1P523A IN NETWORK =
CNM01 P% 11:49:20 IST6211 RECOVERY SUCCESSFUL FOR NETWORK NODE TA1P523A
CNM01 ¼ 11:49:20 CNM0941 STATUS UPDATE FOR RESOURCE = TA1P523A IN NETWORK =
CNM01 14:42:25 EZL1121 ACTIVE TYPE= TA1P523A

CMD==> 1=HLP 2=END 3=RET 4=TOP 5=BOT 6=ROL 7=BCK 8=FWD 9=RPF 10=LFT 11=RGT 12=ALL
```

**Figure 24. NetView Log Panel Displaying One Resource**

8. Browse the log as needed.

**Note:** This option uses the NetView BLOG sample. If there are no entries in the log for the resource you are using, no action is taken and no message is displayed.
Chapter 4. Specifying Automation Policy Settings

Specify automation policy settings using the AON: Automation Settings panel and the subordinate panels. Use these panels to add, display, change, and delete automation policy settings that control various parts of the network.

When NetView initializes, it loads a copy of the automation policy into storage. When you use the AON: Automation Settings panels to change automation settings, you change the in-storage copy of the policy without altering the original. When the policy is reloaded into storage, the changes you made to the automation settings are reset.

If you need to make permanent changes to the policy, your system programmer can edit and reload it so that the changes are available the next time AON initializes.

Note: The AON: Automation Settings panel lists settings for all network resources. However, to view and change numerous settings for a single resource, use the AutoView panel. The AutoView panel consolidates commands for automation settings onto a single menu. The AutoView function displays settings panels that apply only to a single resource.

Displaying the AON: Automation Settings Panel

To display the AON: Automation Settings panel:

1. Display the Base Functions panel.

   Note: To display the Base Functions panel, see “Displaying the AON Base Functions Panel” on page 4.

2. On the Base Functions panel, type 4 in the entry field.

3. Press Enter.

   The AON: Automation Settings panel shown in Figure 25 on page 26 is displayed.

   Note: You can also display the AON: Automation Settings panel by entering AON 1.4 on any command line.
The AON: Automation Settings panel displays the following options:

- **Automation**
  Defines the times when AON automation recovery actions occur on resources. These values are retrieved from the RECOVERY control file entry.

- **Notification Operators**
  Specifies which operators receive AON messages when automation events occur. These values are retrieved from the NTFYOP control file entry.

- **Thresholds**
  Specifies the number of times an event must occur within a given time span before AON sends notifications to the selected operators. These values are retrieved from the THRESHOLDS control file entry.

- **Monitor Intervals**
  Controls reactivation intervals for failing resources. These intervals determine how often AON attempts to recover the failed resources and send messages to the notification operators. These values are retrieved from the MONIT control file entry.

- **Active Monitoring**
  Controls active monitoring intervals for resources. AON regularly checks the status of important resources that must be available to the network. The active monitoring intervals determine how often AON monitors those resources. These values are retrieved from the ACTMON control file entry.

The following sections describe how to use these options.

**Specifying Recovery Settings**

Use the Recovery Settings panel to add, display or change, and delete automation settings. Recovery settings set automation on or off for one resource or group of resources. You can also specify times when automation does not operate.
Note: A RECOVERY DEFAULTS policy definition is required. The DEFAULTS entry is used during recovery processing and a specific resource name or type is not coded. The DEFAULTS entry cannot be deleted.

Displaying the Recovery Settings Panel

To display the Recovery Settings panel:

1. Display the AON: Automation Settings panel.
   
   Note: To display the AON: Automation Settings panel, see “Displaying the AON: Automation Settings Panel” on page 23.

2. Type 1 in the entry field on the AON: Automation Settings panel.

3. Press Enter.
   
The Recovery Settings panel shown in Figure 26 is displayed.

   Note: You can also display the Recovery Settings panel by entering AON 1.4.1, SETAUTO, DISAUTO, or DELAUTO on any command line.

The Recovery Settings panel shown in Figure 26 is displayed.

<table>
<thead>
<tr>
<th>Type</th>
<th>Automation</th>
<th>Scheduled Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOF01*</td>
<td>OFF</td>
<td></td>
</tr>
<tr>
<td>APPL</td>
<td>OFF</td>
<td></td>
</tr>
<tr>
<td>CNM01*</td>
<td>OFF</td>
<td></td>
</tr>
<tr>
<td>DEFAULTS</td>
<td>ON</td>
<td></td>
</tr>
<tr>
<td>LINKSTA</td>
<td>ON</td>
<td></td>
</tr>
<tr>
<td>TAF*</td>
<td>OFF</td>
<td></td>
</tr>
<tr>
<td>TSO*</td>
<td>OFF</td>
<td></td>
</tr>
</tbody>
</table>

Command ===>  
F1=Help  F2=Main Menu  F3=Return  F5=Refresh  F6=Roll  F7=Backward  F8=Forward  F12=Cancel

Figure 26. Recovery Settings Panel

The Recovery Settings panel displays three columns of data:

Type  Lists all the resources that have recovery settings defined.

Automation  Indicates whether automation is set on or off for the resources by looking at the AUTO= parameter in the control file setting.

Scheduled Recovery  Looks at the NOAUTO= parameter. For resources that have intervals scheduled when automation does not occur, this field has one of the following values:

ON  When the current time is outside the times defined with the NOAUTO= parameter.
OFF  When the current time is within one of the times specified with the
NOAUTO= parameter.

If you leave the field blank, scheduled recovery is not in place for
the resource.

Scheduled recovery intervals are optional. If no such intervals are coded,
automation is either on all the time or off all the time depending on the
setting in the Automation column. The Scheduled Recovery column is
blank if no scheduled intervals are specified for the resource.

Note: Scheduled Recovery settings, if any, and automation must be set to
ON for automation to occur on the resource.

Use the Recovery Settings panel to add, display or change, and delete recovery
settings. The following sections explain how to perform these actions.

Displaying or Changing Recovery Settings

To display or change an existing recovery setting:
1. Display the Recovery Settings panel.

Note: To display the Recovery Settings panel, see “Displaying the Recovery
Settings Panel” on page 27

2. Type 2 in the entry field next to the resource, the settings for which you want
to change, on the Recovery Settings panel.

3. Press Enter.

The Display/Change Recovery Setting panel shown in Figure 27 is displayed.

Figure 27. Display/Change Recovery Settings Panel with Valid Days Pop-up Window

4. Type over the values you want to change on the Display/Change Recovery
Setting panel. The values are displayed in one color (the default color is green).
You cannot change the entry displayed in the Type field.
5. Press Enter.
   If the entries are specified correctly, AON displays this confirmation message on the panel:
   
   EZL919I ALL ACTIONS SUCCESSFULLY COMPLETED

To set automation to on or off, type the number for one of the following actions in the Auto field:
1=Y Sets recovery on.
2=N Sets recovery off.
3=YA Sets recovery on for the specified resource and its lower nodes.
4=NA Sets recovery off for the specified resource and its lower nodes.

**Note:** YA and NA are valid only for SNA resources that do not contain wildcard characters (* and %).

You can specify the times when you do not want automation to operate in the NoAuto field. The NoAuto setting enables you to define exactly when you want automation to be active for the resource. The following are the values for the NoAuto setting columns.

**Day**
- Specifies the days when recovery is set off, as follows:
  - 0 Any special day defined in DSISCHED, for example, HOLIDAY
  - 1 MONday
  - 2 TUEsday
  - 3 WEDnesday
  - 4 THUrsday
  - 5 FRIday
  - 6 SATurday
  - 7 SUNday
  - 8 WEEKDAY
  - 9 WEEKEND
  - * everyday
  - 0 calendar day or date as defined in DSISCHED
  - – delete a NOAUTO window

**Note:** The example in Figure 27 on page 28 shows an asterisk (*) to represent that everyday is selected. You can also specify the valid days by typing the capital letters shown in the Valid Days pop-up window, in the second column text field under Day.

**Start Time**
- Sets automation off starting at this time. Specify the time in the **hh:mm** format, where **hh** is a number in the range of 00–23 and **mm** is a number in the range of 00–59.

**End Time**
- Determines the end of the interval when automation is not active for the resource. Specify the time in the **hh:mm** format, where **hh** is a number in the range of 00–23 and **mm** is a number in the range of 00–59.

**Note:** The ending time must be later in the day than the starting time except when you specify * (every day).
Specifying Notification Operators

Use the Notification Operators panel to:
- add new notification operators
- display or change the settings for existing operators
- delete settings for existing operators

Notification operators are operators who receive messages from AON and its components when automation events occur. These values are retrieved from the NTFYOP control file entry.

Displaying the Notification Operators Panel

To display the Notification Operators panel:

1. Display the AON: Automation Settings panel.

   **Note:** To display the AON: Automation Settings panel, see "Displaying the AON: Automation Settings Panel" on page 25.

2. Type 2 in the entry field.
3. Press Enter.

   The Notification Operators panel is displayed in Figure 28.

   **Note:** You can also display the Notification Operators panel by entering AON 1.4.2, SETNTFY, DISNTFY, or DELNTFY on any command line.

```
<table>
<thead>
<tr>
<th>Operator</th>
<th>Notify Flag</th>
<th>Log Flag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPER1</td>
<td>Y</td>
<td>N</td>
<td>'Operator One'</td>
</tr>
<tr>
<td>OPER2</td>
<td>Y</td>
<td>N</td>
<td>'Operator Two'</td>
</tr>
<tr>
<td>OPER3</td>
<td>Y</td>
<td>Y</td>
<td>'Operator Three'</td>
</tr>
<tr>
<td>OPER4</td>
<td>Y</td>
<td>Y</td>
<td>'Operator Four'</td>
</tr>
<tr>
<td>OPER5</td>
<td>Y</td>
<td>N</td>
<td>'Operator Five'</td>
</tr>
<tr>
<td>OPER6</td>
<td>Y</td>
<td>N</td>
<td>'Operator Six'</td>
</tr>
<tr>
<td>OPER7</td>
<td>Y</td>
<td>N</td>
<td>'Operator Seven'</td>
</tr>
<tr>
<td>NISTMP1</td>
<td>Y</td>
<td>N</td>
<td>'Test Operator One'</td>
</tr>
<tr>
<td>NISTMP2</td>
<td>Y</td>
<td>N</td>
<td>'Test Operator Two'</td>
</tr>
<tr>
<td>NISTMP3</td>
<td>Y</td>
<td>N</td>
<td>'Test Operator Three'</td>
</tr>
<tr>
<td>NISTMP4</td>
<td>Y</td>
<td>Y</td>
<td>'Test Operator Four'</td>
</tr>
<tr>
<td>NISTMP5</td>
<td>Y</td>
<td>N</td>
<td>'Test Operator Five'</td>
</tr>
<tr>
<td>NISTMP6</td>
<td>Y</td>
<td>N</td>
<td>'Test Operator Six'</td>
</tr>
<tr>
<td>NISTMP7</td>
<td>Y</td>
<td>N</td>
<td>'Test Operator Seven'</td>
</tr>
</tbody>
</table>
```

**Figure 28. Notification Operators Panel**

The Notification Operators panel lists the following columns of data:

**Operator**

The operator ID of the notification operator.

**Notify Flag**

Indicates if messages are sent to the notification operator. Use this flag to
temporarily stop the notification messages without removing the operator from the list of valid notification operators. The data is taken from the NOTIFY= parameter in the NTFYOP control file entry.

Logged On
Indicates if this notification operator is currently logged on to the system.
If the operator is logged on and the Notify Flag is set to Yes (Y), then the operator is receiving messages as defined by the notification settings.

Description
Describes the notification operator, usually, the name of the operator (optional).

Adding a Notification Operator

To add an operator ID to the list of valid notification operators:
1. Display the Notification Operators panel.

   Note: To display the Notification Operators panel, see "Displaying the Notification Operators Panel" on page 30.

2. Type 1 in the field next to an existing notification operator.
3. Press Enter. A pop-up window shown in Figure 29 is displayed.

4. Type the operator ID in the Operator field. This is the only required field.
5. Type a brief description for the operator in the Description field.
6. Type the numbers for the message classes in the Classes field. The default message class is 10. The data is taken from the CLASS= parameter in the NTFYOP control file entry.

   Note: Refer to the Tivoli NetView for z/OS Messages and Codes for more information about message classes.

Figure 29. Notification Operators Panel

Command ===>  F1=Help  F2=Main Menu  F3=Return  F5=Refresh  F6=Roll
             F7=Backward  F8=Forward  F12=Cancel
7. In the Messages fields, type any character in the field for each message type that should be held on the command facility until the notification operator clears it. The data is taken from the HELDMSG= parameter in the NOTFYOP control file entry. The message types are:

   I or INFO
   Informational messages

   W or WARN
   Warning messages

   E or ERROR
   Error messages

   A or ACTION
   Action messages

8. Type 1 to set notifications on for the operator or 2 to suppress the notification messages in the Notify field. You can also leave this field blank. By default, the notification operator receives the messages in the message classes assigned.

   If the information is entered correctly, AON displays this confirmation message on the panel:
   EZL919I ALL ACTIONS SUCCESSFULLY COMPLETED

10. Press F3 to return to the Notification Operators panel.
    The new notification operator is displayed in the alphabetized list on the updated Notification Operators panel.

---

**Setting Automation Thresholds**

To add, change, or delete threshold settings use the Thresholds panel. Threshold settings trigger notifications to operators when the thresholds are reached. An event is defined as an alert generated by the system. Thresholds are set for the resources in the network. These values are retrieved from the THRESHOLDS control file entry.

The threshold settings should be defined so that each threshold type is unique for the resource being monitored. Critical thresholds should have the smallest interval or highest occurrence frequency, followed by frequent, then infrequent.

**Displaying Thresholds**

To display the Thresholds panel:
1. Display the AON: Automation Settings panel.

   **Note:** To display the AON: Automation Settings panel, see “Displaying the AON: Automation Settings Panel” on page 25.

2. Type 3 in the entry field.
3. Press Enter.

   The Thresholds panel shown in Figure 30 on page 33 is displayed.

   **Note:** You can also display the Thresholds panel by entering AON 1.4.3, SETTHRES, DISTHRES, or DELTHRES on any command line.
The threshold types are defined as:

**Infrequent**

The minimum number of events needed within a defined period of time to trigger notification to an operator. This data is taken from the INFR= keyword of the THRESHOLDS control file entry.

**Frequent**

The number of events needed to indicate that the resource may be having some trouble. Notification is sent to an operator. This data is taken from the FREQ= keyword of the THRESHOLDS control file entry.

**Critical**

Specifies the number of events needed to define a situation as critical. Normally, recovery stops when a situation reaches critical state. This data is taken from the CRIT= keyword of the THRESHOLDS control file entry.

**Notify**

If Notify is 1, the notification policy is driven when the critical threshold is exceeded.

**Note:** A THRESHOLD DEFAULTS policy definition is required. The DEFAULTS entry is used when there is threshold processing and a specific resource name or type is not specified. You cannot delete the DEFAULTS entry.

Each threshold setting follows the same syntax. Two settings are entered to set the threshold:

*number*

The number of events that cause the threshold to be exceeded. The valid range is 0–10.

*interval*

The time span, in hours and minutes, in which the number of events must occur for the threshold to be exceeded. The valid range is 00:00–99:59.
You can use the Thresholds panel to add, change, and delete threshold settings. The following sections explain how to perform these actions in detail.

**Adding a Threshold**

To add a threshold:

1. Display the Thresholds panel.

   **Note:** To display the Thresholds panel, see "Displaying Thresholds" on page 32.

2. Type 1 in entry field on the Thresholds panel.

3. Press Enter.

   A pop-up window shown in Figure 31 is displayed.

4. In the pop-up window, type in the values you want.

5. Press Enter.

   When AON adds the thresholds, the following message is displayed in the message area near the bottom of the panel:

   EZL919I ALL ACTIONS SUCCESSFULLY COMPLETED

---

**Changing Monitor Intervals**

Use the Monitor Intervals panel to add, display and change, and delete monitor intervals. Monitor intervals determine how often AON tries to reactivate failed resources and if AON sends messages to the notification operators during these attempts. These values are retrieved from the MONIT control file entry.

**Note:** A DEFAULTS entry in the control file is required. The DEFAULTS entry is used when the parameters do not exist on the specific resource definition.
Displaying the Monitor Intervals Panel

To display the Monitor Intervals panel:

1. Display the AON: Automation Settings panel.

   **Note:** To display the AON: Automation Settings panel, see “Displaying the AON: Automation Settings Panel” on page 23.

2. Type 4 in the entry field on the AON: Automation Settings panel.
3. Press Enter.

   The Monitor Intervals panel shown in Figure 32 is displayed.

   **Note:** You can also display the Monitor Intervals panel by entering AON 1.4.4, SETMONIT, or DELMONIT on any command line.

![Monitor Intervals Panel](image)

---

Displaying or Changing a Current Monitor Interval

To display or change recovery monitoring intervals:

1. Display the Monitor Intervals panel.

   **Note:** To display the Monitor Intervals panel, see “Displaying the Monitor Intervals Panel”.

2. Type 2 in the entry field next to the resource type whose monitor interval you want to display or change.
3. Press Enter.

   A pop-up window shown in Figure 33 on page 36 is displayed.
4. To change a monitoring interval, type over the settings you want to change. The variables on this setting are:

- **hh:mm**
  
  The length of the interval between reactivation attempts expressed as hours (*hh*) and minutes (*mm*). The range is 00:00–24:00.

- **Notify**
  
  The setting that determines whether messages are sent to the notification operators when AON attempts to reactivate the resource. The settings can be:

  - **Y**: Consult the notification policy to determine which notifications to issue.
  - **N**: Do not send notifications.
  - **YF**: Consult the notification policy to determine which notifications to issue. Repeat recovery monitoring at the last interval specified.
  - **NF**: Do not send notifications. Repeat recovery monitoring at the last interval specified.

5. Press **Enter**.

If the settings are entered correctly, AON displays this message:

```
EZL9191I  ALL ACTIONS SUCCESSFULLY COMPLETED
```

---

### Changing Active Monitor Settings

Use the Active Monitor Setting panel to set intervals for active monitoring and to verify that resources are active. If the resource is not active, recovery monitoring starts for the resource and a timer is set to check the resource again for the next interval. These values are retrieved from the ACTMON control file entry.

Active monitoring expects specific entries only. Wildcard entries are not allowed. Example SNA entries and types are:

```
EZLK4410  Monitor Intervals  CNM01

Select one of the .................................
1=Add  2=Display/ Type: _______________:

  Type : Interval: 00 : 00 Notify: __
1 CDRM : Interval: 00 : 00 Notify: __
  CP  : Interval: 00 : 00 Notify: __
  CPSESS : Interval: 00 : 00 Notify: __
  DEFAULTS : Interval: 00 : 00 Notify: __
  HOST : Interval: 00 : 00 Notify: __
  INFC : Interval: 00 : 00 Notify: __
  IPHOST : Interval: 00 : 00 Notify: __
  IPCINFC : Interval: 00 : 00 Notify: __
  IPAMESERV : Interval: 00 : 00 Notify: __
  IPPORT : Interval: 00 : 00 Notify: __
  NAMESERV : Interval: 00 : 00 Notify: __
  NCP : Interval: 00 : 00 Notify: __
  SP  : F1=Help F12=Cancel

Command ===>
F1=Help F2=Main Menu F3=Return F5=Refresh F6=Roll
F7=Backward F8=Forward F12=Cancel

Figure 33. Monitor Intervals Panel
```
Specific resource name (PU01, LINE23)
General resource type (NCP, LU, PU)

Note: A DEFAULTS entry in the control file is required. The DEFAULTS entry is used when the parameters do not exist on the specific resource definition.

### Displaying the Active Monitor Settings Panel

To display the Active Monitor Settings panel:

1. Display the **AON: Automation Settings** panel.

   Note: To display the AON: Automation Settings panel, see "Displaying the AON: Automation Settings Panel" on page 23.

2. Type 5 in the entry field on the AON: Automation Settings panel.

3. Press Enter.

   The Active Monitor Settings panel is displayed, as shown in Figure 34.

   Note: You can also display the Active Monitor Settings panel by entering **AON 1.4.5 or ACTMON** on any command line.

<table>
<thead>
<tr>
<th>EZLK4500</th>
<th>Active Monitor Settings</th>
<th>CMM01</th>
</tr>
</thead>
</table>

Select one of the following. Then press Enter. More: - +

1=Add 2=Display/Change 3=Delete

<table>
<thead>
<tr>
<th>Name</th>
<th>Resource Type</th>
<th>Interval</th>
<th>Timer ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>SULU</td>
<td>CPCPSESS</td>
<td></td>
<td>FKV00011</td>
</tr>
<tr>
<td>TAIL5023</td>
<td>LINE</td>
<td>13</td>
<td>FKV00009</td>
</tr>
<tr>
<td>TAIN500</td>
<td>NCP</td>
<td>00:10</td>
<td>FKV00010</td>
</tr>
<tr>
<td>TAIT1046</td>
<td>LU</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>TAIT1047</td>
<td>LU</td>
<td>01:00</td>
<td></td>
</tr>
<tr>
<td>TAIT1048</td>
<td>LU</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>TEST1</td>
<td>SESSION</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>TEST2</td>
<td>SESSION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEST3</td>
<td>SESSION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USIBMTA.TA1CPBAD</td>
<td>CP</td>
<td>01:00</td>
<td>FKV00012</td>
</tr>
<tr>
<td>USIBMTA.TA1CP207</td>
<td>CP</td>
<td>01:00</td>
<td></td>
</tr>
<tr>
<td>USIBMTA.TA1CP208</td>
<td>CP</td>
<td>01:00</td>
<td></td>
</tr>
<tr>
<td>9.67.6.2</td>
<td>HOST</td>
<td>00:25</td>
<td></td>
</tr>
<tr>
<td>9.67.6.3</td>
<td>HOST</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Command ===>

F1=Help  F2=Main Menu  F3=Return  F5=Refresh  F6=Roll  F7=Backward  F8=Forward  F12=Cancel

**Figure 34. Active Monitor Settings Panel**

The Active Monitor Settings panel displays these columns of data:

**Name** The name of a resource.

**Resource Type** The type of resource. This data is taken from the RESTYPE= keyword of the ACTMON control file entry.
Interval
The interval setting. The interval can be in minutes or in both hours and minutes. This data is taken from the INTVL= keyword of the ACTMON control file entry.

Timer ID
The ID of the timer. The timer issues the ACTMON routine for this resource to see if the resource is active.

Use the Active Monitoring Settings panel to add, display or change, and delete active monitoring settings. The following sections explain how to perform these actions.

Displaying or Changing Active Monitor Settings

To display or change active monitoring settings:

1. Display the Active Monitor Settings panel.

   **Note:** To display the Active Monitor Settings panel, see “Displaying the Active Monitor Settings Panel” on page 37.

2. Move the cursor to the field next to the resource you want to display or change and type 2.

3. Press Enter.

   A pop-up window shown in Figure 35 is displayed.

4. Type the resource type in the Type field.

5. Type the interval values you want in the Interval field.

   An interval is defined by **hh:mm** with valid values that are in the range of 00:00–24:00. The intervals specified are cumulative time delays from the previous activation setting. You cannot change any other fields on this panel.

6. Press Enter.
If the data is entered correctly, the following message is displayed:
EZL919I ALL ACTIONS SUCCESSFULLY COMPLETED
Chapter 5. Using Cross-Domain Functions

This chapter documents general-use programming interface and associated guidance information.

To establish communication with NetView and other applications use the AON: Cross Domain Functions panel and its subordinate panels. You can use these panels to manage cross-domain sessions for your operators, for AON Gateway operators, and for terminal access facility (TAF) full-screen sessions.

Displaying the Cross Domain Functions Panel

To display the Cross Domain Functions panel:

1. Display the Base Functions panel.

   Note: To display the Base Functions panel, see "Displaying the AON Base Functions Panel" on page 4.

2. Type 5 in the entry field.

3. Press Enter.

   The AON: Cross Domain Functions panel shown in Figure 36 is displayed.

   Note: You can also display the AON: Cross Domain Functions panel by entering AON 1.5 on any command line.

   ![Figure 36. AON: Cross Domain Functions Panel](image)

   EZLK500A      AON: Cross Domain Functions      CNM01

   Select an option

   1. Manage Cross Domain Operator Sessions
      2. Manage Cross Domain Gateway Sessions
      3. Manage Full Screen (TAF) Sessions

   Command ===>  F1=Help    F2=Main Menu    F3=Return    F6=Roll
                 F12=Cancel

The AON: Cross Domain Functions panel displays the following options:

Manage Cross Domain Operator Sessions

Enables you to establish sessions with other NetView domains using your NetView-NetView Task (NNT) sessions or through remote command
(RMTCMD) sessions. After you log on to the sessions, you can send commands across those sessions. These values are retrieved from the CDLOG control file entry.

Manage Cross Domain Gateway Sessions
Enables you to start and stop the AON gateway sessions to other NetView domains and send commands across the gateway sessions. When you use the gateways, an automation operator logs on to the other domains and handles communications, so you do not need to establish your own sessions with the domains with which you want to communicate. These values are retrieved from the GATEWAY control file entry.

Manage Full-Screen (TAF) Sessions
Enables you to establish a full-screen session with another application using the NetView Terminal Access Facility (TAF). After you log on to another application using TAF, the display on your domain looks like the full-screen display for the application that has the established session. These values are retrieved from the FULLSESS control file entry.

The following sections explain how to use the options.

Managing Cross Domain Operator Sessions
Use the AON: Cross Domain Functions panel to communicate with other NetView domains by establishing personal operator sessions with those domains. These values are retrieved from the CDLOG control file entry.

You can use the AON: Cross Domain Logon panel to:
• Start an operator session to another domain
• Stop an active session
• Send a command to an active session

You can establish NNT or RMTCMD sessions.

Note: To use the help desk to recover SNA resources on other NetView domains, you must have NNT sessions established to those domains to reactivate the failed SNA resources. Use the Manage Cross Domain Operator Sessions option to establish those sessions.

Displaying the AON: Cross Domain Logon Panel
To display the AON: Cross Domain Logon panel:
1. Display the AON: Cross Domain Functions panel.

   Note: To display the AON: Cross Domain Functions panel, see "Displaying the Cross Domain Functions Panel" on page 41.

2. Type 1 in the entry field on the AON: Cross Domain Functions panel.
3. Press Enter.

   The AON: Cross Domain Logon panel, shown in Figure 37 on page 43, is displayed.

   Note: You can also display the AON: Cross Domain Gateway Display panel by entering AON 1.5.1 or CDLOG on any command line.
The AON: Cross Domain Logon panel displays the following data:

**Domain**
Target NetView domain.

**Status**
Status of the operator session, which is either active or inactive.

**Operator**
Target operator ID for session.

**Type**
Type of operator session, either NetView-NetView Task (NNT) or remote command (RMTCMD). This data is taken from the SESSTYPE= keyword of the CDLOG control file entry.

**Init**
Specifies whether this operator session should start automatically when you log on to your home NetView domain. This data is taken from the INIT= keyword of the CDLOG control file entry.

**Description**
A brief description for the session.

You can use the AON: Cross Domain Logon panel to start and stop cross-domain operator sessions and to send a command from your NetView domain to another domain, using an active NNT or remote command session. The following sections explain how to perform these actions.

### Starting a Cross Domain Operator Session

To start a cross-domain operator session:

1. Display the **AON: Cross Domain Logon** panel.

   **Note:** To display the AON: Cross Domain Logon panel, see “Displaying the AON: Cross Domain Logon Panel” on page 42.

2. Type 1 in the field next to the domain name in which you want to start a session on the Cross Domain Logon panel.
3. Press Enter.

When all the information needed to start the session is available from the control file, the session starts immediately. However, usually, you must provide further information to start the session. If further information is needed, AON displays the pop-up window shown in Figure 38.

4. Type the operator ID you want to use to establish an NNT or remote commands session with the remote NetView domain in the Operator field.

5. Type the password for the operator ID at the remote NetView domain in the Password field.

6. Type Y or N in the Run NNT Clist field to specify whether the NNT routine runs initially.

7. Type Y or N in the RMTCMD Command field to determine whether the RMTCMD routine runs initially. This field applies only to remote command sessions.

8. Press Enter.

The status of the domain changes to active, if this session starts. Otherwise, an error message is displayed. Notice that the operator ID you entered in the pop-up window also is displayed in the operator column.

Note: You can use the F4 key to display a pop-up command window for issuing session commands. For more information about using these commands, see “Pop-up Command Windows” on page 4.

Stopping an Active Operator Session

To stop an active operator session to another domain:

1. Display the AON: Cross Domain Logon panel.

Note: To display the AON: Cross Domain Functions panel, see “Displaying the AON: Cross Domain Logon Panel” on page 42.
2. Type 2 in the entry field beside the name of the domain you want to stop.
3. Press Enter.
   AON displays a pop-up window shown in Figure 39 for confirmation.

   EZLKS102

   AON: Cross Domain Logon

   CNM01

   Origin Operator OPER2
   1=Start 2=Stop 3=Send
   Domain Status Operator Type : Select an Action:
   __ CNM01 Inactive
   __ CNM02 Inactive
   __ AOC10 Inactive
   __ CMN10 Inactive
   __ AOF10 Inactive
   __ AOC06 Inactive
   __ CMN06 Inactive
   __ AOC05 Inactive
   2 CNM05 Active OPER2
   __ ENTER to continue
   __ F12 to cancel
   __ F1=Help F12=Cancel

   To issue commands, tab to the Dom

   Command ==>
   F1=Help F2=Main Menu F3=Return F4=Commands F5=Refresh F6=Roll
   F7=Backward F8=Forward F12=Cancel

Figure 39. AON: Cross Domain Logon Panel with Stop Session Confirmation Pop-up Window

4. Press Enter to confirm that you want to stop the session or press F12 to cancel the session.

   When the session ends, the status of your domain is shown as inactive, and the following message is displayed in the panel:

   EZL930I SESSION(S) ENDED

Sending a Command to Another Domain

To send a command from your NetView domain to another domain using an active NNT or remote command session:

1. Display the AON: Cross Domain Logon panel.

   Note: To display the Cross Domain Logon panel, see “Displaying the AON Cross Domain Logon Panel” on page 42.

2. On the Cross Domain Logon panel, type 3 in the field beside the name of the domain to which you want to send the command.

3. Press Enter.

   If you try to send a command across an inactive session, you see the following message:

   EZL881I NNT SESSION TO CNM02 IS NOT ACTIVE

   If the operator session is active, the pop-up window shown in Figure 40 on page 46 is displayed.
4. Type the command you want to enter in the Enter Command Below field.

5. Press Enter.

AON displays the command facility (NCCF). AON displays the results from issuing the command on the command facility, along with the following message:

EZL938I ISSUING COMMAND = "command". PRESS PF6 TO ROLL BACK TO CDLOG

6. To return to the operator interface, press the Roll key, F6.

To display a pop-up command window from which you can issue session commands, press the Commands key, F4. For more information about using these commands, see "Pop-up Command Windows" on page 6.

**Managing Cross-domain Gateway Sessions**

Use the AON: Cross Domain Gateway Display panel to display the active and inactive sessions available for your domain. The list that is displayed is generated from the configuration file entries for your domain. You can use the AON: Cross Domain Gateway Display panel to start and stop a cross-domain gateway session and to send a command to a cross-domain gateway session. To send a command to a cross-domain gateway session, the session selected must be active. These values are retrieved from the GATEWAY control file entry.

**Note:** Gateway sessions must be NNT sessions.

**Displaying the AON: Cross Domain Gateway Panel**

To display the AON: Cross Domain Gateway Display panel:

1. Display the AON: Cross Domain Functions panel.

   **Note:** To display the AON: Cross Domain Functions panel, see "Displaying the Cross Domain Functions Panel" on page 41.
2. Type 2 in the entry field on the AON: Cross Domain Functions panel.

3. Press Enter.

The first half of the AON: Cross Domain Gateway Display panel shown in Figure 41 is displayed.

Note: You can also display the AON: Cross Domain Gateway Display panel by entering AON 1.5.2 or AONGW on any command line.

The Cross Domain Gateway Display panel displays the domains with which you are communicating through gateway operators and gives you information about the gateway operators that are controlling the communications.

The columns on the first half of the panel (Figure 41) provide the following information:

**DESCRIPTION**
The Description field shows a user-written description that describes the gateway to the remote NetView domain. For example, the first description says that this line of the status display states TO AOC06.

**DOMAIN**
The Domain field shows the name of the remote NetView domain as it is defined to NetView.

**STATUS**
The Status field indicates if communications between your home NetView domain and this remote NetView domain are ACTIVE or INACTIVE. In Figure 41, communications between the remote NetView domain, CNM06, and NetView domain, CNM01, are active.

**VIA**
The Via field shows the NetView domain that is physically between this remote NetView domain and your NetView domain that is used for routing communications between them. In Figure 41, the
communications between your NetView domain (CNM01) and CNM06 travel through CNM06, which means that your NetView domain and CNM06 are physically connected.

**Note:** Only one NetView domain can be physically located between your NetView domain and the remote NetView domain with which you establish gateway sessions.

4. To display the second half of the Cross Domain Gateway Display panel, press F11. Figure 42 shows the adjoining gateway display panel for the sample display shown in Figure 41 on page 47.

The column headings in Figure 42 provide the following information about gateways between your NetView domain and this remote NetView domain:

**DIRECT INB**

The Direct Inbound field indicates if the remote domain has logged on to your NetView domain. Thus, for direct communications between your NetView domain and a physically adjacent NetView domain, the direct inbound status can be either ACTIVE or INACTIVE. If your NetView domain is not physically adjacent to the remote NetView domain, communications must be routed across an intermediate NetView domain that is physically adjacent to both your NetView domain and the remote NetView domain. The status is NO DIRECT, indicating that there are no direct communication gateways between your NetView domain and the remote NetView domain.

If an error occurred during a logon attempt by a gateway operator, the inbound status displays in yellow.

**OUTB STAT**

The Outbound Status field indicates if the gateway operator handling communications for your NetView domain is successfully logged on to this remote NetView domain and sending communications. A status of ACTIVE

Figure 42. Cross Domain Gateway Display Panel—Scrolled-right View

The column headings in Figure 42 provide the following information about gateways between your NetView domain and this remote NetView domain:

**DIRECT INB/OUTB STAT SYSNAME PRODUCT ADJ DOM ALT DOM USER ID**

<table>
<thead>
<tr>
<th>DIRECT INB/OUTB STAT</th>
<th>SYSNAME</th>
<th>PRODUCT</th>
<th>ADJ DOM</th>
<th>ALT DOM</th>
<th>USER ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>INACTIVE INV OPID NA</td>
<td>NA V R</td>
<td>NA V R</td>
<td>NA V R</td>
<td>NA V R</td>
<td>NA V R</td>
</tr>
<tr>
<td>ACTIVE ACTIVE CNM06</td>
<td>TIV-AON 1.4</td>
<td>GATCNM06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACTIVE ACTIVE CNM10</td>
<td>TIV-AON 1.4</td>
<td>GATCNM10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Command==> F1=Help F2=Main Menu F3=Return F5=Refresh F6=Roll F7=Backward F8=Forward F10=Left F12=Cancel
means that communications from your NetView domain (outbound) to this remote NetView domain are going to it successfully. If outbound communications are not active, the status displayed indicates the cause of the problem, if it is known.

If an error occurred during a logon attempt by a gateway operator, the inbound status displays in yellow.

SYSNAME
The System Name field shows you the name by which the Dynamic Display Facility (DDF) knows this remote NetView domain. This name might be the same name used for the NetView domain under the DOMAIN heading on the scrolled-left view of the gateway panel (see Figure 41 on page 47), but it is not required. If the connection has not been established, the panel displays NA to indicate that the name is not available. Your system programmer defines the DDF names for the NetView domains using the SYSNAME parameter on the ENVIRON SETUP control file entry.

PRODUCT
The Product field provides the name of the product being run on this target NetView domain, for example, TIV-AON 1.4. If the product is back-level, the entry says OLD ??., which indicates that communications have been established, but the product name is not supplied to this panel by the back-level product.

If communications with the domain have not been established since the last NetView startup, the name of the product cannot be determined, so you see NA V.R, which is an abbreviation for Not Available Version.Release.

ADJ DOM
The Adjacent Domain field indicates a NetView domain that is a path to the remote domain. The adjacent domain must be physically adjacent. If a NetView domain that is physically adjacent to both domains is defined as an adjacent NetView domain, you can use gateways to communicate with a NetView domain that is not physically adjacent to your own. Your system programmer defines adjacent NetView domains in the control file with the ADJNETV control file entry.

ALT DOM
The Alternate Domain field displays the name of the physically adjacent NetView domain that can function as a backup to the adjacent domain. If you are using an adjacent NetView domain as an intermediate routing domain, it is useful to have another pathway in case the preferred adjacent NetView domain goes down. Your system programmer defines backup NetView domains in the control file using the ADJNETV entry.

USER ID
The User ID field shows the user ID for the gateway operator logged on to your NetView domain from another NetView domain. The gateway operator is a program, but it logs on to the other NetView domains much like a human operator does. In Figure 42 on page 48, GATCNM06 is the user ID for the gateway operator on NetView domain CNM06 that logs on to your NetView domain. That is, GATCNM06 handles outbound communications for CNM06, but it brings inbound communications to your NetView domain.

Note: Each NetView domain uses one gateway operator for outbound communications. That gateway operator logs on to all the other
NetView domains it communicates with. Your NetView domain can have many gateway operators logged on to it.

**Sending a Command to a Cross-Domain Gateway Session**

To send a command to a cross-domain gateway session:

1. Display the Cross Domain Gateway Display panel.

   **Note:** To display the AON: Cross Domain Display panel, see "Displaying the AON: Cross Domain Gateway Panel" on page 44.

2. Type 3 in the field beside the domain name for which you want to send a command.

3. Press Enter.

   The AON: Command Routing panel shown in Figure 43 is displayed.

   ![Figure 43. AON: Command Routing Panel](image)

4. Type the number of the entry you want in the **RESP** field. The choices are:
   - **1=Yes** Displays the result of the command you issued on the command facility (NCCF).
   - **2=Ack** Displays acknowledgment on the command facility indicating whether the command was issued.
   - **3=No** Displays neither the result of whether the command was issued nor the acknowledgment.

5. Optionally, specify the operator ID where the command is to be issued in the **OPERATOR ID** field. If you do not specify an operator ID, the GATOPER defined in the control file is used as the operator ID.

6. Type the name of the NetView domain to which you are sending the command in the **To DOMAIN** field.

7. Type the command to issue on the other domain in the **Command** field.
Managing Full-screen TAF Sessions

You can log on to selected applications in the system by using the AON: Terminal Access Facility Menu panel. AON enables automated setup of TAF sessions.

The AON: Terminal Access Facility Menu panel displays the status of all TAF full-screen applications that are defined in the control file for operators. You can start and stop TAF full-screen sessions from this panel. When you establish a TAF session, your current domain looks like the full screen for the application with which you are in session. These values are retrieved from the FULLSESS control file entry.

Note: It is not required that you establish sessions with applications using TAF.

Displaying the AON: TAF Menu Panel

To display the AON: Terminal Access Facility Menu panel:

1. Display the Cross Domain Gateway Display panel.

   Note: To display the AON: Cross Domain Display panel, see “Displaying the AON: Cross Domain Gateway Panel” on page 46.

2. Type 3 in the entry field on the AON: Cross Domain Display panel.
3. Press Enter.

   The AON: Terminal Access Facility Menu panel is displayed in Figure 44 on page 52.

   Note: You can also display the AON: Terminal Access Facility Menu panel by entering AON 1.5.3 or AONTAF on any command line.
The AON: Terminal Access Facility Menu panel displays the following data:

- **Description**: A short description that identifies the application to be started.
- **Applid**: The short identifier for the application.
- **System**: The name of the system on which the application runs.
- **Status**: Specifies whether the application is active or inactive.

You can use the AON: Terminal Facility Menu panel to start, return to, and stop a TAF full-screen session. The following sections explain how to perform these actions.

### Starting an Application Session

To start a TAF session:

1. Display the AON: Terminal Access Facility Menu panel.
   
   **Note:** To display the AON: Terminal Access Facility Menu panel, see "Displaying the AON: TAF Menu Panel" on page 51.

2. Type 1 next to the session you want to start.
3. Press Enter.

   The application you selected is displayed. The next step you take depends on the application. For example, if the application is Time Sharing Option (TSO), the logon panel for that TSO session is displayed.

### Stopping an Application Session

To stop a TAF session:

1. Display the AON: Terminal Access Facility Menu panel.
Note: To display the AON: Terminal Access Facility Menu panel, see "Displaying the AON: TAF Menu Panel" on page 51.

2. Type 2 next to the session you want to stop.
3. Press Enter.
   The TAF session deactivates.
4. Press F5 to refresh the status.
Chapter 6. Performing Task and Log Maintenance

To perform task and log maintenance, use the AON: Task and Log Maintenance panel and the subordinate panels. Use these panels to:

- display data in the configuration and status files
- browse the NetView and automation logs
- start and stop automation components
- work with automation tasks

Displaying the AON: Task and Log Maintenance Panel

To display the Task and Log Maintenance panel:

1. Display the Base Functions panel.
2. Type 7 in the entry field on the AON: Base Functions panel.
3. Press Enter.

The AON: Task and Log Maintenance panel shown in Figure 45 is displayed.

Note: You can also display the AON: Task and Log Maintenance panel by typing AON 1.7 or AONMAINT on any command line.

Figure 45. AON: Task and Log Maintenance Panel

The AON: Task and Log Maintenance panel displays the following options:

Configuration Data Display

Displays current configuration data from the control file for an entry and type. The control file is checked and results displayed. You can add, change, and delete the configuration data.
Display Status Data
Displays the current status for specific IDs or a range of IDs. Deletions from the status file are enabled.

Browse NetView Log
The command BR NETLOGA enables you to browse the NetView log.

Browse Automation Log
The NLOG command enables you to browse the AON log.

Perform Data Base Maintenance
Enables selective purging of outdated VSAM database records. The databases that can be maintained are the NetView Hardware Monitor database, the NetView Session Monitor database, the AON status file, and other databases as installed by the AON components.

Start/Stop Automation Components
Enables you to start, stop, or reload the automation components. The components are DDF, LOG file, status file, and control file. In addition, you can change which control file member is loaded again or you can load another control file.

Automation Tasks/Operators
Finds all tasks on the domain and displays the information in a list. From this list, you can stop, start, force the task off the system, display detailed information about the task, or show the utilization of the task.

The following sections explain how to use these options.

**Displaying Configuration Data**

Use the AON: Configuration Data Display panel to display data in the control file.

**Displaying the AON: Configuration Data Display Panel**

To display the AON: Configuration Data Display panel:

1. Display the AON: Task Log and Maintenance panel.

   **Note:** To display the AON: Task Log and Maintenance panel, see "Displaying the AON: Task and Log Maintenance Panel" on page 55.

2. Type 1 in the entry field.
3. Press Enter.

   The AON: Configuration Data Display panel, shown in Figure 46 on page 57, is displayed.

   **Note:** You can also display the AON: Configuration Data Display panel by entering AON 1.7.1 or DSPCFG on any command line.
4. Type the name of the entry in the control file that you want to display in the Entry field. You can enter from 1 to 15 characters without embedded blanks, commas, or quotes.

   **Note:** The following wildcards are enabled for this field:
   
   * Multiple character wildcard
   % Single character wildcard

   You can display the entire control file by entering an asterisk (*) in the this field.

5. Type any data associated with the entry in the Type field. You can enter from 1 to 32 characters without embedded blanks, commas, or quotes.

   **Note:** The following wildcards are enabled for this field:
   
   * Multiple character wildcard
   % Single character wildcard

   You can display the entire control file by entering an asterisk (*) in the this field.

   For example, to display all settings for notification operators, type NTFYOP in the entry field.

6. Press Enter.

   The AON: Configuration Data Display panel, shown in Figure 47 on page 58, displays the control file entries for notification operators.
Use the AON: Configuration Data Display panel to add, change, and delete notification operators. The following sections explain how to perform these actions. The changes are made to the in-storage copy of your policy and will be overwritten the next time the policy is reloaded.

Adding Data to the Control File

To add an entry to the control file:

1. Display the control file through the AON: Configuration Data Display panel.

   Note: To display the control file with the AON: Configuration Data Display panel, see "Displaying the AON: Configuration Data Display Panel" on page 56.

2. Type 1 next to an existing control file entry on the AON: Configuration Data Display panel.

   Note: To add only a keyword, type 1 in a field for a keyword.

3. Press Enter.

   The Configuration Data Display, shown in Figure 48 on page 59, is displayed with the ADD ENTRY pop-up window.
4. Type the name of the entry you want to add in the Entry field in the pop-up window.

5. Type the type of the entry you want to add in the Type field in the pop-up window.

6. Press Enter.

The Define Data pop-up window shown in Figure 49 is displayed.

Figure 48. Configuration Data Display Panel with Add Entry Pop-up Window

Figure 49. DEFINE DATA Pop-up Window
7. Type a keyword in the keyword field of the DEFINE DATA pop-up window. The keyword can be any name from 1 to 31 characters in length. You cannot use embedded blanks, commas, or quotes.

8. Type a value in the KEYWORD VALUE field. This is the value for the keyword entered. You can use as many as 62 characters for the value, including embedded blanks, commas, and quotes.

9. To save the settings press F10. The following message is displayed:
   EZL001I REQUEST EZLSCMOD WAS SUCCESSFUL FOR ntfyop.

Displaying Status Data

Use the Display Status Data panel and the subordinate panels to display data in the status file.

The Display Status Data panel uses a set of command processors to write and update records for the AON status files. These records are written to a VSAM data set. The file contains the following type of information for each resource:

- Automation Status
- The operator ID that last changed the Automation Status field
- The last exceeded threshold
- The time stamps for errors that resulted in a lost session
- The operator ID that last changed a record in the Automation Status file.
- Additional information depending on the component.

Displaying the Status Data Panel

To display the Display Status Data panel:

1. Display the AON: Task Log and Maintenance panel.
   
   **Note:** To display the AON: Task Log and Maintenance panel, see "Displaying the AON: Task and Log Maintenance Panel" on page 53.

2. Type 2 in the entry field.

3. Press Enter. The Display Status Data panel shown in Figure 50 on page 61 is displayed.

   **Note:** You can also display the AON: Configuration Data Display panel by typing AON 1.7.2 or DSPSTS on any command line.
The Display Status Data panel displays the following options:

Select an Option
- 1. Id _______________________________
- 2. From ________________
   To ________________

Select a Component
- 1. AON Base
- 2. AON SNA Automation - SNBU Option

The following example explains how to display the status of a resource. If you need status file records for SNBU automation, you must select those components. Status data for a resource managed by those components use different record formats and the data is accessible only by selecting that component.

Example
When you know the ID of a resource and want to display status data for that resource, do the following:
1. Type 1 in the Select an Option entry field on the Display Status Data panel.
2. Type the name of the resource in the Id entry field. This example uses resource TA1N400.
3. Type the number corresponding to the component type of the resource in the Select a Component entry field. This example uses 1 for AON Base.
4. Press Enter.
The Display Status Data panel, shown in Figure 51, is displayed with the data for the resource you specified.

5. Optionally, type 1 to delete the record from the status file.
6. Press Enter.

Maintaining Databases

Use the AON: Database Maintenance panel to maintain databases. The panel is built dynamically, based on the components installed. However, if a component does have a status file, it is defined in the component option definition table using the STSCMD= keyword. Select the database with which you want to work, and specify the Purge Limit and Purge Time.

Note: The DBMAINT command reproduces, without records marked for deletion, the VSAM database that is currently active. When the DBMAINT command finishes, the database that was active when the DBMAINT command started is activated again. The DBMAINT command works for an active primary or secondary VSAM database for the NetView hardware monitor (NPDA) or the NetView session monitor (NLDM). The AON status file (EZLSTS) has only a primary database.

Displaying the AON: Database Maintenance Panel

To display the Database Maintenance panel:
1. Display the AON: Task Log and Maintenance panel.

   Note: To display the AON: Task Log and Maintenance panel, see "Displaying the AON: Task Log and Maintenance Panel" on page 53.

2. Type 5 in the entry field.
3. Press Enter.
The AON: Database Maintenance panel, shown in Figure 52, is displayed.

**Note:** You can also display the AON: Database Maintenance panel by typing AON 1.7.5 or DBMAINT on any command line.

<table>
<thead>
<tr>
<th>EZLK7500</th>
<th>AON: Database Maintenance</th>
<th>CNM01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select one of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Session Monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Hardware Monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. AON Base</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. AON SNA Automation - SNBU Option</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compress : 1 (1=Yes 2=No)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purge Limit : 007 Days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purge Time : 045 Minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Command ==&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1=Help F2=Main Menu F3=Return</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F6=Roll F7=Backward F8=Forward F12=Cancel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 52. AON: Database Maintenance Panel**

The AON: Database Maintenance panel displays the following fields and options:

**Select one of the following**

Enables you to purge records and compress the databases for hardware and session monitors and for AON status files.

**Compress**

Specifies whether to compress a database after deleting records from it.

**Purge Limit**

Specifies the number of days to leave in the file. If the number is 7, then all records older than 7 days are purged.

**Purge Time**

Specifies the amount of time to wait for the purge of the records to complete.
Chapter 7. Using Support Functions

This chapter documents general-use programming interface and associated guidance information.

Use the AON Support Functions panel and the subordinate panels to perform the following options:

- Set traces
- Reinitialize AON
- Enable or disable automation
- Set common global variables
- Load or unload the automation table
- Browse or reload the option definition tables

The following subsections explain how to use these options.

Displaying the AON: Support Functions Panel

To display the Support Functions panel:
1. Display the Base Functions panel.

   Note: To display the Base Functions panel, see “Displaying the AON Base Functions Panel” on page 4.

2. Type 8 in the entry field.
3. Press Enter.

   The AON: Support Functions panel is shown in Figure 53 on page 66.

   Note: You can also display the AON: Support Functions panel by typing AON 1.8 on any command line.
The AON: Support Functions panel displays the following options:

- **Trace Control**: Traces the AON programs. You can use this option to debug problems without editing the AON program.
- **Reinitialize AON**: Restarts AON using the automation table and control file currently being used.
- **Enable/Disable Automation**: Turns off automation for AON and its components, or turns off automation for the components and subcomponents only.
- **Common Global Editor**: Lists all common global variables used in NetView. Use this option to add, change, or delete common global variables.
- **Automation Table Control**: Invokes the AUTOMAN function to assist you in managing your automation tables.
- **Loader Tables**: Lists the tables used to load the common global variables. Use this option to browse and reload tables.

The following sections explain how to use these options.

### Setting Traces

To trace all of the programs that AON uses, or to trace a single program, use the AON: Set Trace panel.

### Displaying the AON: Set Trace Panel

To display the AON: Set Trace panel:

1. Display the **AON: Support Functions** panel.
Note: To display the AON: Support Functions panel, see “Displaying the AON: Support Functions Panel” on page 65.

2. Type 1 in the entry field on the AON: Support Functions panel.
3. Press Enter.

The AON: Set Trace panel is shown in Figure 54.

Note: You can also display the AON: Set Trace panel by entering AON 1.8.1 or AONTRACE on any command line.

To trace all the programs that AON uses:

1. Display the AON: Set Trace panel.
2. Type 1 in the entry field on the AON: Set Trace panel.

The AON: Set Trace panel displays the following options:

- **Entry/Exit tracing**
  Traces all the entry and exit parameters of the AON code. This includes command lists, REXX programs, and AON command processors. You can trace the programs running on an operator ID, a NetView domain, or both.

- **Program tracing**
  Traces the command lists and interpreted REXX programs you specify. Also, specify a trace option that limits the trace. Use the Program tracing option for the operator ID or the domain.

- **Administrative Functions**
  Authorized operators can enable Entry/Exit tracing and Program tracing. By default, tracing is disabled and can only be enabled through this option.

The following sections explain how to use these options.

**Setting Entry/Exit Traces**

To trace all the programs that AON uses:

1. Display the AON: Set Trace panel.

Note: To display the AON: Set Trace panel, see “Setting Traces” on page 66.

2. Type 1 in the entry field on the AON: Set Trace panel.
3. Press Enter.
   The AON: Set Entry/Exit Tracing panel is shown in Figure 55.

![Figure 55. AON: Set Entry/Exit Tracing Panel](image)

4. Select Entry/Exit tracing for an operator ID, a domain, or both on the AON: Set Entry/Exit Tracing panel. Domain tracing occurs only on the current domain. Current settings are highlighted.

To select Entry/Exit tracing for a domain only, use the following steps:

   a. Type 1 for ON or 2 for OFF in the Domain id Select trace option entry field.
   b. Press Enter.

   The following message is displayed:

   EZL908I SETTINGS REPLACED

Setting Program Traces

To set a trace for a particular program:

1. Display the AON: Set Trace panel.

   Note: To display the AON: Set Trace panel, see “Setting Traces” on page 66.

2. Type 2 in the entry field on the AON: Set Trace panel.

3. Press Enter. The AON: Set Program Tracing panel is shown in Figure 56 on page 69.
You can trace the programs by operator ID or domain ID. If you trace by domain ID, AON traces the programs in the domain the operator is logged onto. You can also select a tracing option on this panel that enables you to limit the trace.

4. Type the name of the program or programs you want to trace in the Module column for either the operator ID or domain ID.

5. Type the letter for the trace option you want to use in the Option column. You can select one of the following trace options:

   **R (Result)**
   Use this option for general debugging. AON traces all the clauses before running them and traces the final results of evaluating expressions.

   **I (Intermediate)**
   Use this option to trace all clauses before they are run and trace any intermediate results during expression evaluation and substitution.

   **C (Command)**
   Use this option to trace all commands before running them and display any error return codes from the commands.

   **E (Error)**
   Use this option to trace any command that has an error or fails after it is run. This option also displays the return codes.

   **F (Failure)**
   Use this option to trace any command that fails after it is issued. This option is the same as the Trace Normal command.

   **L (Label)**
   Use this option to trace all labels passed. You should make a note of all subroutine calls and signals when you use this option.
O (Off)

Use this option to turn all traces off and reset any previous trace settings.

Note: If the program being traced is a NetView command list, the C, E, and O options are valid and all other selections result in a trace ALL.

6. Press Enter.
The following message is displayed:
EZZ908I SETTINGS REPLACED

Administrative Functions

By default, entry/exit and program tracing is disabled for performance purposes. This is defined on your environment setup policy definition statement. To enable tracing:

1. Display the AON: Set Trace panel.

   Note: To display the AON: Set Trace panel, see “Setting Traces” on page 66.

2. Type 3 in the entry field on the AON: Set Trace panel.

3. Press Enter.
The AON: Trace Administrative Functions panel is shown in Figure 57.

![Figure 57. AON: Trace Administrative Functions Panel](image)

The AON: Trace Administrative Functions panel is shown in Figure 57.

Once you select options 1 or 2 you can turn on program tracing for any AON program by going back to the Trace Menu panel and selecting the Program Trace option.
Reinitializing Automation

Use the AON: Reinitialize Automation panel to reinitialize the AON program. You can use the automation table and control file currently being used. To display the AON: Reinitialize Automation panel:

1. Display the **AON: Support Functions** panel.
   
   **Note:** To display the AON: Support Functions panel, see “Displaying the AON: Support Functions Panel” on page 63.

2. Type 2 in the entry field on the AON: Support Functions panel.
3. Press **Enter**.
   The AON: Reinitialize Automation panel is shown in Figure 58.

   **Note:** You can also display the AON: Reinitialize Automation panel by typing **AON 1.8.2** or **AONINIT** on any command line.

4. Verify that the name of the automation table is correct. The default name for the automation table is DSITBL01. The policy file is defined in CNMSTYLE. The policy file name is fixed and cannot be changed.
5. Type 1 in the first entry field to confirm that you want to reinitialize AON or type 2 to cancel the reinitialization. For information on how AON loads the automation table, refer to the **Tivoli NetView for z/OS Installation: Getting Started**.
6. Press **Enter**.
   AON confirms or cancels your request.

Enabling and Disabling Automation

You can use the AON: Enable/Disable Automation panel to turn off message processing for components. The panel supports multiple selections. If you enable or disable message processing for the AON base, you also enable or disable automation for all of the components. Therefore, select AON with caution.
When you select options 1–4 on the listing panel, special confirmation panels appear to enable you to confirm your action on the Enable/Disable panel. When you select a component that has subcomponents, the confirmation panel that is displayed lists all the subcomponents that the selection affects.

**Note:** Using this panel to enable or disable automation does not permanently change the settings. When you recycle AON or select the default option, AON resets the settings.

### Displaying the AON: Enable/Disable Automation Panel

To display the AON: Enable/Disable automation panel:

1. Display the **AON: Support Functions** panel.
   
   To display the AON: Support Functions panel, see “Displaying the AON: Support Functions Panel” on page 65.

2. Type 3 in the entry field on the AON: Support Functions panel.

3. Press Enter.

   The AON: Enable/Disable Automation panel is shown in **Figure 59**.

**Note:** You can also display the AON: Enable/Disable Automation panel by entering AON 1.8.3 or AONENABL on any command line.

---

**Figure 59. AON: Enable/Disable Automation Panel**

The AON: Enable/Disable panel displays the following information:

**Component name**

Lists the components.

**Initialized**

States whether the component has been initialized when AON initialized or when you specified for it to be initialized.

**Enabled**

States the current ENABLE/DISABLE setting of the component. A
component can be listed as initialized but not enabled, but when a component is not initialized, it cannot be enabled.

You can use the AON: Enable/Disable Automation panel to enable and disable automation, to specify default automation for a component, to initialize a component, and to display information about a product. The following sections explain how to perform these actions.

Using the Common Global Editor

You can use the Common Global Editor panel to view all of the current common global variables being used in AON. You can use the Common Global Editor panel to add, change, or delete common global variables (CGLOBALs).

Use this editor with caution because any changes you make can affect AON processing. Each common global variable is restricted to 255 characters. Mixed case is supported for common global variable values and is set exactly as you type.

Any changes that you make by using the editor are for the current AON session only. When AON recycles, the common global variables are reset to values at initialization time.

Displaying the AON: Common Global Editor Panel

To display the AON: Common Global Editor panel:

1. Display the AON: Support Functions panel.

   **Note:** To display the AON: Support Functions panel, see “Displaying the AON: Support Functions Panel” on page 65.

2. Type 4 in the entry field on the AON: Support Functions panel.
3. Press Enter.

   The AON: Common Global Editor panel is shown in Figure 60 on page 74.

   **Note:** You can also display the AON: Common Global Editor panel by typing AON 1.8.4 or CGED on any command line.
The AON: Common Global Editor panel displays the following options:

Select an option.

1. EZLRT
2. EZLOPT
3. Generic

Search Criteria

The following sections explain how to use these options.

Changing Common Global Variables

To change a common global variable:

1. Display the Operator Command: CGLOBAL EDITOR panel.

Note: To display the Operator Command: CGLOBAL EDITOR panel, see "Displaying the AON: Common Global Editor Panel" on page 73.
2. Select an option and the search criteria you want on the AON: Common Global Editor panel. For example, type 1 for EZLRT common global variables.

**Note:** If you select EZLRT or EZLOPT, the editor checks for an entry in the Search Criteria field. The entry in this field is then appended to EZLRT or EZLOPT. The search criteria must not exceed 31 characters.

For example, if you type 1 in the Select Option field and specify **AON** in the Search Criteria field, the editor searches for all common global variables that are EZLRT.AON.*

Or, if you type 2 in the Select Option entry field and enter **APPN.ACT** in the Search Criteria field, the editor looks for all common global variables that are EZLOPT.APPN.ACT*

3. Press **Enter**.

The CGLOBAL EDITOR panel is shown in Figure 61.

4. Type 2 in the entry field next to the CGLOBAL you want to change.

5. Type over the existing value of the CGLOBAL to the right of the entry field with the new value.

6. Press **Enter**.

The following message is displayed:

```
EZL919I ALL ACTIONS SUCCESSFULLY COMPLETED
```

AON changes the CGLOBAL.

---

**Figure 61. Operator Command: CGLOBAL Editor Panel**

Command ===>  
F1=Help  F2=Main Menu  F3=Return  F5=Refresh  F6=Roll  
F7=Backward  F8=Forward  F11=Right  F12=Cancel
Chapter 8. Managing Multiple Automation Tables

This chapter documents general-use programming interface and associated guidance information.

The AUTOTBL command enables you to load multiple automation tables. An automation table, typically, is made up of many included members. The automation table management (AUTOMAN) command enables you to make changes to selected tables or changes that have an affect on all automation tables. To help you work with automation tables, AUTOMAN provides a full-screen panel interface.

AUTOMAN and the full-screen panel interface enable you to do the following:
- View and manage single or multiple automation tables
- Enable or disable individual automation tables or statements
- View existing tables and their status

Getting Started

AUTOMAN provides individual table commands and global commands. The individual table commands apply to one or more selected tables, and global commands apply to all automation tables. See the following features and options of each type of command:
- With individual table commands, you can enable or disable automation tables. You can also enable or disable automation table statements, based on the following:
  - Sequence number
  - Label
  - Endlabel
  - Block
  - Group
  - Include

  With individual table commands, you can also issue requests for the following:
  - Display disabled statements
  - Display labels, blocks, and groups
  - Load or unload tables
  - Test tables
  - Display the %INCLUDE structure
  - Display synonyms

- With global commands, you can enable, disable, or unload automation tables. You can enable disabled statements or enable and disable blocks, groups, and labels. Global commands affect all automation tables.
  Automation statements can be enabled or disabled across all tables based on the following:
  - Label
  - Block
Group

With global commands, you can also issue requests for the following:
- Locate disabled statements
- Display labels, blocks, and groups
- Display the %INCLUDE structure

Using Automation Table Management

From the command line, enter AUTOMAN. The panel in Figure 62 is displayed. This panel enables you to see your automation table structure and take action, as necessary.

![Automation Table Structure](image)

Using Commands for Selected Tables

The Commands pop-up in Figure 63 provides options to help you work with one or more selected automation tables. In the following figure, options 1–7 apply to one or more selected tables, in contrast to global commands in Tivoli NetView for z/OS Automation Guide, which apply to all tables. Options 8–9 apply to only one table.

In Figure 64, pressing F4, for Commands, displays Figure 63 where DSITBL01 is selected to be disabled.

Selecting option 2 causes a pop-up to be displayed to confirm that you want to disable the selected table. When DSITBL01 is disabled, a message will indicate whether the command was successful or whether failures were detected. Press F9 in Figure 62 to view the results of your command.
EZLKATBC AUTOMATION TABLE MANAGEMENT

AUTOMATION TABLE 
Enter any character in the selection fields
SEL POS NAME 
/ 1 DISTABL : COMMANDS (Choose a highlighted command option) :
- 2 DSITBLG :

: _ 1 -ENABLE the selected tables :
: _ 2 -DISABLE the selected tables :
: _ 3 -RELOAD the selected tables :
: _ 4 -RELOAD and REINSTATE disabled elements :
: _ 5 -TEST the selected tables :
: _ 6 -ENABLE/DISABLE parts of the selected tables :
: _ 7 -UNLOAD selected tables :
: _ 8 -INSERT a table :
: _ 9 -DISPLAY options :

: Enter=Execute Command F3 or F12=Cancel :
: ......................................................:

Command ===> 
F1=Help F2=Main Menu F6=Roll

Figure 63. Automation Table Management Commands Pop-up Window
Chapter 9. Using the Inform Log Utility

This chapter documents general-use programming interface and associated guidance information.

Operators can use the inform log utility to display inform log entries. The entries are records of the automated notification actions that have taken place, such as a pager call or e-mail. An operator can view the log, acknowledge receipt of an inform notification, reinform a specific contact, or delete an entry. All automated actions are logged, by default, when inform logging is enabled. The logging of operator calls with INFORM/EZLECALL can be enabled in the inform policy. Refer to the SETUP policy member in the Tivoli NetView for z/OS Administration Reference for more details.

Note: It is not the purpose of the inform log utility to keep a log that tracks all inform actions. Rather, for tracking purposes, messages are generated and can be found in the NetView log. The purpose of the ILOG data set is to help you dynamically track, respond to, and delete inform log entries. Due to the I/O required and data set constraints, the ILOG function may not be practical in all environments.

To invoke the inform log utility, you can enter one of the following commands:

ILOG
AON 1.9

If you enter ILOG, the following full-screen panel containing the contents of your inform log is displayed:

```
EZLKNFL  INFORM LOG UTILITY
Enter  1-ACKNOWLEDGE  2-REINFORM  3-REINFORM/NEW MESSAGE  4-DELETE
       CONTACT ENTRY NUMBER  1 OUT OF  3 CURRENT CONTACT STATUS ACKNOWLEDGED
AON DEVELOPMENT TEAM EMAIL AT 23:00:00 ON 01/26/00
A PU NAMED PU00005 FAILED DUE TO INNOP

CONTACT ENTRY NUMBER  2 OUT OF  3 CURRENT CONTACT STATUS ACKNOWLEDGED
AON DEVELOPMENT TEAM EMAIL AT 13:37:50 ON 01/27/00
A CDRM NAMED NTB7MUS FAILED DUE TO PACTCRM

CONTACT ENTRY NUMBER  3 OUT OF  3 CURRENT CONTACT STATUS ISSUED
AON DEVELOPMENT TEAM EMAIL AT 13:39:48 ON 01/27/00
A PU NAMED PU00001 FAILED DUE TO INNOP

Command ===>
F1=Help   F2=Main Menu   F3=Return   F5=Refresh   F6=Roll
F7=Backward F8=Forward   F9=Search   F12=Cancel
```

Figure 64. Inform Log Utility Panel

You can choose any of the following functions, which are shown in Figure 64, for a single inform log entry:
1 - ACKNOWLEDGE
Changes the displayed status to ACKNOWLEDGED.

2 - REINFORM
Reissues the message against the active inform policy member using the original policy name.

3 - REINFORM/NEW MESSAGE
Reissues the message against the active inform policy member using the original policy name and provides a pop-up window with the original message text. The message text can be edited or replaced prior to confirming the REINFORM.

4 - DELETE
Removes the entry from the inform log.

The following function keys, located at the bottom of the panel, provide functions that are independent of an individual log entry:

F5 Refreshes and displays a current version of the inform log.

F9 Searches for specified log entries. From a pop-up window, you can search for a name, partial name, message text, and date and time. The default is to search through all log entries from the oldest to the most current. For more information, see “Searching Log Entries” on page 84.

The lines of a log entry in Figure 64 on page 81 displays the following options:

First line
Contains the current entry number, the total number of entries, and the status of the entry.
CONTACT ENTRY NUMBER 1 OUT OF 3 CURRENT CONTACT STATUS ISSUED

Second line
Contains the contact name field, the connection type used, and the time and date of the notification.
AON DEVELOPMENT TEAM EMAIL AT 23:00:00 ON 01/26/00

Third line
Contains the message issued by the notification.
A PU NAMED PU00005 FAILED DUE TO INNOP

You can also access the inform log utility by entering the AON 1.9 command synonym. When the AON Base Functions panel, shown in Figure 65 on page 83, is displayed select option 9:
Checking Notification Status

The status conditions, which are located at the end of the first line in each log entry, are described in the following list. See Figure 64 on page 81 where the status is ISSUED.

ISSUED
   An inform request was sent to a service point.

ACKNOWLEDGED
   An operator acknowledged the notification.

DELETED
   The request was deleted from the inform log database.

ROUTED
   The request was routed to another NetView domain that owns the service point.

REINFORMED
   The request was reissued after the current inform policy was applied.

REINFORMED/NEW
   The request was reissued after the current inform policy was applied and a new message has been sent.

FAILED
   The request failed. The probable cause is a communication error with the service point.

NOTROUTED
   The request could not be routed to the target NetView domain.
The inform log contains a corruption error.

Reissuing Notifications

To display the following pop-up window where you can reissue notifications, enter 3 -REINFORM/NEW MESSAGE on the panel shown in Figure 64 on page 81:

![Ezklinfr Inform Log Utility](image)

Depending on how your policy is defined, the REISSUE request may change. For example, at 16:00, the policy may indicate a notification is to be sent as an e-mail, but at 19:00 the same policy may have no active contacts or may issue a notification through a pager.

Usage Notes:

- An active inform policy member is required to view the inform log. Only automated notifications generated by EZLENFRM (the notification policy) are logged in the inform log by default. For more information about the notification policy, refer to the Tivoli NetView for z/OS Administration Reference.
- Inform entries are logged in the DSILIST DD data set.
- The ILOG command uses the INFORM command to perform REINFORM actions. For information about the ILOG, INFORM, and INFORMTB commands, refer to the Tivoli NetView for z/OS Command Reference.

Searching Log Entries

The inform log search panel, shown in Figure 67 on page 85, enables you to search the inform log entries.
By default, the search proceeds through all entries beginning with the oldest date and time and ending with the current date and time. You can limit your search by any, a combination of, or all of, the following ways:

- The name or message fields
- Start and stop date and time

In a partial search, you can specify part of a name followed by an asterisk in the name field and the inform log utility will find every occurrence of the partial name. For example, you can search for XYZ or XYZ* and the inform log utility will find all entries containing XYZ. The asterisk (*) is optional. If you narrow the search still further using specific start and stop dates and times, the search is limited to the specified criteria beginning and ending on the specified dates and times.

If search criteria is not updated, press F5. An error message is displayed.

Figure 67. Inform Log Utility Search Panel
Part 2. Using AON/SNA

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Accessing the Operator Interface
Using the SNA Help Desk
   Accessing the SNA Help Desk
   Recycling Resources
   Determining Problem Cause
      Activating the Hierarchy
      Forcing a Recycle of a Resource
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Selecting the SNBU Connect Option
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Chapter 11. Using SNAMAP
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Chapter 12. Displaying Network Status

Chapter 13. Issuing VTAM Commands

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Displaying Control Points

Chapter 15. Using Switched Network Backup
Displaying the SNBU Resource List
Connecting or Disconnecting a Resource and Changing Modem Speed
Displaying SNBU Status

Chapter 16. NCP Recovery Definitions

Chapter 17. Displaying SNA Resource Information with AutoView
Finding Defined Resources
Viewing Resource Information
Chapter 10. Getting Started with AON/SNA

This chapter explains navigation through the AON/SNA operator interface. The AON/SNA operator interface is a series of full-screen, menu-driven panels that enable you to use all of the operator functions available in AON/SNA.

You can identify an AON/SNA panel by the prefix of FKV in the panel name, located in the top left of the panel. Use the operator interface to look at color-coded displays of your network, resolve network problems, receive messages, issue commands, and perform many other functions that control automation and resource availability.

To perform a task in AON/SNA, use the operator interface or panels. For each task, there is a primary panel, which may have one or more subordinate panels.

In addition to AON/SNA panels, some AON/SNA tasks use AON panels, identified by an EZL prefix in the top left corner of the panel, and some AON/SNA tasks use NetView panels.

Accessing the Operator Interface

You can access the AON/SNA operator interface from anywhere within NetView or the AON panels. You can also reach the AON/SNA panels from the other AON component (AON/TCP) if this component is installed and initialized by your organization.

To access the AON: Operator Commands Main Menu panel:
1. Type AON from the NetView command line.
2. Press Enter.

NetView displays the AON: Operator Commands Main Menu panel shown in Figure 68 on page 90. This panel displays all of the available components of AON. If a component (like AON/SNA) is not available, the name of the component on the panel is grayed out.
3. Type 2 in the entry field, which is located to the left of the first option.
4. Press Enter.

AON displays the SNA Automation: Menu panel shown in Figure 69 on page 91. Use this panel to access all the functions of AON/SNA.

**Note:** You can also display the AON/SNA operator interface by entering **AONSNA** on any command line within NetView, AON, or from the other AON components, provided these components are installed and initialized on your system.
Using the SNA Help Desk

The SNA Help Desk is an application program that enables NetView operators to solve network problems and to support end-users. The SNA Help Desk systematically finds the cause of the network problems and helps you perform recovery actions through a series of panels. The SNA Help Desk resolves network problems for AON/SNA by primarily attending to SNA resources with support for remote systems and NetView Access Services IDs (NVAS).

The SNA Help Desk enables you to select a resource and recycle it. The SNA Help Desk also enables you to use the problem determination panels to solve problems with that resource. Because AON/SNA performs problem determination through the operator interface panels, you receive immediate feedback on the status of a resource with any possible problems highlighted.

The SNA Help Desk enables you to view a resource and its higher connected nodes. This contrasts with SNAMAP which enables you to zoom to lower connected nodes.

The SNA Help Desk enables inexperienced help desk operators to solve network problems. The resource name is the only required field, so all you need to know is the terminal ID of the user. After you enter the terminal ID into the system, the SNA Help Desk displays a pictorial representation of how the user’s terminal is attached to the system.

If your enterprise installed NetView Access Services (NVAS), you can select the NetView Access Services IDs (NVAS) option. This option determines the location of network problems using the caller’s user ID, thus eliminating the need to know even the terminal ID.

To increase your productivity, the SNA Help Desk:
• Reduces the amount of input you enter
• Automates problem determination
• Enables you to be productive immediately, even if you do not know the network configuration
• Teaches you problem determination skills while you resolve network failures

To recover resources in another NetView domain, AON/SNA needs an active NNT or remote command (RMTCMD) NetView session with domains other than the one on which AON/SNA is located. This connection is necessary for the SNA Help Desk to find resources that are not on the operator's domain. If you need to establish these sessions, use the AON CDLOG command to go directly to the panel for establishing those sessions.

Accessing the SNA Help Desk
To display the SNA Help Desk, select the Help Desk option on the SNA Automation: Menu panel, or use the fast path command or a panel synonym.

FKVK0000 SNA Automation: Menu CNM01

Select an option
1. Tutorial
2. SNAMAP
3. VTAM Options Management
4. NetStat
5. VTAM Commands
6. APPN menu
7. Switched Network Backup menu
8. X.25 menu
9. NCP Recovery Definitions (NCP name=______)

Command ==> F1=Help F2=Main Menu F3=Return F6=Roll F12=Cancel

Figure 70. Selecting the SNA Automation Help Desk

To display the SNA Help Desk from the SNA Automation: Menu panel:
1. Type 1 in the entry field.
2. Press Enter.

AON/SNA displays the SNA Automation: Help Desk panel shown in Figure 71 on page 93.

Note: You can also display the SNA Automation: Help Desk panel by typing AON 2.1 or SNAHD on any command line and pressing Enter.
3. Type the terminal ID of the user in the **Enter name** field.
4. Type the number of the option you want in the **Select option** entry field. You can select one of the following options:

**Recycle resource**
Attempts to activate the resource and its hierarchy.

**Problem Determination**
Displays the status of the resource and its higher node to help determine the problem.

**NetView Access Services User ID**
Enables you to use a NetView Access Services user ID to start problem determination.

**NetView Help Desk**
This option takes you to the main NetView Help Desk facility.

5. Press **Enter**.
AON/SNA displays the panel for the option you selected. See the following sections for more information about those options.

### Recycling Resources
When you recycle a resource, AON/SNA attempts to deactivate and then activate the resource. Before attempting to activate the resource you select, AON/SNA checks all of the higher nodes to determine the highest inactive node and tries to recycle those nodes first.

For example, to recycle a resource from the SNA Automation: Help Desk panel shown in Figure 72 on page 94 do the following:

1. Type the terminal ID in the **Enter name** field, as shown in Figure 72 on page 94. This example uses the TA1PT209 terminal ID.
2. Type 1 in the entry field.
3. Press **Enter**.
If AON/SNA cannot activate the resource, it displays a panel that displays a message, explaining the current status of the resource. Figure 72 shows a message that indicates AON/SNA successfully recycled the resource.

When AON/SNA cannot recycle the resource, it displays an Operator Command Interface: SNA Help Desk panel shown in Figure 73.

Figure 72. Message Indicating Recycled Resources — SNA Automation: Help Desk

If AON/SNA cannot activate the resource, it displays a panel that displays a message, explaining the current status of the resource. Figure 72 shows a message that indicates AON/SNA successfully recycled the resource.

When AON/SNA cannot recycle the resource, it displays an Operator Command Interface: SNA Help Desk panel shown in Figure 73.

Figure 73. Operator Command Interface: SNA Help Desk Panel
Figure 73 on page 94 shows the domain you are on and the status of the resource. To use this panel, do the following:

1. Type the number of the command you want to process in the entry field. You can select one of the following options:

   **View Status information**
   Displays the status of the resource. Provides an explanation of the status as supplied by the NetView STATUS command.

   **Force activate resource**
   Tries to force the resource active.

   **View Hardware Monitor**
   Displays the most recent events for the highest inactive node of the resource.

   **View terminal Error Code**
   Displays a pop-up window, prompting you for a three-letter error code that you get from the person who called. You see an explanation of the terminal error code.

   **View X.25 Error Code explanation**
   Provides an explanation of the five-character error code provided by the person who called.

   **View Sense Code Information**
   Displays any sense code data and provides an explanation of it. This field may show sense code data when a VARY active occurs. You can look at this information using the NetView SENSE command. If there is no sense data, AON/SNA sets the sense field to 00000000.

2. Press **Enter**.
   AON/SNA processes the command you selected.

**Determining Problem Cause**

AON/SNA displays a panel that shows the pictorial representation of your network and displays a message that explains the status of the resource. For example, if the resource is active, AON/SNA displays a message similar to the following:

EZL043I TA1PT209 IS ACTIVE

You can use the SNA Help Desk to determine the cause of network problems. For example, suppose a user, whose terminal ID is RL523A1, detects problems. The user calls the help desk operator, who enters the terminal ID on the AON Help Desk panel. The AON/SNA Help Desk determines that the terminal is a SNA resource, so it displays the SNA Automation: Help Desk panel shown in Figure 74 on page 96.
To use the Problem Determination option on the SNA Automation: Help Desk panel:

1. Type the terminal ID in the **Enter name** field. This example uses the RL523A1 terminal ID.
2. Type **2** in the entry field.
3. Press **Enter**.

AON/SNA displays the Operator Command Interface: SNA Help Desk panel shown in Figure 75 on page 97.

---

**Figure 74. SNA Automation: Help Desk Panel – Selecting Problem Determination**

To use the Problem Determination option on the SNA Automation: Help Desk panel:

1. Type the terminal ID in the **Enter name** field. This example uses the RL523A1 terminal ID.
2. Type **2** in the entry field.
3. Press **Enter**.

AON/SNA displays the Operator Command Interface: SNA Help Desk panel shown in Figure 75 on page 97.
Figure 75 shows the resource hierarchy. This panel is color-coded to indicate the status of the resources. Because the line is not active, the line, the PU, and the LU all display in red on the panel. The red is represented in boldface in Figure 75. The line, the PU, and the LU each have a status of NEVAC (never active).

The selection menu in the lower right corner of the panel shows any sense codes or error codes associated with the problem. If you know the sense code data or the X.25 code, you can select these options for further information. Press F10 to move to the Enter Selection entry field or press the Tab key to move the cursor to the resource. On the Operator Command Interface: SNA Help Desk panel the cursor is positioned at the failing resource.

If the resource is not active, AON/SNA enables the F11 key. In this scenario, the message on the Operator Command Interface: SNA Help Desk panel instructs you to press F11 for error details and to continue with problem determination. Although the LU that you are investigating is RL523A1, the message displayed at the bottom of the panel in Figure 75 reveals that the line is the source of the problem.

AON/SNA displays the SNA Help Desk Problem Determination panel shown in Figure 76 on page 98.
Figure 76 shows the error message at the top of the panel. The panel lists actions to take to attempt to solve the problem. The Problem Determination panel provides the following actions:

**Activate the Hierarchy for the resource**
Attempts to activate the hierarchy of the resource starting from the highest inactive resource to the resource you entered.

**Force Recycle the resource**
Attempts to deactivate, then activate the resource you entered.

**SNBU Connect PU**
Takes you to SNBU so you can initiate the dial backup connection.

See the following sections for more information about these options.

**Activating the Hierarchy**
To use the Problem Determination panel to attempt to activate the LU and the other resources in its hierarchy (the PU and the line):

1. Type 1 in the entry field shown in [Figure 77 on page 99](#).
2. Press Enter.

AON/SNA attempts to activate all of the resources in the hierarchy, starting from the highest inactive resource continuing down to the resource you entered on the panel.
Forcing a Recycle of a Resource

Although choosing option 1 to activate the hierarchy of the resource often resolves
the problem, AON/SNA cannot always resolve the problem by activating the
hierarchy for the resource. Figure 78 shows a message indicating that AON/SNA
could not activate the hierarchy for RL523A1.

If AON/SNA cannot activate the resource, try the Force Recycle the resource
option (option 2) on the Problem Determination panel.

Figure 77. Activating the Hierarchy for the Resource

Figure 78. Unable to Activate Message on the Problem Determination Panel
To force the recycle of a resource on the Problem Determination panel as shown in the panel in Figure 77 on page 99:

1. Type 2 in the entry field.
2. Press Enter.

If AON/SNA successfully activates the resource, it returns a message similar to the one that is shown in boldface in Figure 72 on page 94. If AON/SNA cannot recycle the resource, it displays a message similar to the following:

```
EZL334I UNABLE TO VARY restype resname ON domain ACTIVE
```

Selecting the SNBU Connect Option

If AON/SNA cannot activate the resource using the first two options on the Problem Determination panel, you can use the SNBU Connect option. This option enables you to switch the SNBU connection of the line from the inactive-leased line to a dialed backup line. Figure 78 on page 99 shows the Problem Determination panel. To select the SNBU Connect option:

1. Type 3 in the entry field.
2. Press Enter.

AON/SNA displays the Change Speed or Initiate/Terminate SNBU Operation panel with a verification message shown in Figure 79 on page 100.

```
FKVKCGBE CHANGE SPEED OR INITIATE/TERMINATE SNBU OPERATION

Enter the following:

Resource name .................... TA1P523A

Use any character to select type of operation:

DISCONNECT SNBU ..............
CONNECT SNBU .................... / Note: Operation controlled by Automation Control File.

RESTORE to Full Speed ..........
SWITCH to Backup Speed .......
  Local|Remote|Both Modem ....... 1 = Local | 2 = Remote | 3 = Both Note: Modem will switch back if next statistics are good.

DELETE erroneous status ...........
Note: Use only after servicing port or manual restore

FKV989I VERIFY SELECTION AND PRESS ENTER TO CONTINUE

Command ==>
F1=Help  F2=Main Menu  F3=Return  F6=Roll  F12=Cancel
```

Figure 79. Issuing a SNBU Connect

3. Verify that you want to select SNBU.

The resource name filled in on the panel is the name of the PU in the resource hierarchy. Although the initial resource investigated is an LU, and the source of the problem is a line, the resource on this panel is a PU. Because modems are not addressable units (NAU), AON/SNA issues the SNBU connect command to the PU associated with the modem. In this example, TA1P523A is the PU for the modem that performs the switched network backup for the inactive line.

4. Press Enter.

AON/SNA displays the Operator Command Interface: SNA Help Desk panel shown in Figure 80 on page 101. In this example, the SNBU Connect command
works, as seen by the informational message on the panel. AON/SNA activates all of the resources in the hierarchy and displays them in green.

**Figure 80. SNBU Connect Reactivating the Resource Hierarchy**

The line name changes from TA1L5023 to TA1L5024. In this example, the modem that performed the SNBU connection dialed a different line for the backup. Figure 80 shows that the name of the line has changed. Depending on the capabilities of the modem used, AON may use the same line for backup.

**Using Problem Determination Commands**

The Operator Command Interface: SNA Help Desk panel enables you to issue commands for a resource. To issue commands, press the F4 function key. AON/SNA displays a pop-up command window that lists the commands you can issue for the resource you select. To issue a command for a resource:

1. Press the Tab key to move the cursor to the resource you want.

AON/SNA displays a pop-up command window with the commands you can issue for that resource. Figure 81 on page 102 shows the command window for the TA1PT209 resource.
3. Type the number for the command that you want to issue in the entry field of the pop-up window. You can select one of the following commands:

**Recycle**  
Forces the resource inactive, then activates the resource. See "Recycling Resources" on page 93 for more information about recycling resources.

**AutoView**  
Displays the current automation setting for a resource. These settings include the current status of a resource, and the recovery, threshold, and monitoring settings. You can change the settings.

**SNAMAP**  
Displays a map of the resource. You can zoom in on the resource to see the connecting lower nodes. You can also enter commands from the panel that is displayed.

**DDF Details**  
Takes you to the Dynamic Display Facility (DDF) panel that shows the details for the resource. This panel also displays a message.

**Automation commands**  
Displays the Automation Commands panel. See "Using the Automation Commands" on page 103 for more details about the commands available on this panel.

**NetView commands**  
Displays the NetView Commands panel. See "Issuing NetView Commands" on page 104 for more details about the commands available on this panel.

4. Press **Enter**.

AON/SNA issues the command that you selected.
Using the Automation Commands: You can use the Automation Commands panel to issue commands that control automation. You can access this panel by selecting Automation Commands from a pop-up command window shown in Figure 81 on page 102. To issue automation commands:

1. Type 6 in the entry field on the pop-up command window.
2. Press Enter.

AON/SNA displays the SNA Help Desk Automation Commands panel shown in Figure 82.

3. Type the number of the command you want in the entry field. You can select one of the following commands:

   Automation Flag
   Enables you to set, change, or delete the automation recovery settings in the control file.

   Thresholds
   Enables you to set, change, or delete the threshold settings in the control file.

   Monitor Intervals
   Enables you to set or change the monitoring intervals.

   Active Monitoring
   Enables you to set or change active monitoring.

   SNBU Connect
   Enables you to change the SNBU connection, if SNBU is one of your resources.

   Change SNBU Speed
   Enables you to change the modem speed, if SNBU is one of your resources.
Automation Definition
Displays the configuration data for this resource.

Status History
Displays all the status information for this resource.

LUDRPOOL
Displays X.25 results from the LUDRPOOL command.

4. Press Enter.
AON/SNA issues the command that you selected.

Issuing NetView Commands: You can issue six different NetView commands from the NetView Commands panel. You can access this panel by selecting NetView Commands from a pop-up command window shown in Figure 81 on page 103. To issue NetView commands:
1. Type 7 in the entry field on the pop-up commands window.
2. Press Enter.
AON/SNA displays the SNA Help Desk NetView Commands panel shown in Figure 83.

3. Type the number of the command you want in the entry field. You can select one of the following commands:

   Hardware Monitor
   Displays the most recent events for the resource.

   Session Monitor
   Displays the summary information for the latest response time.

   Timer
   Enables you to set or change the timers for the resource.

   Activate
   Attempts to activate the resource.
Inactivate
Attempts to deactivate the resource.

Help Status
Shows the current status of the resource that is displayed in the Current Resource Name field on the NetView Commands panel.

4. Press Enter.
AON/SNA issues the command that you selected.

Using NetView Access Services (NVAS)
NetView Access Services (NVAS) provides simultaneous access to one or several applications from a single terminal, using one user ID and password. The applications include any of the following:
- System (for example, CICS®)
- Subsystem (for example, TSO/E)
- Application
- Transaction within a system

AON/SNA supports only the relay mode sessions for NetView Access Services (NVAS).

To select NetView Access Services from the SNA Automation: Help Desk panel shown in Figure 84:
1. Type your NVAS user ID in the Enter name field.
2. Type 3 in the entry field.
3. Press Enter.

Figure 84. Selecting the Option for NetView Access Services (NVAS) Problems

AON/SNA displays the SNA Help Desk panel for NetView Access Services shown in Figure 85 on page 106.
The SNA Help Desk panel for NetView Access Services lists all available applications that are active for your user ID. The SNA Help Desk panel for NetView Access Services can display up to 99 applications for a single NetView Access Services user ID. You can use the F7 and F8 function keys to look at all of the applications.

The SNA Help Desk panel for NetView Access Services displays information about the ID and what LUs the ID is logged onto. From here, you can cancel the NetView Access Services user ID. This action cancels one or more of the applications under the NetView Access Services user ID.

The SNA Help Desk panel for NetView Access Services provides the following information for the user ID:

**Terminal Address**
The address on which the NetView Access Services user ID is logged on. If the address shows as DISCONNECTED, the ID is disconnected. However, AON/SNA may still run applications that you originally logged onto by the user ID.

**Relay LU**
The pseudo terminal name given when an application is selected by the NetView Access Services user ID. If the name shows as NO SESSIONS, the NetView Access Services user ID is logged on and is currently on the selection list.

**Application LU**
The primary logical unit for the application. The naming conventions are important to help identify the application.

**ACB Type**
Explains the type of session the ID is logged on to. The settings are:
- **U** Unique
- **I** Individual

---

**Figure 85. SNA Help Desk Panel for NetView Access Services**

The SNA Help Desk panel for NetView Access Services displays information about the ID and what LUs the ID is logged onto. From here, you can cancel the NetView Access Services user ID. This action cancels one or more of the applications under the NetView Access Services user ID.

The SNA Help Desk panel for NetView Access Services provides the following information for the user ID:

<table>
<thead>
<tr>
<th>Terminal Address</th>
<th>Relay LU</th>
<th>Application LU</th>
<th>ACB Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>_ TA1TT170</td>
<td>EMS01F01 AON00126</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EMS01F03 AON00612</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EMS01F01 AON05012</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EMS01F02 AON04008</td>
<td>U</td>
<td></td>
</tr>
</tbody>
</table>

---

Command ==>  F1=Help  F2=Main Menu  F3=Return  F5=Refresh  F6=Roll
F7=Backward  F8=Forward  F12=Cancel
A shared session is a special case because it uses the same relay LU as the other NetView Access Services user ID. To cancel a relay LU that is shared, AON/SNA cancels the terminal address instead. If AON/SNA cancels a shared user ID, the user of that ID can log onto NetView Access Services with that ID and issue the LF command against the application that is hung.

**Canceling a NetView Access Services User ID**

To cancel a NetView Access Services user ID and all NetView Access Services applications:

1. Type a non-blank character in the entry field next to the terminal address.
2. Press **Enter**.

   AON/SNA cancels the NetView Access Services user ID and all the NetView Access Services applications.

To cancel one or more applications running under the NetView Access Services user ID:

1. Press the **Tab** key to move the cursor to the **Relay LUs** column.
2. Type a non-blank character in the entry field next to the relay LUs and applications you want to cancel.
3. Press **Enter**.

   AON/SNA cancels the applications you selected.

To cancel any other type of ACB session:

1. Type a non-blank character in the entry field next to the terminal address.
2. Press **Enter**.

   AON/SNA cancels the ACB session you selected.

**Attention:** AON/SNA does not display a confirmation panel before canceling the NetView Access Services user ID. Use this function carefully.
Chapter 11. Using SNAMAP

SNAMAP provides a tool to view a list of all the resources on a domain. You create the list by selecting one of the following resource types:

- Major nodes
- Applications
- Cross-domain resource managers
- Cross-domain resources
- Link stations
- Cluster controllers
- Terminals
- User entered resource name

SNAMAP displays lower connected nodes. This contrasts with the SNA Help Desk which provides a view of a resource and its connected higher nodes.

To use SNAMAP:

1. Type 2 in the entry field on the SNA Automation: Menu panel shown in Figure 86.
2. Press Enter.

AON/SNA displays the SNA Automation: SNAMAP panel shown in Figure 87 on page 110.

Note: You can also get to the SNA Automation: SNAMAP panel by typing AON 2.2 or SNAMAP on any command line and pressing Enter.
3. Type the number of the option you want in the entry field. This example selects option 1 (Major Nodes) shown in Figure 87.

4. Press Enter.

   AON/SNA displays the Operator Command Interface: SNAMAP panel shown in Figure 88.

---

**Figure 87. SNA Automation: SNAMAP Panel**

3. Type the number of the option you want in the entry field. This example selects option 1 (Major Nodes) shown in Figure 87.

4. Press Enter.

   AON/SNA displays the Operator Command Interface: SNAMAP panel shown in Figure 88.

---

**Figure 88. Operator Command Interface: SNAMAP Panel**
The Operator Command Interface: SNAMAP panel lists the available resources and shows the type and status of each resource. Press the F7 and F8 function keys to scroll through the list of resources if they are displayed on more than one panel.

You can use one of the following action codes on a specified resource:

1 = Activate
   Activates the resource you specify

2 = Inactivate
   Deactivates the resource you specify

See the following sections for more information about activating and deactivating a resource.

### Activating Resources

You can activate a specific resource from the Operator Command Interface: SNAMAP panel. For example, to activate the AN23E02 resource:

1. Press the Tab key to move the cursor to the AN23E02 resource, as shown on the Operator Command Interface: SNAMAP panel in Figure 88 on page 110.
2. Type 1 in the entry field beside the AN23E02 resource.
3. Press Enter.

AON/SNA displays a message indicating that the resource is now active, as shown in Figure 89.

---

**Figure 89. Activate Message**
Deactivating Resources

You can deactivate a specific resource from the Operator Command Interface: SNAMAP panel. For example, to deactivate the AON1APPC resource:

1. Press the Tab key to move the cursor to the AON1APPC resource, as shown on the Operator Command Interface: SNAMAP panel in Figure 88 on page 110.
2. Type 2 in the entry field beside the AON1APPC resource.
3. Press Enter.

AON/SNA displays a message indicating that the resource is now inactive, as shown in Figure 90.

4. Press F5 to refresh the panel.

You can also press the F4 function key to display the pop-up command window, or the F11 function key to display the next level of information for a resource. Both of these function keys are cursor sensitive and display the information for the resource at the position of the cursor. The following sections describe the use of these keys.

Viewing Lower Connected Nodes

You can use the F11 function key to view the connected lower nodes for a specific resource. AON/SNA labels this function key as a zoom key. To see the connected lower nodes:

1. On the Operator Command Interface: SNAMAP panel, press the Tab key to move the cursor to the resource you want. This example shows the TA1N100 resource.
2. Press F11.

AON/SNA displays the lower connected nodes for the TA1N100 resource in a pop-up window on the right side of the panel shown in Figure 91 on page 113.
You can activate or deactivate the resources listed in the pop-up window. For more information about activating and deactivating the resources, see [Activating Resources on page 111] and [Deactivating Resources on page 112].

### Using SNAMAP Pop-up Commands

You can use the F4 function key to display a list of pop-up commands that you can issue for a specified resource. For example, you might want to display the status history of a resource before you activate it.

To display the command list and issue a command:

1. **On the Operator Command Interface: SNAMAP panel**, press the Tab key to move the cursor to the resource you want. This example shows the TA07LNPA resource.

2. Press **F4**.

AON/SNA displays the commands you can use in a pop-up window on the right side of the panel shown in [Figure 92 on page 114].
3. Type the number of the command you want to issue in the entry field in the pop-up command window. In this example, you can issue one of the following commands:

**Activate**
Activates the resource.

**AutoView**
Shows all the automation settings for the resource and enables you to change the settings.

**Display**
Displays the details about this resource.

**Display Config**
Displays the control file for the resource.

**Display History**
Displays the status file history for the resource.

**Help Desk**
Displays the problem determination information from the SNA Help Desk.

**Inactivate**
Deactivates the resource.

**Monitor**
Displays the monitoring intervals for the resource.

**Recovery**
Displays the recovery settings for the resource.

**Thresholds**
Displays the error threshold settings for the resource.

**Timer**
Displays the timer settings for the resource.

Figure 92. Displaying the Command List Pop-up Window
Press the F7 and F8 function keys to scroll through the list of commands.

4. Press Enter.

AON/SNA processes the command you selected.
Chapter 12. Displaying Network Status

To display the status of specified resource groups, use the NetStat option. To check the status of your network, specify the type of resource and which resources of that type to display.

![Figure 93. SNA Automation: Menu Panel – Selecting the NetStat Option](image)

To check the status of your network from the SNA Automation: Menu panel:
1. Type 4 in the entry field.
2. Press Enter.

AON/SNA displays the SNA Automation: NetStat panel shown in Figure 94 on page 118.

**Note**: You can also display the NetStat panel by typing AON 2.4 or NETSTAT on any command line and pressing Enter.
3. Type the number of the resource type you want in the Select a Type entry field. You can select one of the following options:

- **All** Displays all known resources. The default is All.
- **Physical resources** Displays only the physical resources. For example, this option displays NCPs, lines, PUs, and LUs.
- **Applications** Displays all of the applications.
- **Cross Domain Resource Managers** Displays all of the cross-domain resource managers.
- **Cross Domain Resources** Displays all the cross-domain resources.

4. Type the number of the scope you want in the Select Scope entry field. You can select one of the following options:

- **All** Displays all resources regardless of their status.
- **Not active (EXCEPT)** Displays all resources currently not in an active state. The default is EXCEPT.
- **User-defined field** Displays the scope of resources you specify. If you do not want to display resources with a certain status, type an ~ before the status.

5. Specify whether you want to check automation. You can specify one of the following values:

- **1=Yes** Checks the recovery setting for the resource before it displays the resource. If you specify yes and recovery is turned off, the resource is not displayed. This is the default.
- **2=No** Does not check automation.
6. Specify if you want to send the resource to DDF. You can specify one of the following values:

1=Yes Updates DDF with the status of the resource you display. You should only specify yes if you need to reset the status of the resource or reload DDF.

2=No Does not update DDF with the status of the resource. The default is No.

7. Press Enter.

AON/SNA displays the status of the resources you specified on the Operator Command Interface: NetStat panel shown in Figure 95.

![Figure 95. Operator Command Interface: NetStat Panel](image)

**Note:** For information about the programmatic interface to the AON NETSTAT function, see the SNA resource automation information (FKVESYNC) in the Tivoli NetView for z/OS Automated Operations Network Customization Guide.
Chapter 13. Issuing VTAM Commands

To issue VTAM commands and see the results of the commands on a panel, use the VTAM commands option on the SNA Automation: Menu panel or the VTAMCMD command. The VTAM commands option saves commands across user task sessions. If any command is left on the panel when you exit the panel, it is displayed in the same place when you return to the panel. This is helpful if you have a small set of frequently used commands, and you do not want to look up the syntax of a command each time you use it.

The VTAM command option is cursor sensitive. If you have several commands on the panel, AON/SNA issues the command at the position of the cursor. You can issue a command by typing a new command and pressing Enter, or use the Tab key to move the cursor to the command you want to select and press Enter.

To issue VTAM commands from the SNA Automation: Menu panel:

1. Type 5 in the entry field.
2. Press Enter.

AON/SNA displays the SNA Automation: VTAM Commands panel shown in Figure 97 on page 122.

Note: You can also get to the VTAM Commands panel by typing AON 2.5 or VTAMCMD on any command line and pressing Enter.
When you select this panel for the first time, the command input fields are blank. However, because AON/SNA saves the commands across user sessions, including NetView sessions, the panel fills up with the commands you use. This saves time if you use a few commands frequently.

You can shorten the commands on this panel. For example, you can enter the D NET,TOPO,LIST=SUMMARY command as TOPO,LIST=ICN because AON/SNA assumes you want to use D NET if you do not specify the word NET.

To change a command, use the Tab key to move the cursor to the command and type over it.

To add a VTAM command to this panel and issue it:

1. Type the command in the entry field. You can only type one command on each line.
2. Press Enter.

AON/SNA issues the command and displays the Operator Command Interface: VTAM Commands panel shown in Figure 98 on page 123. In this example, the DISPLAY NET,ID=TA1T048 command response is displayed.
The output from the command is displayed on this panel. If the output is more than one panel long, you can scroll through the panels to see all of the information.

To issue previously saved commands:
1. Press the Tab key to move the cursor to the command you want to issue.
2. Press Enter.

AON/SNA issues the command and displays the output on the Operator Command Interface: VTAM Commands panel.
Chapter 14. Using Advanced Peer-to-Peer Networking (APPN)

AON/SNA Advanced Peer-to-Peer Networking (APPN) is a powerful, flexible, easy-to-use networking solution for client-server and distributed applications supported by VTAM 4.1 or later.

In an AON/SNA APPN environment, AON provides menu-driven commands to simplify VTAM topology and directory database management. This environment accepts operator commands for common AON/SNA APPN VTAM functions. It also provides active monitoring of control points and control point sessions.

You can use the AON/SNA: APPN Command Menu panel to perform the following APPN functions:
- Issue checkpoint commands
- Display control points
- Display directory
- Display transmission group profiles

To use the APPN functions from the SNA Automation: Menu panel:
1. Type 6 in the entry field.
2. Press Enter.

AON/SNA displays the SNA Automation: APPN Commands Menu panel shown in Figure 100 on page 126.

Note: You can also get to the APPN Commands Menu panel by typing AON 2.6 or APPN on any command line and pressing Enter.
Select an option

0. Tutorial
1. Issue Checkpoint Commands
2. Display Control Points
3. Display Directory
4. Display Transmission Group Profiles

Command ===> 
F1=Help  F2=Main Menu  F3=Return  F6=Roll  F12=Cancel

Figure 100. SNA Automation: APPN Commands Menu Panel
Displaying Control Points

You can select the display control points command from the SNA Automation: APPN Commands Menu panel. After you make this selection, you can select from the following actions for the resource:

- Details
- Delete topology
- Delete directory
- Active monitoring
- Timers
- AutoView

You can use the SNA Automation: APPN Control Points Display panel to identify control points to specify in your statements in the CPCPSESS control file entry.

You can use the Display Control Points option on the SNA Automation: APPN Commands Menu panel to work with the control points on your APPN network. To do this:

1. Type 2 in the entry field on the SNA Automation: APPN Commands Menu panel. Figure 100 on page 126 shows this panel.
2. Press Enter.

AON/SNA displays the APPN CP Display panel shown in Figure 101.

**Note:** You can also display the SNA Automation: APPN CP Display panel, type AON 2.6.2 on any command line and pressing Enter.

```
Figure 101. SNA Automation: APPN CP Display Panel
```

3. Type an action code in the entry field next to the resource you want. This example shows the Details action code next to the ISTADJCP control point. You can select one of the following actions:

- 1=Details
  - Displays detailed VTAM information for the control point on the
Operator Command Interface: APPN CP Detail panel. This is obtained from the combined output of the VTAM D NET,E commands and its link station. The output includes both session and LU information, which is helpful in solving problems. The status of the link station is often a clue to physical network problems, while the control point status information shows configuration or application program problems.

2=Delete topology
Deletes the control point from the topology database. Displays the messages about the deletion on the Operator Command Interface: VTAM commands panel.

3=Delete directory
Deletes the control point from the directory database. Displays the messages about the deletion on the Operator Command Interface: VTAM commands panel.

4=Active monitoring
Starts or stops active monitoring of the control point. AON/SNA displays the Active Monitoring Settings panel and enables you to change the settings.

5=Timers
Displays the AON Automation: Timer Set panel where you can add, display, change, and delete the timers for the control point you select.

6=AutoView
Displays automation information for the control point. Displays the AON: AutoView panel.

4. Press Enter.
AON/SNA displays the Operator Command Interface: APPN CP Detail panel shown in Figure 102.
Chapter 15. Using Switched Network Backup

AON/SNA switched network backup (SNBU) automation provides NetView programs to automate modem speed selection or to bypass outages on a leased line. Automatic speed selection is based on information available from link problem determination aid (LPDA-2) modems. When temporary errors exceed a predetermined threshold, SNBU automation automatically switches the line to a slower speed. SNBU automation switches the line back to normal speed when LPDA-2 indicates that the line quality has improved beyond the specified threshold.

SNBU automation bypasses leased-line outages by initiating a dial backup through an alternate communications path. You can choose one of the following conditions that cause SNBU automation to initiate a dial backup:

- A NetView hardware monitor alert indicates no response from a remote modem
- A physical unit (PU) is unavailable for a specific interval of time
- A PU is unavailable multiple times, and AON/SNA stops automated recovery attempts

To use the SNBU automation functions from the SNA Automation: Menu panel:
1. Type 7 in the entry field.
2. Press Enter.
   
   AON/SNA displays the SNBU Automation Command Menu panel shown in Figure 104 on page 130.

---

Figure 103. Selecting the Switched Network Backup Menu

To use the SNBU automation functions from the SNA Automation: Menu panel:
1. Type 7 in the entry field.
2. Press Enter.
   
   AON/SNA displays the SNBU Automation Command Menu panel shown in Figure 104 on page 130.
Note: You can also display the SNBU Automation Command Menu panel by typing AON 2.7 or SNBU on any command line.

Displaying the SNBU Resource List

You can use the Display SNBU Resource List option on the SNBU Automation Command Menu panel to display a list of the SNBU PU and modem pool entries that are defined in the AON/SNA control file. You can also see the status of each resource.

To display the SNBU Resource List from the SNBU Automation Command Menu panel:

1. Type 1 in the entry field on the SNBU Automation Command Menu panel. An example of this panel is shown in Figure 104.
2. Press Enter.

AON/SNA displays the AON SNBU Resource List panel shown in Figure 105 on page 131.

Note: You can also display the SNBU Resource List panel by typing AON 2.7.1 or LISTSNBU from the command line of any panel and pressing Enter.
Connecting or Disconnecting a Resource and Changing Modem Speed

You can use the Control SNBU Connections Manually option or the Change Modem Speed Manually option to:

- Disconnect a resource from SNBU automation
- Connect a resource to SNBU automation
- Restore a resource to full speed
- Switch a resource to backup speed
- Delete an erroneous status file entry

To perform one of these functions:

1. Type 6 or 7 in the entry field on the SNBU Automation Command Menu panel. An example of this panel is shown in Figure 104 on page 130.
2. Press Enter.

The Change Speed or Initiate/Terminate SNBU Operation panel shown in Figure 106 on page 132 is displayed.

Note: You can also display the Change Speed or Initiate/Terminate SNBU Operation by typing AON 2.7.6, AON 2.7.7, CHGSNBU, or CHGSPEED from the command line of any panel and pressing Enter.
3. Type a resource name in the Resource name field. The resource name is the PU name or alternate port name. Because a modem is not a network addressable unit (NAU), the modem is addressed using the network name and the address of the remote PU to which it is attached. When the PU name is used as an operand, relevant information for that PU is automatically filled in on the resulting panel.

4. Type any non-blank character in the remaining fields to perform the action you want. You can select the following fields:

- **DISCONNECT SNBU**
  Disconnects a SNBU dial backup condition.

- **CONNECT SNBU**
  Initiates a SNBU dial backup.

- **RESTORE to Full Speed**
  Restores the selected modem to full speed.

- **SWITCH to Backup Speed**
  Changes the selected modem to a backup speed.

- **Local|Remote|Both Modem**
  Selects a modem type (1=Local, 2=Remote, 3=Both).

- **DELETE erroneous status**
  Deletes old or erroneous status records. Failure to delete old or erroneous Busy and Down status records can result in an attempt at alternate port selection that does not succeed because the SNBU automation cannot use a port that is already marked busy or down. An FKV850I message that no ports are available might be issued, when in fact there is nothing to prevent the dial from occurring. An erroneous status file record keeps those ports from being selected.

---

**Figure 106. Change Speed or Initiate/Terminate SNBU Operation Panel**

Enter the following:

- Resource name ..................

Use any character to select type of operation:

- DISCONNECT SNBU ............
- CONNECT SNBU ..............
- Note: Operation controlled by Automation Control File.

- RESTORE to Full Speed ........
- SWITCH to Backup Speed .......
  Local|Remote|Both Modem ...... 1 = Local | 2 = Remote | 3 = Both
  Note: Modem will switch back if next statistics are good.

- DELETE erroneous status .......
  Note: Use only after servicing port or manual restore

Command ==>
F1=Help   F2=Main Menu   F3=Return   F6=Roll
F12=Cancel
5. **Press Enter.**
If you completed the information correctly, AON/SNA performs the function you specified on the panel and displays the SNBU Automation Command Menu panel.

**Displaying SNBU Status**

You can use the Display SNBU Status option to display the status of all SNBU resources (including those in backup speed) as recorded in the AON status file. To display the status of SNBU resources:

1. Type 8 in the entry field on the **SNBU Automation Command Menu** panel. An example of this panel is shown in [Figure 104 on page 130](#).
2. **Press Enter.**
The SNBU PU Status Display panel shown in [Figure 107](#) is displayed.

**Note:** You can also display the SNBU PU Status Display panel by typing **AON 2.7.8** or **QRYSNBU** on any command line and pressing **Enter.**

```
FKVKCGBF SNBU PU Status Display
More: +

<table>
<thead>
<tr>
<th>PU NAME</th>
<th>STATUS</th>
<th>PU NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FOTESTPU</td>
<td>SNBU</td>
<td>16. SNBU015</td>
<td></td>
</tr>
<tr>
<td>2. SNBU001</td>
<td>ISNBU</td>
<td>17. SNBU016</td>
<td>INIT</td>
</tr>
<tr>
<td>3. SNBU002</td>
<td>ISNBU</td>
<td>18. SNBU017</td>
<td>SNBU</td>
</tr>
<tr>
<td>4. SNBU003</td>
<td></td>
<td>19. SNBU018</td>
<td></td>
</tr>
<tr>
<td>5. SNBU004</td>
<td></td>
<td>20. SNBU019</td>
<td>BOTH</td>
</tr>
<tr>
<td>6. SNBU005</td>
<td>SNBU</td>
<td>21. SNBU021</td>
<td>SNBU</td>
</tr>
<tr>
<td>7. SNBU006</td>
<td></td>
<td>22. SNBU022</td>
<td></td>
</tr>
<tr>
<td>8. SNBU007</td>
<td>SNBU</td>
<td>23. SNBU023</td>
<td>SNBU</td>
</tr>
<tr>
<td>9. SNBU008</td>
<td></td>
<td>24. SNBU024</td>
<td>BOTH</td>
</tr>
<tr>
<td>10. SNBU009</td>
<td>INIT</td>
<td>25. SNBU025</td>
<td>SNBU</td>
</tr>
<tr>
<td>11. SNBU010</td>
<td></td>
<td>26. SNBU026</td>
<td>ISNBU</td>
</tr>
<tr>
<td>12. SNBU011</td>
<td>SNBU</td>
<td>27. SNBU028</td>
<td>SNBU</td>
</tr>
<tr>
<td>13. SNBU012</td>
<td>RVC</td>
<td>28. SNBU029</td>
<td>ISNBU</td>
</tr>
<tr>
<td>14. SNBU013</td>
<td>SNBU</td>
<td>29. SNBU030</td>
<td>SNBU</td>
</tr>
<tr>
<td>15. SNBU014</td>
<td>LOCAL</td>
<td>30. SNBU040</td>
<td>SNBU</td>
</tr>
</tbody>
</table>

Status may be altered using CHGSNBU or CHGSPEED commands
```

**Figure 107. SNBU PU Status Display Panel**
Chapter 16. NCP Recovery Definitions

To display the NCPRECOV Control File definitions for a particular NCP, or for all NCPs you have defined, use the NCP Recovery Definitions menu option.

To display all defined NCPs choose option 9. To display a particular NCP, choose option 9 and enter the name of the NCP in the NCP name= field on the panel.

Selecting the NCP Recovery Definition menu option will cause the DSPCFG command to be issued based upon your NCP selection.

Figure 108 displays the SNA Automation: Menu panel.

Figure 108. Selecting NCP Recovery Definitions

To access NCP Recovery Definitions from the SNA Automation: Menu panel:
1. Type 9 in the entry field.
2. Press Enter.

AON/SNA issues the DSPCFG command for all of your defined NCPs, which is shown in Figure 109 on page 136.
Select one of the following. Then press Enter.
1=Add  2=Change  3=Delete

- NCP01  NCPRECOV
- HOST    CNM01
- DUMP    (Y,N)
- RELOAD  (Y,N)
- LINKSTA 001-S
- DUMPSTA 001-S
- LOADTIME 00:05
- DUMPTIME 00:10
- EXIT01  FKVE01
- EXIT02  FKVE02
- EXIT03  FKVE03
- EXIT04  FKVE04
- LOADMOD NCP01A

Command ===>
F1=Help   F2=Main Menu   F3=Return   F5=Refresh   F6=Roll
F7=Backward F8=Forward   F12=Cancel

Figure 109. Selecting NCP Recovery Definitions

This is the DSPCFG panel for the NCP01 NCPRECOV Control File statement. In this example, this is the only NCP being automated on this system.
Chapter 17. Displaying SNA Resource Information with AutoView

The AutoView function displays a summary of information for a single resource and provides a list of commands you can issue for more information about the resource and changing its automation settings. To use the AutoView panel, you must know the name of the resource with which you want to work.

To display the AutoView selection panel:

1. Type **SNAVIE**W on the command line of any panel.
2. Press Enter. A panel similar to the one shown in Figure 110 is displayed. This panel is dynamically ordered according to your installation, so the order of the options on your panel may be different.

3. Type the resource name in the Resource Name field.
4. Optionally, tab to the Resource Type field and type the resource type (such as LU, PU, NCP, or APPL).
5. Type 5 for SNA in the entry field. If you do not select an option, AON searches all of the automation components to find the resource.
6. Press Enter.

For example, to use AutoView for the TA1P523A resource, type TA1P523A in the Resource Name field, which is shown in Figure 111 on page 138.
Finding Defined Resources

Each automation component displays a different set of predefined information and a different list of commands. Because no particular automation component is selected in the example shown in Figure 111, AON searches all the automation components for the resource, TA1P523A. When the resource is defined to more than one automation component, AON lists all the places the resource is defined.

In Figure 112 on page 139, AON found the resource, TA1P523A, defined as both a SNA and a SNBU resource.
To select the SNA AutoView display:

1. Type 1 in the entry field of the AON: Component Selection panel.
2. Press Enter.

Figure 113 shows the SNA AutoView display for the resource, TA1P523A.

---

Figure 112. AON: Component Selection Panel

Figure 113. AON: AutoView Panel

Chapter 17. Displaying SNA Resource Information with AutoView
Viewing Resource Information

The following resource information is available:

1. The first group of information provides a summary of information about the resource including the resource name, resource type, status, automation settings for the resource, DDF message for the resource, if any, and other information depending on the automation component used.

2. The second group is a list of commands you can issue for the resource to display more information, change automation settings, or perform other functions depending on the automation component used.

3. The third group of information (shown in parentheses) tells you which control file entry is currently defining the settings for the commands shown in the second group. For example, in Figure 113 on page 139, the settings for option 1 (Automation) are defined by the RECOVERY DEFAULTS control file entry.

For commands that do not have a corresponding control file entry, such as option 5 (Timer) the information in the parentheses indicates whether a setting exists. In Figure 113 on page 139, there are no timers set for TA1P523A.

You can select one of the following resource definitions:

Automation
  Turns automation on and off.

Thresholds
  Adds, changes, or deletes the threshold settings. The settings are infrequent, frequent, and critical threshold.

Active Monitoring
  Indicates if the resource is active.

Monitor Intervals
  Sets the intervals for trying to reactivate a resource.

Timer
  Adds, changes, or deletes a timer.

Display Network LOG Information
  Displays only the Netlog information for the resource.
Part 3. Using AON with TCP/IP

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Chapter 18. Using the AON/TCP Operator Interface

This chapter explains how to navigate through the full-screen, menu-driven panels that make up the operator interface for AON/TCP. As an operator, you can do most of your work from within the operator interface.

Automated Operations Network (AON) provides a rich operator interface for managing TCP/IP resources through an AIX® service point (NV4AIX option) or a z/OS (IP390 option) system. The functions provided by each option are dependent on functions provided by the AIX of MVS platforms; therefore, not all functions are available for both options.

The AIX option enables you to manage TCP/IP resources through RUNCMDs to one, or more, AIX service points. For example, you can PING TCP/IP hosts through the AIX service point. The AIX option also enables you to define thresholds for CPU utilization, disk utilization, resource failures, and security authorization failures.

The IP390 option enables you to manage TCP/IP resources through z/OS Communication Server IP. For example, you can use z/OS Communication Server IP to issue PING and TRACERTE commands. Also, you can manage telnet and FTP sessions connecting into your MVS system. The AON/TCP session management aids you in identifying session endpoints (correlating SNA and IP data), determining if a session is hung, and taking corrective actions. You can use the IP390 option to issue SNMP requests (for example, GET and SET), enable TCP/IP tracing (PKTTRACE and CTRACE), monitor resources for specific performance thresholds, and automate and monitor critical sockets.

Accessing the Operator Interface

You can perform any of the operator functions from the operator interface. The operator interface enables you look at color-coded status displays of the resources on your network, change automation settings, receive messages, issue commands, and perform many other functions that control automation and resource availability. New AON/TCP users might find the panels an easier way to reach the different functions.

You can access the AON/TCP operator interface from anywhere within NetView or from the AON panels. To access AON/TCP from NetView perform the following steps:

1. Type AON on the command line.
2. Press AON.

   NetView displays the AON: Operators Commands Main Menu panel shown in Figure 114 on page 144.
The AON: Operator Commands Main Menu panel is the main panel for AON. This panel displays all available components. AON checks the control file entry for each AON component to determine if the component is installed and initialized. If the component is not available, the name of the component on the panel is grayed out.

To select the TCP/IP Menu option from the AON: Commands Main Menu panel:

3. Type 4 in the entry field.
4. Press Enter.

AON displays the TCP/IP Automation: Commands Menu panel, shown in Figure 115 on page 145. You can use this panel to get to all the functions of AON/TCP.
Note: You can also reach the AON/TCP interface by typing `AONTCP` on any NetView command line and pressing Enter.

Tivoli NetView (for UNIX) Menu

This topic describes how to use the AON/TCP AIX commands. Selecting option 1 from Figure 115 displays the following panel:

![Figure 115. TCP/IP Automation: Commands Menu](image)

To select an option from the TCP/IP Automation: Commands Menu panel:

1. Type the number of the option you want to use in the entry field.
2. Press Enter.

The number you select determines the AON/TCP option that is displayed. See the following list for a summary of the AON/TCP menu options:

**Option 1**
Sends a RUNCMD to the AIX service point to PING a TCP/IP resource.

**Option 2**
Sends the user specified command (through a RUNCMD) to the AIX service point.

**Option 3**
Sends a RUNCMD to the AIX service point to issue a remote PING of a TCP/IP resource.

**Option 4**
Manages AON/TCP thresholds for disk and CPU utilization, resource failures, and security authorization.

**Option 5**
Displays TCP/IP critical resource list, which are resources that have been defined using a TCP/IP policy definition statement.

**Pinging a TCP/IP Node through a Service Point**
Pinging a service point can be a useful diagnostic tool if you are having trouble transmitting data. The response returned by the ping command tells you if the service point and node are up and functioning.

To send a ping command to a service point:
1. Type 1 in the entry field on the TCP/IP Automation: Commands Menu panel.
2. Press Enter.

AON/TCP displays the TCP/IP Automation: Ping a Service Point panel shown in Figure 117 on page 147.

**Note:** For fast access to the TCP/IP Automation: Ping a Service Point panel, enter AON 4.1.1 or NV6KPING on the command line.
3. Type the name of the node associated with the host you want to ping in the Node Name field.

4. Optionally, you can type the name of the service point to which you want to send the ping in the Service Point Name field. If you want to see a list of possible service points, type ?. This field is optional, but accelerates the response because all service points do not have to be checked for the node.

5. Optionally, you can type a non-blank character in the entry field next to any of the following ping flags:

   **(-c) Ping Count**
   Specifies the number of echo requests that you want to send and receive. AON/TCP retrieves the default value from the control file.

   **(-i) Ping Time**
   Specifies the number of seconds to wait between sending each ping request. AON/TCP retrieves the default value from the control file.

   **(-d) Socket-level debugging**
   Indicates that you want to get information about a host and start socket-level debugging.

   **(-n) Numeric Output only**
   Indicates that you do not want AON/TCP to look up symbolic names for host addresses.

   **(-q) Summary only**
   Specifies quiet output. If you specify this option, AON/TCP displays only the summary lines at startup and finish time.

   **(-r) Ping directly to Host**
   Indicates that you want to bypass the routing tables and send the ping directly to a host on an attached network. You can use this option to ping a local host through an interface that no longer has a route through it.

Figure 117. TCP/IP Automation: Ping a Service Point Panel
(-R) **Record route option**
Indicates that you want to include the RECORD_ROUTE option in the ECHO_REQUEST packet and display the route buffer on returned packets.

(-v) **Lists ICMP packets**
Indicates that you want to request verbose output, which lists ICMP packets that are received in addition to echo requests.

(-s) **Number of send data bytes**
Specifies the number of data bytes to send. The default is 56. Add 8 bytes for the ICMP header data to determine the actual number of bytes to send per data packet.

6. **Press Enter.**
If you entered a question mark in the Service Point Name field, AON/TCP displays the Operator Command Interface: SELECTION panel shown in Figure 118, which enables you to select the service point.

```
EZLKSCLCT Operator Command Interface: SELECTION NTV70
Select one of the following. Then press Enter.

- NV6HKHOST NV6000 NV6KPU
- NTCOPUN6 NV6000 NTCOPUN6

Command ===> F1=Help F2=Main Menu F3=Return 
F4=Refresh F5=Roll 
F6=Forward F7=Backward F12=Cancel
```

*Figure 118. Operator Command Interface: SELECTION Panel*

7. **Type s (or any other non-blank character) beside the desired service point.**
8. **Press Enter.**
AON/TCP displays the TCP/IP Automation: Ping a Service Point panel with the service point name field filled in and a message as shown in Figure 119 on page 149.

After performing a successful ping command, AON/TCP displays a panel like the one shown in Figure 120.

This panel shows information such as how many packets were transmitted, how many packets were received, and how long the ping round trip took.

### Issuing a Command to a Service Point

The General Commands option on the TCP/IP Automation: Commands Menu panel enables you to issue a command to a service point.
To issue any valid AIX line output command to a service point:

1. Type 2 in the entry field on the TCP/IP Automation: Commands Menu panel.
2. Press Enter.
   AON/TCP displays the TCP/IP Automation: Issue Command to Service Point panel shown in Figure 121. Because data is saved across sessions, Figure 121 shows data in some of the fields.

**Note:** You can also access the TCP/IP Automation: Issue Command to Service Point panel by entering AON 4.1.2 or NV6KCMD on any command line.

![Figure 121. TCP/IP Automation: Issue Command to Service Point Panel](#)

3. Type the name of the service point, to which you want to send the command, in the Service Point Name field. If you want to see a list of possible service points, type ?.

   **Note:** If you entered a question mark in the Service Point Name field on the TCP/IP Automation: Issue Command to Service Point panel, AON/TCP displays an Operator Command Interface: SELECTION panel like the one shown in Figure 118 on page 148, which enables you to select the service point by typing s next to the desired service point. After pressing Enter, AON/TCP displays the TCP/IP Automation: Issue Command to Service Point panel with the Service Point Name field filled in.

4. Type the UNIX command on any of the available lines. Remember that the service point is case sensitive so you must type the command exactly as the command is expected to be on the machine. You can send any AIX command to the NetView for UNIX service point as long as the results are line mode and not interactive in nature.

   The length of the command to be issued cannot exceed 150 characters due to a limitation on passing information between programs.
If you need more space than what is provided on one panel, you can press F11 to page to the right. To help you keep track of your position, the last two characters on the first panel become the first two characters on the second panel when you page to the right.

AON/TCP supports AIX pipe characters, but you must use the pipe character that translates to EBCDIC X'6A'.

This panel is cursor sensitive and saves entries across sessions. So, to issue a needed command, place the cursor on the command. To change an existing command, type over any command not needed.

5. Press Enter.

Note: If your command is longer than one panel, you can press Enter to issue the command whether or not you scrolled the panel to the right.

AON/TCP displays a scrollable panel similar to Figure 122.

FKXKLWN2 OUTPUT FROM REMOTE CMD
FKX504I NV6000 SERVICE POINT NTCPUN6 RESPONSE FOR COMMAND -
   Executing RUNCMD "asis who"
root   hft/0  Mar 02 13:59
root   pts/2  Apr 06 14:54
root   pts/0  Apr 06 14:47
root   pts/3  Apr 06 15:05
root   pts/4  Apr 06 15:11
DSI268I RUNCMD COMPLETE

Figure 122. Results of Issuing a Command to a Service Point
Displaying the Critical Resource List

The Display Resource List option displays a list of the critical TCP/IP resources you defined with TCPIP entries in the control file. After seeing the available resources, you can do one of the following:

- ping a resource
- issue AutoView for a resource
- issue a remote ping to an AIX resource

To display a list of the TCP/IP resources that you defined for your network:

1. Type 3 in the entry field (on the TCP/IP Automation: Commands Menu panel shown in Figure 125 on page 154).
2. Press Enter.

AON/TCP displays the TCP/IP Automation: Resource List panel shown in Figure 123.

Note: You can also go to the TCP/IP Automation: Resource List panel by entering AON 4.3 or TCPLIST on any command line.

<table>
<thead>
<tr>
<th>FKXK1500</th>
<th>TCP/IP Automation: Resource List</th>
<th>CNM01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select one of the following. Then press Enter. More: &gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1=Ping 2=AutoView 3=Remote Ping</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alias</th>
<th>Serv Pt.</th>
<th>Type</th>
<th>IP Address</th>
<th>Host Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLDSERVER</td>
<td>NV6KHOST</td>
<td>NAMESERV</td>
<td>9.67.3.100</td>
<td>server.plant.floor.c</td>
</tr>
<tr>
<td>COSERVER</td>
<td>NV6KHOST</td>
<td>NAMESERV</td>
<td>9.67.2.20</td>
<td>coserver.plant.floor.c</td>
</tr>
<tr>
<td>DUMMYSRV</td>
<td>NMP1PL10</td>
<td>HOST</td>
<td>9.37.99.255</td>
<td>DUMMYSRV</td>
</tr>
<tr>
<td>OPSWS</td>
<td>NV6KHOST</td>
<td>HOST</td>
<td>9.67.8.89</td>
<td>ops_ws.plant.floor.c</td>
</tr>
</tbody>
</table>

Command =>
F1=Help F2=Main Menu F3=Return F4=Commands F5=Refresh F6=Roll
F7=Backward F8=Forward F11=Right F12=Cancel

Figure 123. TCP/IP Automation: Resource List Panel

The fields on the Resource List panel are:

- **Alias**: The alias, or nickname, of the host you are monitoring.
- **Serv Pt.**: The service point responsible for the resource.
- **Type**: One of the following resource types:
  - Host
  - Nameserver
  - INFC
  - LINK
- **IP Address**: The IP address of the host you are monitoring.
3. Type the number of the action you want to perform in the entry field next to the desired alias name. The action codes:

1. Sends a ping command, which causes the same results as described in "Pinging a TCP/IP Node through a Service Point" on page 146. The advantage of performing the ping this way is that the Node Name and Service Point Name fields are already filled in for you.

2. Displays an AutoView for the alias name. This panel shows all currently known information about the resource from the control file and the service point. From this panel, you can manage all the automation definitions for the resource.

3. Sends a remote ping command, which causes the same results as in "Pinging a TCP/IP Node through a Service Point" on page 146. The advantage of performing the remote ping this way is that the Source Node Name and Service Point Name fields are already filled in for you.

4. Press Enter.

AON/TCP displays the appropriate panel. If you entered 1 for Ping, AON/TCP displays the panel in Figure 117 on page 147. Follow the steps in "Pinging a TCP/IP Node through a Service Point" on page 146 to complete the proper fields and issue a ping.

The Resource List panel displays AIX resources. If you press F4 on Figure 123 on page 153, the panel in Figure 124 is displayed containing a pop-up window where you can select options for the appropriate resource:

```
FKXK1501 TCP/IP Automation: Resource List CNM01

Select one of the following. Then press Enter. More:> 1=Ping 2=Autoview ............................................

Alias : Select an Option for BLOGSERVER :
- BLDSERVER : 1. Ping server.plant.floor.co :
- COSERVER : 2. Remote Ping server.plant.floor.co :
- DUMMYSRV : 3. Send command to NV6KHOST :
- OPSWS : 4. Active Monitoring :
- : 5. Automation :
- : 6. Failure Thresholds :
- : 7. Performance Thresholds :
- : 8. Monitor Intervals :
- : 9. Timer :
- : 10. Display Configuration Data :
- : 11. Display Network LOG Information :
- : F1=Help F12=Cancel :

Command ===>
F1=Help F2=Main Menu F3=Return F4=Commands F5=Refresh F6=Roll
F7=Backward F8=Forward F11=Right F12=Cancel
```

Figure 124. TCP/IP Automation: Resource List Panel

From this panel, you can:
- Issue a ping of a resource.
• Issue a remote ping to a resource.
• Send a command to a resource.
• Display an AON ACTMON entry for a resource.
• Display the AON RECOVERY policy for a resource.
• Display an AON MONIT entry for a resource.
• Display timers that are set for a resource.
• Display TCP/IP control file definitions for a resource.
• Issue the BLOG command.

MVS TCP/IP

This section explains the function in AON/TCP that utilizes z/OS CommServer IP.

Selecting option 2 on the panel in Figure 115 on page 145 (TCP/IP Automation: Commands Menu) displays the MVS TCP/IP menu, as shown in Figure 125.

![Figure 125. MVS TCP/IP Automation: Commands Menu](image)

The options on this panel provide the following functions:

**Option 1**
Ping a resource through z/OS Communication Server IP.

**Option 2**
Solve problems and manage IP connections for your MVS system, such as TN3270 and FTP sessions.

**Option 3**
Issue a TCP/IP TraceRte command against a resource.

**Option 4**
View a full-screen panel that contains TSO or UNIX line mode commands. Responses are correlated and displayed in a full-screen panel.
Option 5
Link to the SNMP menu where you can issue SNMP commands.

Option 6
Monitor and control TSO and UNIX command servers.

Option 7
Provides management functions for TCP/IP resources, such as managing policy definitions and proactive monitoring.

Option 8
Provides generic interface resource views through SNMPView.

Option 9
Provides Cisco router management functions through Cisco Works Blue.

Note: AON/TCP provides a link to Cisco Works Blue from this panel, but before attempting to select this option, perform all of the installation or customization steps required to run Cisco Works Blue, for example, authorizing all NetView operators to use Cisco Works Blue.

Option 10
Perform diagnostic traces to resolve TCP/IP problems.

Usage Notes: For options 2, 4, 5, 7, and 8, the resources must support SNMP requests.

MVS TCP/IP Ping
Pinging a resource can be a useful tool. To ping a resource, select option 1 from the panel in Figure 125 on page 154. The panel shown in Figure 126 is displayed.

![MVS TCP/IP Automation: Ping from a Service Point Panel](image)

Figure 126. MVS TCP/IP Automation: Ping from a Service Point

The MVS TCP/IP Automation: Ping from a Service Point panel can also be accessed by using the MVSPING and AON 4.2.1 commands.
In Figure 126 on page 155, the resource name can be an IP host name or an IP address. If no service point name is specified, AON searches the TCP/IP policy definitions for the SP associated with the resource.

Optionally, you can choose to change the following fields for a PING:

**Ping count**
- Specifies the number of PING requests to issue.

**Ping timeout**
- Specifies the interval (in seconds) to wait for each PING response.

**Ping length**
- Specifies the length of data to be sent for a ping request.

Figure 127 is an example of a panel showing the result when you do not request routing information.

---

**Figure 127. Output from TCP/IP 390 Ping Request Panel with No Routing Details**

**Note:** You can also use the `MVSPING` command from any NCCF command line to ping a resource and have the results correlated and displayed on your workstation, instead of on these panels.

---

**Session Status**

Users who connect to your MVS system through TN3270 or FTP sessions can encounter various problems. The session status option of the AON/TCP function enables you to determine the session endpoints, whether the session is hung, and to, optionally, drop the session. You can access the session status panel by selecting option 2 shown in Figure 125 on page 154. This enables you to display and correlate SNA and IP connectivity and status information. This option enables you to:

- Identify the type of session (such as, TN3270, FTP, or SMTP).
- Identify if that session is hung.
- Break the session.
- Correlate SNA VTAM data with TCP/IP data.
- Run TCP/IP problem determination commands, such as PING and TraceRte, to determine the cause of session problems.
- Access the SNA help desk for LU and application problem determination.
• Query sessions on multiple MVS hosts and multiple TCP/IP stacks.
• Access the SNMP main menu.
• Display detailed information about specified Telnet connections.
• Cause specified ports to not accept any new Telnet connections.
• Cause previously quiesced ports to begin accepting Telnet connections.

The Session Status panel can also be accessed by entering the IPSTAT or AON 4.2.2 commands.

**Note:** The Session Status panel issues SNMP requests to collect data. The community name used for those requests is defined on the TCP390 definition for the associated stack where the request is being issued. For more information, refer to the TCP390 definition statement in the [Tivoli NetView for z/OS Administration Reference](https://www.ibm.com_belief/).
**Note:** The IBM and Cisco TN3270 Servers do not support the use of a wildcard (*) in any part of the IP Address field. Message FKX962I is displayed if you try to use a wildcard with a TN3270 Server.

You can also set up session filters by pressing F9. For additional information refer to “Session Status Filters” on page 161.

---

**Figure 129. TCP/IP for 390 Session Status Panel**

Press F11 (Zoom) to display information for all sessions as shown in Figure 130 on page 159.
In this example, the user, 146.84.144.55, has one active TN3270 session into port 23 and application NTE1TS02.

The session management functions have correlated the user’s IP address with the Logical Unit and application for the session.

You can issue commands against the session, logical unit, or application by tabbing to that field on the screen and pressing F4 (commands).
For options 3, 4, 6, 10, 11, and 12, the resources must support SNMP requests.

If you issue the PING command, which is shown as option 1 in Figure 131, a panel similar to that shown in Figure 132 is displayed.

To determine if a session is hung, use F5 to refresh the panel and monitor the send and receive columns shown in Figure 130 on page 159. If, after the refresh, there is...
no change, the session might be hung. Press F4 in the panel shown in Figure 131 on page 160 to drop the session. AON/TCP performs the following steps:

- Issues a DROP connection command for the session.

**Notes:**

1. This function requires that the resources must support SNMP requests.
2. In order for the DROP option to work properly, you must enable the SET command in the TCP profile: SACONFIG SETSENABLED in member PROFILE.TCPIP of DSIPARM dataset.
3. The SNMP Community name defined in the control file for each TCP390 stack must match the one configured by the communication server for each stack. The Community name can be dynamically updated by using the IP Resource Manager function. Refer to the *Tivoli NetView for z/OS Security Reference* for more information about the SNMP Community name and UNIX System Services authorization. The Community name definition can be found in the TCP390 definition in the *Tivoli NetView for z/OS Administration Reference*.

- Returns to the Session Status panel.
- Refreshes the session list.
- Displays the following confirmation message:

```
FKX611I SESSION 1006 WAS SUCCESSFULLY DROPPED
```

**Session Status Filters**

The NetView program provides the ability to display TCP/IP session status information for selected stacks. Displaying the session status information can result in a very large volume of information for you to review to find a particular resource or set of resources. The session status filters enable you to display only resources of particular interest. These filters are set on a task basis. You can invoke the Session Status Filters panel using the PF key on selected TCP/IP panels. You can also set the Session Status Filters using the command line interface.

Figure 133 on page 162 shows the Session Status Filters panel. The default values are completed.
The following describes the sections of the TCP/IP for 390 Session Status Filters panel. To change a setting, tab to any entry that is to be changed and type the new information. Press Enter to process the changes.

The first section shows the data to be displayed on the Session Status panel. A blank or an asterisk (*) in an input field indicates that data is not to be filtered for that field. If, for example, you enter TSO in the Appl field, any session that contains the string TSO in the application field is displayed.

The second section shows the logical operator to be used for the filtering criteria that was set, when multiple input fields are specified, in the first section. The OR operator causes sessions that match ANY of the specified criteria to be displayed. The AND operator causes sessions that match ALL of the specified criteria to be displayed.

The third section shows the sort order to be used when the session status is displayed. These fields accept only the numbers 1 through 4, and blank as input. At least one field must be specified. The input must be sequential, starting with 1. If an operator enters 1 in the Appl field and 2 in the IP Address field, the Session Status display is sorted by the Appl field first. If there are identical Appl entries, they will then be sorted by the IP Address field.

The fourth section shows the order to be used for the sort. When 1 is entered the fields are sorted in ascending order and when 2 is entered the fields are sorted and displayed in descending order.

Note: The F3, F6, and F12 keys do not save any data typed on the panel. Use the F9 key to restore the defaults that are shipped with NetView. The Session Status panel automatically reflects the most recent settings of the session status filters.
Figure 134 shows the Session Status detail panel displaying the active sessions on a stack using the default filter settings. Note that 11 TCP/IP sessions are active and all are displayed.

<table>
<thead>
<tr>
<th>FXXK2220</th>
<th>TCP/IP for 390 Session Status</th>
<th>NTVE1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVICE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLIENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- - - -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ POINT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NMP217</td>
<td></td>
<td></td>
</tr>
<tr>
<td>146.84.144.55</td>
<td>9.67.50.67</td>
<td>Active Sessions 11</td>
</tr>
<tr>
<td>TCP/IP STACK</td>
<td>Filtered Sessions 11</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Client</th>
<th>Logical</th>
<th>Appl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port</td>
<td>Client Address</td>
<td>Port</td>
</tr>
<tr>
<td>1006</td>
<td>9.37.35.138</td>
<td>23</td>
</tr>
<tr>
<td>1008</td>
<td>9.37.35.138</td>
<td>23</td>
</tr>
<tr>
<td>1010</td>
<td>9.37.35.138</td>
<td>23</td>
</tr>
<tr>
<td>1009</td>
<td>9.37.35.138</td>
<td>23</td>
</tr>
<tr>
<td>1007</td>
<td>9.37.35.138</td>
<td>23</td>
</tr>
<tr>
<td>1011</td>
<td>9.37.35.138</td>
<td>23</td>
</tr>
<tr>
<td>1000</td>
<td>9.67.50.67</td>
<td>23</td>
</tr>
<tr>
<td>1012</td>
<td>9.67.50.34</td>
<td>23</td>
</tr>
</tbody>
</table>

Command ===>
F1=Help F2=Main Menu F3=Return F4=Commands F5=Refresh F6=Roll
F7=Backward F8=Forward F9=Filters F12=Cancel

Figure 134. TCP/IP for 390 Session Status Panel

To see only the IP addresses containing 138 and the applications that contain the string NT74, you can press PF9 and the Session Status Filters panel is displayed. Complete the data in the IP Address and Appl fields as shown, then press Enter.

<table>
<thead>
<tr>
<th>FXXKSSF0</th>
<th>TCP/IP for 390 Session Status Filters</th>
<th>NTV74</th>
</tr>
</thead>
</table>

The current filter and sort settings are shown.

Type the data to be displayed in one or more fields.

Type an action code to define the logical operator for the search:
1 OR
2 AND

Type numbers from 1 to 4 to define the column order for sorting.

Type an action code to define the sort order:
1 1 Ascending order
2 Descending order

Command ===>
F1=Help F3=Return F6=Roll
F9=Defaults F12=Cancel

Figure 135. TCP/IP for 390 Session Status Filters Panel

There are still 11 active sessions, but only 2 sessions displayed meet the filter criteria.
The message EZL919I is issued to indicate that the filters have been saved. Press F3 to return to the detail panel shown in Figure 136.

Line Mode Invocation

The session status filters panel can also be invoked from the command line, or a command list, with parameters. Line mode invocation passes parameters to the routine and sets the filters without invoking the view panel. This provides the ability to set filters in a user’s initial CLIST. Refer to the NetView online help for more information about this command.

The line mode command used to set filters is FKXESSF. An example follows:
FKXESSF DISIP=138 DISAPPL=NT74

Setting Up IP Session Status Filters

The Line Mode Invocation panel enables the operator to set the filters from the command line.

Note: All of the sort keywords must be specified when invoked from the command line or from another list.

The return codes for the line mode invocation are as follows:

0 The task completed successfully.
4 The task completed successfully, but duplicate keywords were found. The last instance was used.
7 A variable has no value.
8 The syntax is not valid.
12 The keyword is not valid or has no value.

The panel in Figure 137 on page 163 is an example of the syntax values that can be entered from the command line for line mode invocation.
The filter settings on the Session Status Filters panel after line mode invocation is shown.

<table>
<thead>
<tr>
<th>Client IP</th>
<th>Port</th>
<th>Address</th>
<th>Type</th>
<th>Send</th>
<th>Rec</th>
<th>Unit</th>
<th>Appl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>n/a</td>
<td>*</td>
<td>n/a</td>
<td>n/a</td>
<td>*</td>
<td>*</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Type an action code to define the logical operator for the search:

1. OR
2. AND

Type numbers from 1 to 4 to define the column order for sorting.

<table>
<thead>
<tr>
<th>Client IP</th>
<th>Port</th>
<th>Address</th>
<th>Type</th>
<th>Send</th>
<th>Rec</th>
<th>Unit</th>
<th>Appl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>n/a</td>
<td>1</td>
<td>4</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Type an action code to define the sort order:

1. Ascending order
2. Descending order

Command ===>
F1=Help F3=Return F6=Roll
F9=Defaults F12=Cancel

Figure 137. Tivoli NetView Line Mode Invocation Panel

The TCP/IP Session Status panel is shown, after the line mode invocation.

Figure 138. TCP/IP for 390 Session Status Filters Panel

The TCP/IP Session Status panel is shown, after the line mode invocation.
The TCP/IP TraceRte command is useful in problem determination, for example, determining lost packets. You can access AON/TCP TraceRte functions by selecting option 3 from the MVS TCP/IP Commands Menu (see Figure 116 on page 145).

Figure 139. TCP/IP for 390 Session Status Panel

MVS TCP/IP TraceRte

The TCP/IP TraceRte command is useful in problem determination, for example, determining lost packets. You can access AON/TCP TraceRte functions by selecting option 3 from the MVS TCP/IP Commands Menu (see Figure 116 on page 145).

Figure 140 is displayed when you select option 3 in Figure 125 on page 154.

Figure 140. MVS TCP/IP Automation: Trace Route Panel
The panel shown in Figure 140 on page 166 can also be accessed by issuing the TRACERTE or AON 4.2.3 commands.

The resource name can be an IP host name or an IP address. If a stack name is not specified, AON searches the configuration file for the stack defined IP address or host name. The following list describes the parameters and their defaults:

**MAX**
- Traceroute maximum time to live (TTL). The default is 30 milliseconds.

**TRY**
- Number of attempts. The default is 3.

**PORT**
- The starting port number. The default is 4096.

**WAIT**
- How long to wait for a response. The default is 5.

**DEBUG**
- Show any additional messages. The default is 2.

The example in Figure 141 shows output from a TCP/IP trace route command for a workstation with an IP address of 9.37.36.228:

```
FKXKLWN2 OUTPUT FROM TCP/IP 390 TRACE ROUTE Line 1 of 6
Trace route to 9.37.36.228 (9.37.36.228)
  1 (9.67.50.1) 2 ms 0 ms 0 ms
  2 (9.67.43.71) 3 ms 3 ms 3 ms
  3 (9.67.43.12) 8 ms 9 ms 11 ms
  4 (9.37.36.228) 13 ms 11 ms 10 ms
```

Figure 141. MVS TCP/IP Automation: Trace Route Panel

The panel in Figure 141 can also be accessed by issuing the TRACERTE from any NCCF command line and the results can be correlated and displayed on your screen, instead of in a panel.

**Issuing Commands**

You can issue line mode TSO or UNIX commands from NetView without logging onto TSO. Using the panel in Figure 125 on page 153, select option 4 to display the panel shown in Figure 142 on page 168.
The panel in Figure 142 can also be accessed by issuing the AON 4.2.4 command. You can easily issue a command; for example, move to the first command line (netstat conn) and press Enter. A panel similar to Figure 132 on page 160 is displayed.

Figure 142. TCP/IP Automation: Issue Command to Service Point Panel

The panel in Figure 142 can also be accessed by issuing the AON 4.2.4 command. You can easily issue a command; for example, move to the first command line (netstat conn) and press Enter. A panel similar to Figure 132 on page 160 is displayed.

Figure 143. Output from Command Issued to Service Point Panel

SNMP Management

For SNMP management, use a Commands Menu, shown in Figure 115 on page 143, or the command line interface. For NVSNMP command line and syntax information, refer to the NetView online help.
Note: Wherever you specify a Community name, it is suppressed for security purposes and does not display in the NetView log. The Community name can be defined in the TCP390 definition for the associated stack where the SNMP request is being issued. For more information, refer to the TCP390 definition in the Tivoli NetView for z/OS Administration Reference.

If you specify a Community name, AON uses it for the resulting SNMP request. If you do not specify a Community name, AON uses the name defined for the stack, if one is provided. If no Community name is defined for the stack, then the default name defined to z/OS CommServer IP is used.

To manage SNMP, select option 5 from the MVS TCP/IP Automation: Commands Menu shown in Figure 125 on page 154. When you select option 5, the following panel is displayed:

```
FKXK2500 TCP/IP for 390 SNMP Menu NTV70
Host Name or IP Address _____________________________________________
(blank: Use Stack Name) _____________________________________________
TCP/IP Stack _____________ (? for Selection list)

1. Command:
   _ Get _ GetNext _ Set _ Walk

2. Group Menu

3. Remote Ping

Command ===> F1=Help F2=Main Menu F3=Return F6=Roll F12=Cancel
```

Figure 144. TCP/IP for 390 SNMP Menu Panel

The SNMP Menu has four options. Option 1 is a selection, with multiple options, that is based on your command. Figure 145 on page 170 shows the resulting panel if you select the Get command in Figure 144.
The options screen shows the SNMP Options and the system settings. These settings can be defined in the AON policy definitions. Place an X beside the options you want to override. If the system definition is different than the SNMP default, the fields are automatically selected.

**Note:** If Bulk is selected, the command is changed to GETBULK or BULKWALK.

*Figure 145. TCP/IP for SNMP Commands Panel*

The options screen shows the SNMP Options and the system settings. These settings can be defined in the AON policy definitions. Place an X beside the options you want to override. If the system definition is different than the SNMP default, the fields are automatically selected.

**Note:** If Bulk is selected, the command is changed to GETBULK or BULKWALK.

*Figure 146 is the resulting panel if you select the Set command in Figure 144 on page 169.*

*Figure 146. TCP/IP for 390 SNMP Commands Panel*

For the Set command, the Type and Value fields are added to the screen. Type is used to override the MIB definition type. Value is used for the new value of the MIB.
Figure 147 is the resulting panel if you select the Walk command in Figure 144 on page 169.

For a Walk command, only one MIB can be specified, so only one is accepted from the screen.

Figure 148 is the resulting panel if you select the Group Menu in Figure 144 on page 169.

The SNMP Group screen displays the groups that are defined in DSIPARM sample FKXSNMP. To display more information about the group, tab to the group and select PF4. To display the SNMP options, select PF9. For more information about creating MIB groups, refer to the Tivoli NetView for z/OS Automated Operations Network Customization Guide.
Figure 149 displays the description of the group UDPnotab, and has a type of LIST. Note the four MIB variables that display when you use the UDPnotab group.

<table>
<thead>
<tr>
<th>Group: UDPnotab</th>
<th>Type: LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract:</td>
<td>UDP group MIBs without the UDP Table</td>
</tr>
</tbody>
</table>
| MIB Variables: | udplnDatagrams.0  
|               | udpNoPorts.0  
|               | udplnErrors.0  
|               | udpOutDatagrams.0 |

Command ===>
F1=Help    F2=Main Menu    F3=Return    F6=Roll
F9=Options  ENTER=Get Group Data  F12=Cancel

Figure 149. TCP/IP for 390 SNMP Groups Description Panel

Figure 150 displays the description of the group system and has a type of WALK.

<table>
<thead>
<tr>
<th>Group: system</th>
<th>Type: WALK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract:</td>
<td>System group MIB variables for SNMP v1 or SNMP v2 including OR Table</td>
</tr>
<tr>
<td></td>
<td>The definition of this group can be found in: RFC1907 for v2 or RFC1450 for v1.</td>
</tr>
<tr>
<td>MIB Variables:</td>
<td>FULL Name:SYSTEM</td>
</tr>
</tbody>
</table>

Command ===>
F1=Help    F2=Main Menu    F3=Return    F6=Roll
F9=Options  ENTER=Get Group Data  F12=Cancel

Figure 150. TCP/IP for 390 SNMP Groups Description Panel

Figure 151 on page 173 displays the description of the group UDPTable and has a type of TABLE.
Using Extended SNMP Groups

If you need more flexibility than what is provided with the SNMP Groups, use extended SNMP Groups. These groups are different in that they enable you to code generic MIB objects (using the LIST+ statement) which are to be appended with group variables obtained from a pop-up panel when this group is selected.

For example, select option 2 on the SNMP Menu panel shown in Figure 144 on page 169 to use extended SNMP groups. When option 2 is selected, Figure 152 on page 174 is displayed.

Figure 151. TCP/IP for 390 SNMP Groups Description Panel

Using Extended SNMP Groups

If you need more flexibility than what is provided with the SNMP Groups, use extended SNMP Groups. These groups are different in that they enable you to code generic MIB objects (using the LIST+ statement) which are to be appended with group variables obtained from a pop-up panel when this group is selected.

For example, select option 2 on the SNMP Menu panel shown in Figure 144 on page 169 to use extended SNMP groups. When option 2 is selected, Figure 152 on page 174 is displayed.
In Figure 152 move the cursor to LIST+ Group name (ExtGroup) and press Enter.

The panel in Figure 153 on page 175 is displayed.

Note: To use the LIST+ function you must first customize member FKXSNMP in DSIPARM offline. For information on customizing FKXSNMP see "Appendix D. Customizing the SNMP Group Definitions File (FKXSNMP)" on page 221.
On the SNMP Group Extensions panel type 2 to display details for interface 2 and then press Enter. Listed MIB variable information for interface adapter number 2 is collected and displayed as shown in Figure 154.

Figure 153. TCP/IP for 390 SNMP Group Extensions Panel

On the SNMP Group Extensions panel type 2 to display details for interface 2 and then press Enter. Listed MIB variable information for interface adapter number 2 is collected and displayed as shown in Figure 154.

Figure 154. CNMKWIND Output from SNMP GET to LOCAL Panel

IP Server Management

To manage TSO server sessions, select option 6 from the MVS TCP/IP Automation: Commands Menu shown in Figure 125 on page 154. When you select option 6, the panel shown in Figure 155 on page 176 is displayed:
In the panel shown in Figure 155, two TSO servers for NMPNET1B and the UNIX server for NMPNET1 are displayed. Start or stop a server as follows:

1. Move the cursor to a server.
2. Type 1 to start the server or 2 to stop the server.
3. Press F5 to refresh the panel.

Note: You can start or stop multiple servers at the same time.

Figure 155. IP for 390 Servers Panel

In the panel shown in Figure 155, two TSO servers for NMPNET1B and the UNIX server for NMPNET1 are displayed. Start or stop a server as follows:

1. Move the cursor to a server.
2. Type 1 to start the server or 2 to stop the server.
3. Press F5 to refresh the panel.

Note: You can start or stop multiple servers at the same time.

IP for 390 Resource Management

This section provides information about managing IP resources that are defined in AON. To display the IP for 390 Resource Management main panel, enter the fast path AON 4.2.7 or you can enter IPMAN on the command line.

Note: The TCP/IP for 390 Resource Management panel uses SNMP requests to collect data. The Community name used for those requests is defined on the TCP390 definition for the associated stack where the request is being issued. For more information, refer to the TCP390 definition statement in the Tivoli NetView for z/OS Administration Reference.

IP for 390 Resource Management Main Panel

You can control monitoring of IP Resources from the IP for 390 Resource Management main panel. Use the IP for 390 Resource Management Filters panel (see "IP Resource Management Filters Panel" on page 180) to select which resources to display in the IP for 390 Resource Management main panel.

Note: When running OS/390 V2R6 or later with multiple TN3270 ports, any changes to the dynamic policy definitions created by AON will not be reset until the next stack monitor interval.
The following monitoring functions can be selected from the IP for 390 Resource Management main panel:

- ADD/START
- DISPLAY/CHANGE
- DELETE
- START
- STOP

The following commands can be issued directly from the IP for 390 Resource Management main panel by placing the command choice (1 through 5) in front of the resource name:

1. Calls the Add/Change Panel in add mode. Once the resource is added, monitoring is started. For additional information refer to "IP Resource Management Add Panel" on page 178.

2. Calls the Add/Change panel in change mode. For additional information, refer to "IP Resource Management Change Panel" on page 180.

3. Deletes the entry only from the in storage control file and terminates all monitoring.

4. Start monitoring for the resource.

5. Stop monitoring for the resource.

**Note:** For IP Port Monitoring, all ports under a defined stack are always actively monitored at the start of AON. They cannot be stopped or started individually.

Function Keys:
F4 Displays a command pop-up panel (see "IP for 390 Resource Management Command Pop-up Window" on page 182) based on the resource type of the selected resource. To select a resource, place your cursor on a row containing resource data.

F9 Displays the IP Management Filters panel for the current operator task. The filters can be updated as needed.

The remaining functions are the standard AON view panel options.

The following fields are displayed for each IP resource defined in the control file:

**Resource**
The name of the resource you are monitoring.

**Resource Type**
The resource type can be TCP390, IPHOST, IPINFC, IPNAMESRV, IPPORT, or IPTN3270.

**TCP/IP Stack**
When the name in this field is the same as the resource name, it is a stack.

**Actmon Definition**
If a reference to an ACTMON definition exists, that name is displayed in this field.

**M**
The monitoring field contains the current active monitoring status. The status can be one of the following:
- A Active monitoring
- R Recovery monitoring
- N No monitoring.

**Status**
The status field contains the current status. The status can be one of the following:
- • NORMAL (GREEN)
- • DOWN (RED)
- • DEGRADED (PINK)
- • THRESH (YELLOW)
- • UNKNOWN (BLUE)

**REFRESH**
The IP Resource Manager main panel can be automatically refreshed, by changing the value of this field, from 0 (no refresh) to 59 minutes.

**IP Resource Management Add Panel**
Select ADD (option 1) on the IP Resource Management main panel to display the following panel:
The Add panel enables resources to be added dynamically into the in store control file. When the resource is added, proactive monitoring is started for the resource. There is a delay before the monitoring field (M column) is updated on the main panel. Use F5 to refresh the screen until the change is displayed.

The IP Resource Management Add panel contains the following fields:

**Command**
A fixed field or a field that is updated using one of the following command options:
1. Change Value for keyword.
2. Delete keyword and its value.
R. Indicates field is required. This option is set by the program.
X. Indicates the field cannot be changed. This option is set by the program.

**Keyword**
Specifies the keyword name as set in the control file.

**Value**
Specifies the current value of the keyword under most circumstances. The value is cleared for ADD operations if a new value is required.

**Notes:**
1. Keywords marked with an X cannot be updated. In cases where multiple field relationships exist, not all required keywords are marked with an R.
2. Values for keywords are not syntax checked. Entering incorrect data can cause unpredictable results.

Changes are validated prior to a page forward or backward attempt. When R required fields are accepted their command is changed to X or fixed field, automatically.

---

**Figure 157. TCP/IP Resource Management Add Panel**

The Add panel enables resources to be added dynamically into the in store control file. When the resource is added, proactive monitoring is started for the resource. There is a delay before the monitoring field (M column) is updated on the main panel. Use F5 to refresh the screen until the change is displayed.

The IP Resource Management Add panel contains the following fields:

**Command**
A fixed field or a field that is updated using one of the following command options:
1. Change Value for keyword.
2. Delete keyword and its value.
R. Indicates field is required. This option is set by the program.
X. Indicates the field cannot be changed. This option is set by the program.

**Keyword**
Specifies the keyword name as set in the control file.

**Value**
Specifies the current value of the keyword under most circumstances. The value is cleared for ADD operations if a new value is required.

**Notes:**
1. Keywords marked with an X cannot be updated. In cases where multiple field relationships exist, not all required keywords are marked with an R.
2. Values for keywords are not syntax checked. Entering incorrect data can cause unpredictable results.

Changes are validated prior to a page forward or backward attempt. When R required fields are accepted their command is changed to X or fixed field, automatically.
To submit the changes, press **F4**. To add a new keyword-value pair press **F9** to display the Add keyword pop-up window.

**IP Resource Management Change Panel**

Selecting Option 2 (change) on the IP Resource Management main panel displays the panel shown in [Figure 158](#).

### IP Resource Management Change Panel

<table>
<thead>
<tr>
<th>COMMAND</th>
<th>KEYWORD</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>RESNAME</td>
<td>CIP3270</td>
</tr>
<tr>
<td>X</td>
<td>RESTYPE</td>
<td>IPTN3270</td>
</tr>
<tr>
<td>X</td>
<td>OPTION</td>
<td>IP390</td>
</tr>
<tr>
<td></td>
<td>SP</td>
<td>NMP1PL10</td>
</tr>
<tr>
<td></td>
<td>IPADDR</td>
<td>69.200.144.14</td>
</tr>
<tr>
<td></td>
<td>TNNPADDR</td>
<td>69.200.140.129</td>
</tr>
<tr>
<td></td>
<td>TNPOR奇异</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>SYSTEM</td>
<td>TN3270</td>
</tr>
<tr>
<td></td>
<td>DATACOL</td>
<td>FKXEXCIP</td>
</tr>
<tr>
<td></td>
<td>DROPL</td>
<td>FKXEDCIP</td>
</tr>
<tr>
<td></td>
<td>INTVL</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>FORMAT</td>
<td>SNMP</td>
</tr>
</tbody>
</table>

**Figure 158. IP for 390 Resource Management Change Panel**

**IP Resource Management Filters Panel**

The IP Resource Management Filters panel can be displayed by entering **IPMANSSF** with no parameters or by pressing **F9** on the IP for 390 Resource Management main panel.
Use this panel to select the resources you want to display. The settings selected are saved on a task basis and will apply in future queries. You can specify filter criteria for exact names or names starting with specific characters, if the criteria is followed by an asterisk (*). The following fields can be filtered:

**Resource Name**
Specify criteria for the resource name.

**Resource Type**
Specify criteria for the resource type.

**TCP/IP**
Specify criteria for the TCP/IP stack name.

**Status**
Specify criteria based on resource status.

For filter options, specify the relationship between these options as 1 - OR as 2 - AND.

For sort options, specify 1–4 in any order. The four fields are then sorted based on the specified sort order. Indicate whether these sorts are to be done in ascending or descending order by entering a 1 or 2 in the last input field.

Pressing **Enter** causes the filter and sort entries to be validated and saved for use by the IP Resource Manager.

Pressing **F9** restores the default filter and sort settings.

Press **F3** to exit or **F12** to cancel.

---

**Figure 159. IP Resource Management Filters Panel**

Use this panel to select the resources you want to display. The settings selected are saved on a task basis and will apply in future queries. You can specify filter criteria for exact names or names starting with specific characters, if the criteria is followed by an asterisk (*). The following fields can be filtered:

**Resource Name**
Specify criteria for the resource name.

**Resource Type**
Specify criteria for the resource type.

**TCP/IP**
Specify criteria for the TCP/IP stack name.

**Status**
Specify criteria based on resource status.

For filter options, specify the relationship between these options as 1 - OR as 2 - AND.

For sort options, specify 1–4 in any order. The four fields are then sorted based on the specified sort order. Indicate whether these sorts are to be done in ascending or descending order by entering a 1 or 2 in the last input field.

Pressing **Enter** causes the filter and sort entries to be validated and saved for use by the IP Resource Manager.

Pressing **F9** restores the default filter and sort settings.

Press **F3** to exit or **F12** to cancel.
IP for 390 Resource Management Command Pop-up Window

To display the COMMAND pop-up window press F4 from the IP for 390 Resource Management main panel or the SNMP Details panel. The information displayed depends on the resource type of the resource that has been selected.

Using SNMPView

In general, the data displayed by SNMPView is retrieved from SNMP MIB variables. Any data field, with the underscore (_) next to it, can be set by performing the following steps:

1. Enter a non-blank character in place of the underscore.
2. Change the MIB data to be displayed.
3. Press Enter.

You can use the SNMPView function to display system wide and interface specific MIB data for your TCP/IP stacks and network resources.

To navigate through the panels, and display information about a resource, select option 8 from the MVS TCP/IP Commands Menu shown in Figure 125 on page 154. Type 8 and press Enter. The panel shown in Figure 161 on page 183 is displayed.
To display IP Resource MIB data for NMPIPL25, fill in the text fields in Figure 161 as follows:

1. In the Host Name or IP Address field, type NMPIPL25.
2. Delete the X from the default MVS Stack selection.
3. Type X to select IP Resource view.
4. In the TCP/IP Stack Name field, type ? and press Enter. A selection list is displayed.
5. Type / in front of the selection you want and press Enter.

---

**Figure 161. TCP/IP for 390 SNMP Resource View Panel**

**IP Resource Data**

To display IP Resource MIB data for NMPIPL25, fill in the text fields in Figure 161 as follows:

1. In the Host Name or IP Address field, type NMPIPL25.
2. Delete the X from the default MVS Stack selection.
3. Type X to select IP Resource view.
4. In the TCP/IP Stack Name field, type ? and press Enter. A selection list is displayed.
5. Type / in front of the selection you want and press Enter.
When you press **Enter** from the Resource View panel, shown in Figure 162, System MIB data is displayed on the Resource View: System panel, shown in Figure 163.

![Figure 162. TCP/IP for 390 SNMP Resource View Sample Panel](image)

When you press **Enter** from the Resource View panel, shown in Figure 162, System MIB data is displayed on the Resource View: System panel, shown in Figure 163.

![Figure 163. TCP/IP for 390 SNMP Resource View: System Panel](image)

From the system panel shown in Figure 163, press **F4** to issue commands. The panel shown in Figure 164 on page 185, containing a pop-up window, is displayed.
From Figure 164, type 5 in the Commands pop-up window and press Enter. The panel shown in Figure 165 is displayed.

Press F3 to return to the panel shown in Figure 164. Type 6, and press Enter. The panel shown in Figure 166 on page 186 is displayed.
Press F3 to return to the panel shown in Figure 164 on page 185. Choose option 7 and press Enter. The Resource View: System Panel with Commands Pop-up panel is displayed, as shown in Figure 167.

![Figure 166. TCP/IP for 390 SNMP Resource View: System Panel](image)

Press F3 to return to the panel shown in Figure 164 on page 185. Choose option 7 and press Enter. The Resource View: System Panel with Commands Pop-up panel is displayed, as shown in Figure 167.

![Figure 167. TCP/IP for 390 SNMP Resource View: System Panel with Commands Pop-up Panel](image)

Return to the panel shown in Figure 163 on page 184 and press F11. The panel shown in Figure 168 on page 187 is displayed.

![Figure 168. TCP/IP for 390 SNMP Resource View: System Panel](image)
From the Interfaces panel, press F4. The SNMP Resource View: Interfaces panel is displayed with the Commands pop-up window as shown in Figure 169. Figure 170 on page 188 is an example of displaying a list of IP interfaces for an IP resource, such as pkoch.raleigh.tivoli.com.

**Figure 168. TCP/IP for 390 SNMP Resource View: Interfaces Panel**

From the Interfaces panel, press F4. The SNMP Resource View: Interfaces panel is displayed with the Commands pop-up window as shown in Figure 169.

**Figure 169. TCP/IP for 390 SNMP Resource View: Interfaces Panel with Pop-up Window**

**Table: Interfaces for nmpipl25**

<table>
<thead>
<tr>
<th>Status</th>
<th>Desired</th>
<th>Actual</th>
<th>IP Address</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVE</td>
<td>ACTIVE</td>
<td>ACTIVE</td>
<td>Loopback</td>
<td>Loopback Device</td>
</tr>
<tr>
<td>DOWN</td>
<td>DOWN</td>
<td>DOWN</td>
<td>9.67.50.57</td>
<td>Channel to channel Device (3088)</td>
</tr>
<tr>
<td>DOWN</td>
<td>DOWN</td>
<td>Down</td>
<td>Channel to channel Device (3088)</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 170 on page 188** is an example of displaying a list of IP interfaces for an IP resource, such as pkoch.raleigh.tivoli.com.
To display interface details, Tab to an interface, and press F9. The (IP resource) interface detail panel, shown in Figure 171, is displayed.

To display MVS Stack data for NMPIPL27, perform the following steps:

1. In the Host Name or IP Address field, type NMPIPL27.
2. If the current default is IP Resource, then delete the X from the IP Resource selection.
3. Type X to select MVS Stack view.
4. In the TCP/IP Stack Name field, type ? and press Enter. A selection list is displayed.
5. Type / in front of the selection you want and press Enter.

The TCP/IP for 390 SNMP Stack View: System panel, shown in Figure 172 is displayed.

![Figure 172. TCP/IP for 390 SNMP Stack View: System Panel](image)

From the panel shown in Figure 172, press F11. The TCP/IP Stack View: Interfaces panel is displayed with the interfaces defined for your TCP/IP stack.

![Figure 173. TCP/IP for 390 SNMP Stack View: Interfaces Panel](image)

To display interface details, Tab to an interface, and press F9. The (MVS Stack) interface detail panel, shown in Figure 174 on page 191, is displayed.
TCP/IP for 390 Trace Control Center

You can use IP Trace to perform diagnostic traces to help resolve TCP/IP problems. Two types of traces are available, component trace (CTRACE) and packet trace (PKTTRACE). Component trace is used to trace data processing problems between the client and the server. Packet trace is used for IP data flow problems, enabling you to copy IP packets as they enter or leave TCP/IP.

If your IP Trace diagnostics are not customized, add the following statement to the CNMSTYLE of the remote domain where you want to trace packets that flow in and out of the remote service point:

```
auxInitCmd.OBEY=FKXERINI rmsp YES UNIX
```

Where `rmsp` is the remote service point to trace. Restart NetView for the change to take effect.

An external writer must be established before using IP Trace. The trace data is written to the writer. Refer to z/OS MVS Diagnosis: Tools and Service Aids for more information about creating source JCL for an external writer, or for more details about trace functions.

**Accessing IP Trace**

There are two ways to access IPTRACE. You can either issue the IPTRACE command from the command line or select option 10 from the panel shown in Figure 125 on page 154.

If you do not specify a service point/stack name, then you are prompted with the panel in Figure 175 on page 191 to select one.
Descriptions of the fields on the panel shown in Figure 175 are as follows:

### Service Point/Stack
The service points for which TCP/IP services are traced. These are defined in the DSIPARM member FKXCFG01 configuration file TCP390 definition.

### Proc Name
The member name of the catalogued procedure used to start the TCP/IP address space. This is defined in FKXCFG01, TCP390 TCPNAME definition for the stack.

### NetView Domain
The NetView domain to which the trace command processing is sent. This is defined in FKXCFG01, TCP390 DOMAIN definition for the stack.

### Ctrace and PktTrace
Displays status of the TCP/IP procedure for the SYSTCPIP (CTRACE) or SYSTCPDA (PKTTRACE) component, as follows:

- **ACTIVE**
  - The trace is active (ON).

- **NONE**
  - The trace is either minimum (MIN) or OFF.

- ***NOTCOM***
  - No session is established with the associated remote domain.

- **NA**
  - The time has expired in collecting trace status.

Fields displayed in blue are not active and cannot be selected. Active entries are highlighted in green. To select a service point, tab to it, press **Enter**, and the panel shown in Figure 176 on page 192 is displayed.

---

### Table: TCP/IP for 390 IPTrace Control Center Panel

<table>
<thead>
<tr>
<th>Service Point/Stack</th>
<th>Proc Name</th>
<th>NetView Domain</th>
<th>Ctrace</th>
<th>PktTrace</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMPIPL10</td>
<td>TCP38</td>
<td>NTV70</td>
<td>DELAY</td>
<td><em>NOTCOM</em></td>
</tr>
<tr>
<td>NMPIPL25</td>
<td>TCP34</td>
<td>NTVA0</td>
<td><em>NOTCOM</em></td>
<td><em>NOTCOM</em></td>
</tr>
<tr>
<td>NMPIPL27</td>
<td>TCP38</td>
<td>LOCAL</td>
<td>NONE</td>
<td>NONE</td>
</tr>
</tbody>
</table>

---

**Figure 175. TCP/IP for 390 IPTrace Control Center Panel**

Command ===>

- **F1=Help**
- **F2=Main Menu**
- **F3=Return**
- **F6=Roll**
- **F7=Backward**
- **F8=Forward**
- **F12=Cancel**
Descriptions of the fields on the panel shown in Figure 176 are as follows:

**Service Point/Stack**
The service point or stack to be traced. This is defined in the DSIPARM member FKXCFG01 configuration file, TCP390 definition.

**Proc**
The member name of the catalogued procedure used to start the TCP/IP address space. This is defined in FKXCFG01, TCP390 DOMAIN definition for the stack.

**Domain**
The NetView domain where the service point resides, TCP390 TCPNAME definition for the stack.

**SYSTCPIP**
The trace component associated with the component trace data.

**SYSTCPDA**
The trace component associated with the packet trace data.

**Status/Owner**
The trace status associated with the component specified and the owner of the trace. This field is correlated to the Start and For fields. Trace status can be one of the following:

- **ACTIVE**
The trace is active (ON).
- **DELAY**
A delayed trace has been set for this component.
- **NONE**
The trace is either minimum (MIN) or OFF.
- ***NOTCOM***
No session is established with the associated remote domain.

---

**Figure 176. TCP/IP for 390 IPTrace Control Center — Example of IPTrace Control Center Panel**

Descriptions of the fields on the panel shown in Figure 176 are as follows:

- **Service Point/Stack**
The service point or stack to be traced. This is defined in the DSIPARM member FKXCFG01 configuration file, TCP390 definition.
- **Proc**
The member name of the catalogued procedure used to start the TCP/IP address space. This is defined in FKXCFG01, TCP390 DOMAIN definition for the stack.
- **Domain**
The NetView domain where the service point resides, TCP390 TCPNAME definition for the stack.
- **SYSTCPIP**
The trace component associated with the component trace data.
- **SYSTCPDA**
The trace component associated with the packet trace data.
- **Status/Owner**
The trace status associated with the component specified and the owner of the trace. This field is correlated to the Start and For fields. Trace status can be one of the following:
  - **ACTIVE**
The trace is active (ON).
  - **DELAY**
A delayed trace has been set for this component.
  - **NONE**
The trace is either minimum (MIN) or OFF.
  - ***NOTCOM***
No session is established with the associated remote domain.
NA  The time has expired in collecting trace status.

ON/OFF
   The packet trace status associated with the link names.

Start  The time the trace started or the time the delayed trace will start.

For  The length of time the trace runs. This is only applicable when the trace is
in ACTIVE or DELAY mode. The format is HH.MM.SS.

Writer  The source JCL to create the external writer where trace data is to be
stored.

For more information on controlling traces, see the Component Tracing section
or “Packet Tracing” on page 198.

Component Tracing

For component tracing, select CTRACE, by using any non-blank character, from the
panel shown in Figure 176 on page 192. For a service point with no scheduled
tracing, the panel shown in Figure 177 is displayed. For a service point with active
or delayed tracing, the panel shown in Figure 180 on page 197 is displayed.

Scheduling a Component Trace

From the panel in Figure 175 on page 191, select the service point for which you
want to schedule the trace (for example, NMPIPL27). From the panel in Figure 176
on page 192, select CTRACE. The panel shown in Figure 177 is displayed.

Figure 177. CTRACE Control SYSTCPIP Panel

In the Delay Start Until field, enter the date or date and time you want tracing to
begin. The time must be entered in a 24 hour format. If the date portion
YYYY-MM-DD is omitted and the input HH.MM.SS is earlier than the current time,
the trace is started on the next day at the input time. For example, if the current
time on the system clock is 9:33 a.m. and you enter 07.45.00 as the time to begin component tracing, the trace is scheduled to begin the following day at 7:45 a.m.

If you do not enter a time, the trace begins immediately.

**Note:** When you press **F4** to begin or schedule the trace, it can take several minutes due to system processing. The trace might also begin a couple of minutes past the specified time, depending on system processing.

You can enter a time in the Set a Timer field to specify how long the trace is to run. If you leave the Set a Timer field blank, the trace runs until it is manually stopped.

The On Task field contains your operator ID. If you want the trace to run on another task, enter any valid operator ID as defined in DSIOPF. On Task is only valid for delayed traces.

**Note:** If you specify another operator ID, that operator must be logged on at the time the trace runs.

The Writer field contains the source JCL to create an external writer where trace data is stored. The writer must be established before the trace runs. Refer to *z/OS MVS Diagnosis: Tools and Service Aids* for more information about creating source JCL for an external writer. The writer name for component tracing can be customized. Copy the following entry in CNMSTYLE to CNMSTGEN, then change to the desired name. An example is as follows:

```
COMMON.EZLTCPcTRACEwriter = new_CTTCP // AON TCP component writer name
```

If the NetView program has been started, issue the RESTYLE COMMON command to pick up the change.

The Options field contains a list of defined options. You can select them individually or use **F5** to select all of them. At least one option must be selected. The options cannot be changed once the trace is scheduled.

**Note:** When **F5** is pressed, all options shown are selected except Serial, Storage, and Timer. These options degrade performance if you choose all of them simultaneously.

The LISTS field includes IP addresses, IP ports, job names, and address space identifiers (ASIDs) that are traced. To view or change these options, select one and press **Enter**. The panel shown in Figure 178 on page 195 is displayed.
Figure 178 displays the IP addresses, submasks, IP ports, job names and ASIDs (address space identifiers) component trace filters currently set for this stack when the LISTS field is selected. When CTRACE status is ACTIVE, all component trace filters currently set are collected and displayed.

When CTRACE status is in DELAY mode, all global variables for component trace filters that are set for a delayed start are retrieved and displayed.

You can edit the information in the IPADDRs/Mask, Ports, Job Names, and ASIDs fields when the trace is inactive. This panel can display up to 16 entries for each type. For more information on trace options, refer to the z/OS Comm Server IP: Diagnosis.

The descriptions of the fields are as follows:

**IPADDRs/Mask**
A list of up to 16 IP addresses to be filtered. The addresses are specified in dotted decimal notation. Submasking can be indicated by using a slash (/), followed by a dotted decimal submask. For example, 192.48.32/255.255.255.0 recognizes addresses from 192.48.32.00 to 192.48.32.255. A trace record with a zero IP address is not subject to IP address filtering.

**Ports**
A list of up to 16 port numbers to be filtered. The port numbers are in the range 0–65535. A trace record with a zero (0) port number is not subject to port number filtering.

**Job Names**
The MVS job names to be traced.

**ASIDs**
The MVS address space identifiers to be traced, in the form of four hexadecimal numbers.
When you press F4 to begin or schedule the trace, it can take several minutes due to system processing. When the trace is successfully scheduled, a panel like the one shown in Figure 179 is displayed.

**Figure 179. TCP/IP for 390 IPTrace Control Center Panel**

This example shows the message when an immediate trace was scheduled. Message FKX401I is received for delayed traces.

**Displaying a Component Trace**

To view the details of an active or scheduled component trace, select the service point from panel FKXK2A01 (Figure 179). For more information on the displayed data, see "Scheduling a Component Trace" on page 193.

**Stopping an Active or Cancelling a Delayed Component Trace**

From the panel in Figure 175 on page 191, select the service point for which you want to stop or cancel tracing (for example, NMIPL27). From the panel in Figure 176 on page 192, select CTRACE. Depending on whether the trace is active or delayed, either the panel in Figure 180 on page 197 or the panel shown in Figure 181 on page 197 is displayed.

The panel shown in Figure 180 on page 197 displays an active trace.
Press F4 to stop the trace. When F4 is pressed, the system can take several minutes to respond, due to system processing. When a delayed trace is successfully stopped, message DSI205I is received. When an active trace is successfully stopped, the IPTrace Control Center panel, as shown in Figure 181 is displayed.

Figure 180. TCP/IP for 390 CTRACE Control SYSTCPIP Panel

Press F4 to stop the trace. When F4 is pressed, the system can take several minutes to respond, due to system processing. When a delayed trace is successfully stopped, message DSI205I is received. When an active trace is successfully stopped, the IPTrace Control Center panel, as shown in Figure 181 is displayed.

Figure 181. IPTrace Control Center Panel

The prompt above the command line, shows that the trace is successfully stopped.
Packet Tracing

For packet tracing, select PKTTrace from the panel shown in Figure 176 on page 192. For a service point with no active tracing, the panel shown in Figure 182 is displayed. For a service point with active or delayed tracing, the panel shown in Figure 186 on page 204 is displayed.

Scheduling a Packet Trace

From the panel shown in Figure 175 on page 191, select the service point for which you want to schedule the trace (for example, NMPIPL27). From the panel shown in Figure 176 on page 192, select PKTTRACE. The panel shown in Figure 182 is displayed.

In the Delay Start Until field, enter the date and/or time you want tracing to begin. The time must be entered in a 24 hour format. If the date portion YYYY-MM-DD is omitted and the input HH.MM.SS is earlier than the current time, the trace will be started on the next day at the input time. For example, if the current time on the system clock is 9:33 a.m. and you enter 07.45.00 as the time to begin packet tracing, the trace is scheduled to begin the following day at 7:45 a.m. If you do not enter a time, the trace begins immediately.

Note: When you press F4 to begin or schedule the trace, it can take several minutes due to system processing. The trace may also begin a couple of minutes past the specified time, depending on system processing.

You can enter a time in the Set a Timer field to specify how long the trace is to run. If you leave the Set a Timer field blank, the trace runs until it is manually stopped.

The On Task field contains your operator ID. If you want the trace to run on another task, you can enter any valid operator ID as defined in DSIOPF. On Task is only valid for delayed traces.
**Note:** If you specify another operator ID, that operator must be logged on at the time the trace is to be run.

The Writer field contains the source JCL to create an external writer where trace data is to be stored. The writer must be established before the trace is run. Refer to z/OS MVS Diagnosis: Tools and Service Aids for more information about creating source JCL for an external writer. The writer name for packet tracing can be customized. Copy the following entry in CNMSTYLE to CNMSTGEN, then change to the desired name. An example is as follows:

```
COMMON.EZLTCPpTRACEwriter = new_PKTCP // AON TCP packet trace writer name
```

If the NetView program has been started, you must issue the RESTYLE COMMON command to pick up the change.

The following fields can also be edited and are described as follows:

**Link**  
The device on the service point for which to trace. This is a required field. If subsequent link names are entered, they must follow on the next line with no blank lines between them.

**Len**  
Specifies that a truncated portion of the IP packet can be traced. You can specify a length in the range of 1–65535. The maximum value is FULL, which captures the entire packet.

**Prot**  
The protocol for data collection. Valid values are:
- Asterisk (*), which specifies that packets of any protocol are traced
- ICMP
- RAW
- TCP
- UDP
- number (in the range 0–255)

**IPAddress**  
The IP address that is compared with both the source and destination addresses of inbound and outbound packets. If either the source or destination address of a packet matches the specified IP address, the packet is traced. The IP address is specified in dotted decimal notation. If the IP option is blank or an asterisk (*) is specified, all IP addresses are traced.

**Subnet**  
The subnet mask that applies to the host and network portions of the IP address shown on the corresponding IP parameter.

**Src**  
The port number that is compared with the source port of inbound and outbound packets. The port number is an integer in the range 1–65535. If the source port of a packet is the same as the specified port number, the packet is traced. This comparison is only performed for packets using either the TCP or UDP protocol. Packets using other protocols are not traced. If the source port is not specified, there is no checking of the source port of packets. If an asterisk (*) is specified, packets of any protocol and any source port are traced.

**Dest**  
The port number that is compared with the destination port of inbound and outbound packets. The port number is an integer in the range 1–65535. If the destination port of a packet is the same as the specified port number, the packet is traced. This comparison is only performed for packets using either the TCP or UDP protocol. Packets using other protocols are not traced. If the destination port is not specified, there is no checking of the
destination port of packets. If an asterisk (*) is specified, packets of any
protocol and any destination port are traced.

You can enter up to eight entries in each field. If you want additional entries, press
F8 to go to the next panel.

When you press F4 to begin or schedule the trace, it can take several minutes due
to system processing. When the trace is successfully scheduled, you are returned to
the IPTrace Control Center panel, as shown in the following example:

The example shows the message when an immediate trace is scheduled. Message
FKX4011 is received for delayed traces.

<table>
<thead>
<tr>
<th>FKK2A01</th>
<th>TCP/IP for 390 IPTrace Control Center</th>
<th>NTV9D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Point/Stack: NMPIPL27</td>
<td>Proc: TCP38</td>
<td>Domain: LOCAL</td>
</tr>
<tr>
<td>Status/Owner</td>
<td>Start</td>
<td>For</td>
</tr>
<tr>
<td><strong>CTRACE</strong> SYSTCPIP</td>
<td>DELAY/OPER4</td>
<td>2000-05-19-17:00:00</td>
</tr>
</tbody>
</table>

FKX400I PKTTRACE - TRACE SUCCESSFULLY SCHEDULED FOR SP NMPIPL27 BY OPERATOR OPE
Command ===> F1=Help F2=Main Menu F3=Return F5=Refresh F6 =Roll
F7=Backward F8=Forward F12=Cancel

Displaying a Packet Trace
To view the details of an active trace, select the service point from panel
(Figure 175 on page 191), then select PKTTRACE from panel (Figure 176 on
page 192). The following panel is displayed:
When trace status is ACTIVE, all defined device link trace options that are currently set are collected and displayed. When trace status is in DELAY mode, all global variables for defined device link trace options that are set for a delayed start are retrieved and displayed.

The descriptions of the fields are as follows:

**Start Time**
The date and time tracing is to start.

**Duration**
The length of time the trace runs. This is used for active and delayed traces. If no length is specified, the trace runs until manually stopped.

**Timer ID**
An AON-supplied ID. This is used for delayed traces.

**Writer**
The name of the source JCL to create the external writer that is used for this trace. This writer is used for active and delayed traces.

**Link**
The device on the service point to be traced.

**Len**
Specifies that a truncated portion of the IP packet can be traced, in the range 1–65535. The maximum value is FULL, which captures the entire packet.

**Prot**
The protocol for collecting data. Valid values are:
- Asterisk (*), which specifies that packets of any protocol are traced
- ICMP
- RAW
- TCP
- UDP
- number (in the range 0–255)

**IP Address**
The IP address that is compared with both the source and destination addresses of inbound and outbound packets.

---

**Figure 183. PKTTRACE Control SYSTCPDA Panel**

When trace status is ACTIVE, all defined device link trace options that are currently set are collected and displayed. When trace status is in DELAY mode, all global variables for defined device link trace options that are set for a delayed start are retrieved and displayed.

The descriptions of the fields are as follows:

**Start Time**
The date and time tracing is to start.

**Duration**
The length of time the trace runs. This is used for active and delayed traces. If no length is specified, the trace runs until manually stopped.

**Timer ID**
An AON-supplied ID. This is used for delayed traces.

**Writer**
The name of the source JCL to create the external writer that is used for this trace. This writer is used for active and delayed traces.

**Link**
The device on the service point to be traced.

**Len**
Specifies that a truncated portion of the IP packet can be traced, in the range 1–65535. The maximum value is FULL, which captures the entire packet.

**Prot**
The protocol for collecting data. Valid values are:
- Asterisk (*), which specifies that packets of any protocol are traced
- ICMP
- RAW
- TCP
- UDP
- number (in the range 0–255)

**IP Address**
The IP address that is compared with both the source and destination addresses of inbound and outbound packets.
outbound packets. If either the source or destination address of a packet matches the specified IP address, the packet is traced. The IP address is shown in dotted decimal notation. If the IP option is blank or an asterisk (*) is shown, all IP addresses are traced.

**Subnet**

The subnet mask that applies to the host and network portions of the IP address shown on the corresponding IP address.

**Src**

The port number that is compared with the source port of inbound and outbound packets. The port number is an integer in the range 1–65535. If the source port of a packet is the same as the specified port number, the packet will be traced. This comparison is only performed for packets using either the TCP or UDP protocol. Packets using other protocols are not traced. If the source port is not shown, there is no checking of the source port of packets. If an asterisk (*) is present, packets of any protocol and any source port is traced.

**Dest**

The port number that is compared with the destination port of inbound and outbound packets. The port number is an integer in the range 1–65535. If the destination port of a packet is the same as the shown port number, the packet will be traced. This comparison is only performed for packets using either the TCP or UDP protocol. Packets using other protocols are not traced. If the destination port is not shown, there is no checking of the destination port of packets. If an asterisk (*) is displayed, packets of any protocol and any destination port are traced.

**Record Count**

The number of data records collected for this trace.

For assistance on options, press **F9**. The panel shown in *Figure 184 on page 203* is displayed.
This panel displays the individual links from previous panels, along with the options, to enable you to view or set various packet trace options for a particular link. Only one check mark can be used for each group.

**Note:** You cannot edit this panel when the trace is in ACTIVE or DELAY mode.

**Stopping an Active or Cancelling a Delayed Packet Trace**

From the panel shown in [Figure 175 on page 191](#), select the service point for which you want to stop or cancel tracing (for example, NMPIPL27). From the panel shown in [Figure 176 on page 192](#), select PKTTRACE. Depending on whether the trace is active or delayed, one of the following panels is displayed.

The first panel, as shown in [Figure 185 on page 204](#) displays an active trace.
Press F4 to stop the trace.

The panel shown in Figure 185 displays a delayed trace.

**Figure 185. PKTTRACE Control SYSTCPDA Panel with an Active Trace**

Press F4 to cancel the trace.

When F4 is pressed, it can take several minutes to cancel the trace due to system processing. When a delayed trace is successfully cancelled, message DSI205I is
received. When an active trace is successfully stopped, the IPTrace Control Center panel, as shown in Figure 187 is displayed.

**Figure 187. IPTrace Control Center Panel**

The prompt above the command line shows that the trace was successfully stopped.
Part 4. Appendixes
Appendix A. Implementing X.25 Monitoring Support

AON/SNA X.25 enhances problem determination for packet networks connected to your SNA network. AON/SNA X.25 provides support for the X.25 interface between data terminal equipment and packet switching networks.

AON/SNA X.25 provides an exit to trap hardware alerts from X.25 resources and translate them into meaningful alerts. These alerts give the operator a clear interpretation of the error, including the meaning of the error bytes, and more specific recommended action. The AON/SNA Help Desk provides NPSI diagnostic and cause code translation. AON/SNA X.25 monitors LUDRPOOLs in NCPs for threshold availability. Users can view a full-screen display of AON/SNA X.25 virtual circuits being monitored by AON/SNA X.25. Thresholding can be done in the number of sessions on a switched virtual circuit (SVC). Threshold exceptions and status changes are reflected in DDF and the NetView log.

AON/SNA X.25 also inserts a message in the NetView log. This message correlates the INOP message generated by VTAM and the corresponding NPSI alert. Additionally, the operator can display the available number of LU control blocks. An alert is sent to the hardware monitor each time an incorrect XID problem is encountered.

Users can monitor switched connections through full-screen panels. Each connection or disconnection, related to a monitored line, updates the panel. Switched group lines are defined in the control file.

Understanding the NPSI Hardware Monitor Enhancement

This section describes the FKVXITAN exit routine and the BNJ146 message automation.

Using the FKVXITAN Exit Routine

The FKVXITAN user exit plays a role in the generic alerts generation from NPSI alerts. This user exit traps alerts from NPSI and translates the diagnostic, clear, and cause codes. The AON/SNA X.25 code then issues a GENALERT with the translated information so that operators can more easily understand X.25 NPSI alerts in the NetView hardware monitor.

Understanding the CNM Interface

All unsolicited communication network management (CNM) messages are sent by VTAM to NetView as part of the specialized DELIVER RU (x'810812') through the CNM interface. This includes the alerts coming from X.25 NPSI. The DSICRTR NetView subtask is the CNM Router task which gets those unsolicited CNM messages and later dispatches them to other tasks (for example, the hardware monitor).

Understanding the XITCI Exit Routine for the DSICRTR DST

The XITCI exit routine for the DSICRTR DST receives control for each incoming unsolicited CNM message. The user exit routine must be defined in the DSICRTTD initialization member for the DSICRTR task.
**Understanding the FKVXITAN User Exit**

A XITCI user exit routine is coded for the DSICRTR subtask, FKVXITAN. The FKVXITAN exit is used for each unsolicited CNM message, including the RECFMS type 00 (alerts) coming from X.25 NCP Packet Switching Interface (NPSI).

**Understanding FKVXITAN Logic**

The following list explains the flow of the FKVXITAN exit:

1. The DELIVER RU is parsed to recognize the embedded RU and the block ID (identifying the originating product). If it is not a RECFMS coming from NPSI, no processing occurs and the exit returns control to normal NetView processing.

2. If it is an alert record, the rest of the input is parsed and the following fields are extracted:
   - alert type
   - major code
   - minor code
   - action code
   - text (when present),
   - three qualifiers
   - resource hierarchy

   Format conversions take place so you can display these fields in a message.

3. The BNJ146I message is created with exactly the same format as the standard NetView BNJ146I message for RECFMS except that the token 2 and 3 (date and time) are not inserted.

4. The message is sent to the X.25 network management task for further automation.

5. The RECFMS that triggered the FKVXITAN user exit is suppressed by setting the return code to 4. The alert RECFMS coming from NPSI disappears and does not go to the hardware monitor.

**Understanding BNJ146 Message Automation**

Figure 188 shows a sample entry that automates message BNJ146.

```plaintext
IF MSGID = 'BNJ146I'
  & TOKEN(2) = 'R'
  & TEXT = 'BKID=FEF'.
  & TEXT = 'TYPE='BKID=FEF'.'ACT='ACT'QUAL='QUAL'TEXT='VCN 'HIER='HIER
  'DOMID='.
THEN EXEC (CMD('FKVEOG01 T' TYPE ACT 'Q('QUAL')Q' 'T('VCN')T'
  HIER) ROUTE(ONE *) DISPLAY(N) NETLOG(Y) SYSLOG(N);
*
IF MSGID = 'BNJ146I'
  & TOKEN(2) = 'R'
  & TEXT = 'BKID=FEF'.
  & TEXT = 'TYPE='TYPE'BKID=FEF'.ACT='ACT'QUAL='QUAL 'HIER='HIER
  'DOMID='.
THEN EXEC (CMD('FKVEOG01 Q ' TYPE ACT 'Q('QUAL')Q' 'T('VCN')T'
  HIER) ROUTE(ONE *) DISPLAY(N) NETLOG(Y) SYSLOG(N);
```

*Figure 188. Automation Member Entries for BNJ146*
The first entry corresponds to alerts sent by NPSI V2/V3 and the second entry to alerts sent by NPSI V1. The parameters from the BNJ146I message that are needed by the program are extracted from the message and passed as variables to the program.

**Understanding Code Point Tables**

The following code points are part of these tables:

- BNJ92UTB alert description code points
- BNJ93UTB probable cause code points
- BNJ94UTB user cause code points
- BNJ95UTB install cause code points
- BNJ96UTB failure cause code points
- BNJ81UTB recommended action code points

NPSI sends basic alerts (RECFMS type 00). Only a few IBM-supplied codes are provided to cover the range of possible AON/SNA X.25 problems. This package provides user code points to complement IBM supplied code. The code point range reserved for the user is between x'E000' and x'EFFF'. The range of code points used in this package is from x'EE00' to x'EEFF'. Thus, AON/SNA provides more details and more advice on the possible causes and solutions for an alert.

**Describing the Correlation between INOP Messages and NPSI Alerts**

When alerts are sent against the virtual circuit line resources, the station (PU) is not owned at the time the alert is sent. This makes utilizing the NPSI alerts difficult.

This difficulty affects the outgoing call refused alerts (either refused by NPSI or cleared by the AON/SNA X.25 PSDN or the DTE). AON/SNA X.25 NPSI sends on the SSCP–PU (the NCP PU) session, first an INOP type 1 on the address of the station, then a RECFMS on the address of the VC line. As a result, on the host side, a message is received:

IST259I INOP RECEIVED FOR nodename CODE = 01

The *nodename* is the name of the switched PU that attempted to call out. This message identifies neither the path nor the link on which the call out failed. An NPSI alert gives the hierarchy down to the virtual circuit and indicates why the outgoing failure occurred, but it does not give the name of the switched PU that attempted to call out and is affected by the failure.

For installations that frequently make outgoing calls on AON/SNA X.25 switched virtual circuits (SVCs), trying to correlate INOP messages and corresponding NPSI alerts is a challenge. AON/SNA X.25 responds to this need, but due to the asynchronous nature of this process, the tool cannot be considered as absolutely reliable.

Message IST259I is automated in the automation table and puts the switched PU name into a task global variable. A queue of 10 such global variables (X25PU0 to X25PU9) is necessary because several IST259I messages can arrive before the corresponding BNJ146I messages arrive and AON/SNA X.25 can pick up the PU names. This occurs when several PATHS statements are active for a switched PU, leading to successive outgoing call failures. If you need to store more than 10 PU names in global variables, you can easily modify the FKVEOI00 and FKVEOG02 routines. Replace the number 10 with the new value. One statement is in FKVEOI00 and two are statements in FKVEOG02.
A sample message automation member statement follows:

```plaintext
IF MSGID = 'IST259I' & TEXT = 'FOR X'.
& TEXT = 'FOR' PUN 'CODE = 01'
THEN EXEC (CMD('FKVEOI00 ' PUN) ROUTE(ONE *))
   NETLOG(Y) SYSLOG(N) DISPLAY(Y);
```

AON/SNA X.25 generates the generic alerts from the NPSI alerts on virtual circuits. It retrieves the oldest switched PU name in the queue, if one is present. It inserts the PU name at the end of the hierarchy, behind the line name if no PU name is currently in the hierarchy.

AON/SNA X.25 records the time together with the PU name in a queue. When a PU name has been in the queue for more than three minutes, AON/SNA assumes the correspondence between the INOP messages and the alerts has been lost. It then cleans up the whole queue.

A message is written to the NetView log that shows the diagnostic code, the cause code, and all the hierarchies for the problem.

Figure 189 shows an example of the message written to the NetView log.

```
NCCF NETVIEW LOG 02/06/00 14:05:44
C CMM01 CLEARCAUSE BYTE = 05, DIAG BYTE = 00 RECEIVED FOR
   FOLLOWING RESOURCE HIER=RADNCP,NPSI,MCH01,MCH,000001,VCN,
   XL01002,V.C.,X.25PUT,RODE
```

**Figure 189. NetView Log**

### Monitoring Switched Virtual Circuit (SVC) Resource Utilization

An AON/SNA X.25 subscription supplies, with one physical link, a number of virtual circuits, both *private virtual circuits* (PVCs) and *switched virtual circuits* (SVCs). These switched virtual circuits (SVCs) are often used for frequent and short duration connections. The number of switched virtual circuits (SVCs) in use increase and decrease with starting and ending calls from programs.

The primary purpose of this monitoring facility is to provide one screen that displays the number of switched virtual circuit (SVC) lines as available or busy. The system automatically updates this information, but the operator manually refreshes the screen to receive the current information.

Other features of this facility include the ability to:

- Apply threshold values for the number of free switched virtual circuits (SVCs) to highlight switched virtual circuit (SVC) shortages
- Add, change, or delete a temporary link definition
- Define individual timers for critical links to refresh status information on a fixed interval
- Link to DDF to enable DDF monitoring of link availability and threshold status
Understanding the X25INIT Command

To start the switched virtual circuit (SVC) monitoring facility, initialize the environment by running the X25INIT command. Call this command from the configuration file at AON startup. The X25INIT command performs the following:

- reads the X25MONIT control file entries in the configuration file
- checks these entries for validity
- sets up timers for links that you request
- obtains status information for the links

If X25INIT detects errors while validating the parameters for a link, AON/SNA issues a message and bypasses that link.

Switched virtual circuit (SVC) monitoring only works with the naming conventions given by NPSI for the group name and the VC line name. The NPSI naming convention follows:

- \( pL_{xxx}lcn \)
  The name of the VC line.

- \( p25S_{xxx}y \)
  The name of the switched virtual circuit group name.

where:

- \( p \) is the prefix coded in the X25BUILD macro.
- \( xxx \) is the address specified in the AddRESS operand of the X25MCH macro.
- \( lcn \) is the logical channel number.
- \( y \) is the group sequence on the physical link.

Understanding the LUDRPOOL Command

The LUDRPOOL routine is based on the NCP control blocks structure and works with different versions of NCP. The supported versions are NCP V4R2 through V7.

If you specify a time interval, AON/SNA X.25 issues a NetView EVERY command to run the LUDRPOOL check at regular intervals. It sets a threshold as a global variable so that an alert is sent when the pool of available LUs falls under the threshold.

Monitoring LUDRPOOL Utilization

One of the critical resources in switched SNA is the pool of LU control blocks created within the NCP to be used dynamically for dynamic reconfiguration and switched data links.

The pool of LU blocks is defined by the NCP LUDRPOOL macro:

```
DRPOOLPU PUDRPOOL NUMBER=0
DRPOOLLU LUDRPOOL NUMTYPE1=10, RESERVE 10 LUS ON PU.T1 PUS
      NUMTYPE2=90, RESERVE 90 LUS ON PU.T2 PUS
      NUMILU=20 RESERVE 20 LUS FOR IND.LU
```

The PUDRPOOL statement is necessary to use the LUDRPOOL utilization counters.
AON/SNA X.25 is more generally used for switched virtual circuits (SVCs). LUDRPOOL is one of the resources that major AON/SNA X.25 NPSI users want to monitor, especially if they have hundreds or thousands of available switched virtual circuits (SVCs), controlled by one NPSI.

PU Type 2 represents the vast majority of devices. In the previous example, the pool of LUs for switched PU 2 (operand NUMTYP2) is a common installation. PU Type 1 is relevant for NPSI (non-SNA connections), but there is always one simulated LU per virtual channel.

Understanding Security Alerts for an Incorrect XID

A frequent cause of failure in switched SNA connections occurs in the XID exchange, when the SNA ID (IDBLK + IDNUM) sent by the device attempting a switched connection is not recognized by the host.

VTAM compares the station ID it receives in the XID with the values coded for the IDBLK and IDNUM parameters of the PU statements in the switched major nodes.

When VTAM does not find a match, the call is refused and a message issued:

IST690I CONNECTION REQUEST DENIED - INVALID STATION ID = aaaaaxxxyyyyy

The message may be an indication of:

• A security violation. Somebody may have tried to break into your network.
• An operations error. A switched major node may not have been activated.
• A system programming error. The good values of IDBLK-IDNUM may not have been specified in a switched major node.

All of these events are likely to happen regularly with AON/SNA X.25 NPSI switched virtual circuits (SVCs), in particular when the number of connections is high.

A specific NPSI difficulty with IDBLK-IDNUM is encountered for non-SNA AON/SNA X.25 connections (PCNE, PAD, GATE, DATE). In this case, the IDBLK and IDNUM do not come from the remote DTE but are generated by NPSI, according to the virtual circuit on which the call is received and according to the order of the virtual circuit definitions in the NCP generation.

Implementing an Alert through GENALERT

In the following example, the IST690I message is automated in the automation table and causes an alert through GENALERT. The security type is (SCUR).

IF MSGID = 'IST690I' & TEXT = .'=' STATID
THEN EXEC (CMD('FKVEOSEC ' STATID) ROUTE(ONE *) DISPLAY(N) NETLOG(Y) SYSLOG(N);
Appendix B. Using the Browse Facility

AON uses the NetView browse facility, which enables certain commands and functions that you can use to browse log files. When you display any of the AON logs, AON enables certain commands and function keys to help you to browse the logs more efficiently.

In addition to the function keys used throughout NetView and described in “Function Keys (F Keys)” on page 8, the browse facility provides the following additional function keys to help you browse log files:

**F4 Top**
Moves to the top of the information being browsed.

**F5 Bottom**
Moves to the bottom of the information being browsed.
# Appendix C. AON Command Synonyms

The following tables show how to use fastpaths to reach each AON panel.

**Table 4. Fastpath Commands Reference Table**

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<tr>
<td>NV6KVIEW</td>
<td>AON 3.2.7</td>
<td>TCP/IP Automation: AutoView panel</td>
</tr>
</tbody>
</table>
Rules for creating new entries in the SNMP Group definition file FKXSNMP are:

- The Group name must be from 1—15 characters and must start in column 1.
- The Group name can not be duplicated.
- There must be at least 1 space between the Group Name, the GROUP, the Group type, and the base MIB for Table type Groups.
- There can be up to 3 lines of abstract definition for a Group. The abstract lines can be up to 72 positions and must start with a question mark (?) in column 1.
- The Abstract lines for a Group must follow the GROUP statement for the group.
- Valid Group types are:
  - LIST
  - LIST+
  - TABLE
  - WALK

A LIST group type must include the EXACT MIB variable names to be collected.

A LIST+ group works almost the same as a LIST type Group, but enables the definition of variable data.

The LIST+ group enables you to specify a variable field to be appended to the list of MIB objects in the group. This enables a single group definition to be used for a variety of MIB object groups. For example, a group can contain objects that relate to a specific interface number. If you use traditional LIST type groups, you need multiple groups, one to define each interface. A LIST+ group can be defined to ask prompt for an interface number, when selected, enabling only one group definition to be needed. LIST+ adds keywords which are used to set up the variable data. All of these keywords must start in column 1.

**PANELINPUT**
Defines this as a LIST+ group

**PANELCONST**
A user customizable field which is displayed in the input panel and must be delineated with double quotes ("")

**PANELVAR**
An input field where the data is collected from the screen, example:

```
PANELCONST "PLEASE ENTER AN INTERFACE NUMBER:" "PANELVAR "__""
```

Displays as:

```
PLEASE ENTER AN INTERFACE NUMBER:
__
```
VAR keywords in LIST and LIST+ groups indicate the starting of varbind lists. This helps in parsing in UNIX. VAR must start in column 1.

A TABLE group type must have a base variable to start the search. This is the index variable for the table. A Table group type does not need to have variables listed. The table is Walked and all variables in the table are collected. MIB variables listed in this group are for documentation only.

A WALK group type must be a well known group name (defined in an existing RFC). A walk command will be issued against the name. MIB variables listed in this group are for documentation only. Walk groups, as defined in some RFCs, may be much larger than the 15 character limit. To work with this limit, the Full Name for the Walk Group may be entered on the Group line after the WALK type (for example: groupname GROUP WALK veryLongGroupName).

Comments must have an asterisk (*) in column 1.
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