Allied Telesis™
Allied*View* Network Management System
User Guide 12.1 (SP1)
Issue 1

Introduction

Congratulations on your purchase of the AlliedView™ Network Management System product. This product allows users to query all aspects of Allied Telesis products in their network.

Who Should Read This Guide?

This document is for users who need to understand the user interface of the NMS product and be able to query and control the Allied Telesis network elements using the NMS. Highlighted are tasks involved in configuring individual devices (called device configuration) and groups of devices (called network provisioning), since the NMS for certain applications must change a set of devices. Also highlighted are the tasks involved in producing graphs and reports in both historical and real-time formats.

For in-depth knowledge of the NMS and its applications, refer to the NMS Administration Guide.

About this Guide

This guide includes all aspects of the NMS product and includes information on the installation and administration of the NMS server software.

- Chapter 1 provides on overview of the NMS product and how this document is organized.

- Chapter 2 lists the various interfaces (clients) for the NMS and how to access each type

- Chapter 3 shows how to use the Network Maps application and how the maps allow access to other applications for one or more devices.

- Chapter 4 describes the Fault application and how to monitor the NMS for events and alarms.

- Chapter 5 describes the Performance Management application and how to report statistics.

- Chapter 6 describes the Network Inventory application and how to query networks, nodes, and interfaces.

- Chapter 7 shows the HTML interface and its capabilities.

- Chapter 8 lists the object properties most commonly used to define objects and create Custom Views.

Tracking Updates since the Previous Release

Section 1 of the AlliedView NMS Administration Guide includes a Reason for Update table, allowing the user to see what features have been added or changed. Change bars let the user know where technical information has been updated.

Service and Support

For information about support services for Allied Telesis, contact your Allied Telesis sales representative or visit the website at www.alliedtelesyn.com.

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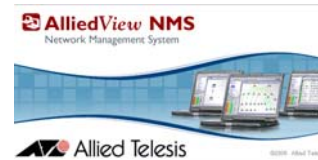
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1. Product Overview

1.1 AlliedView Network Management System (NMS)

For managing a network, the NMS product provides a powerful client that presents the network and its devices in a user-friendly way that allows users to learn quickly how the network is configured, how to reconfigure elements when necessary and how to spot problems (or potential problems) before they degrade network performance.

Users of NMS have two methods to query and control the objects in the network.

- A graphical map interface that shows the network and its managed objects both physically and functionally. Users can start at the network level and drill down to the appropriate device.
- A set of forms (tables), which list the various objects and their attributes.

Each method allows the user to access information about the network, see in real time any changes in the network (and therefore take appropriate action), and change the configuration or status of any device to ensure the network is operating efficiently.
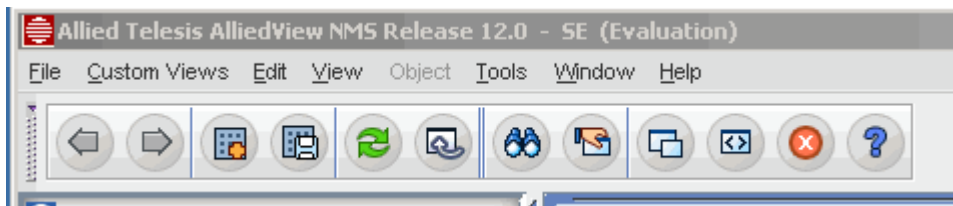
FIGURE 1-1 **AlliedView NMS GUI (SE Version)**

1.1.1 Managed Device Types

The AlliedView NMS manages the following types of devices:

- iMAP - These products currently use the series number 7000 and 9000. They are powered by -48Vdc and can be integrated into a central office environment. They are modular in nature and so cards can be replaced when necessary. Products with the number x700 are duplex in that they have dual processors (called Control Modules) and so one side can take over activity if necessary. Current Allied Telesis products are listed in the AlliedView NMS Administration Guide.
- AT - These are products that use the name Allied Telesis (AT). They are usually ac-powered and are usually non-modular, although some types (such as the Switchblade family) do have replaceable cards. For a complete listing of devices supported and load compatibility, refer to the AlliedView NMS Administration Guide.
- iMGs/RGs - Refer to the AlliedView NMS Administration Guide.
- Other Devices - Although the NMS in many cases can only monitor (and not manage) these devices, they can be discovered by the NMS and so can be included in the management system.

Note: *In 12.0, the introduction of the Enterprise Edition (EE) version of the NMS means some GUIs are modified. Most changes involve the addition of devices on a LAN and the deletion of customer provisioning options. Refer to the* AlliedView NMS Administration Guide*.*

This document is for those who use the client interface and are responsible for configuring and monitoring all or some part of the network. After reading this document, the user should be able to access any object in the network, query and change any attribute of that object, and monitor the object (or objects) for potential problems.

Note: *This document does not include administrative tasks that can be run from the Application or HTML interface. These tasks are in the AlliedView NMS Administration Guide.*

1.2 How this Document is Organized

This first sections of this document cover the Application Interface and the tasks that are done from that interface.

The document then follows the following tree hierarchy for the Application interface. (Sub-nodes are in parentheses.)

- Network Maps (from overall network to user-configured sub maps)
- Fault Management (Network Events and Alarms)
- Performance Management (Configuration Collection)
- Network Inventory (overall network to user configured groups)

The last sections give an overview and a description of tasks done using the HTML interface.

To help the user understand how these areas work and interact, this document uses the following strategies:

- Starting with the map interface, the user can learn how to drill down from the network view to any network object, as well as how to create custom maps, usually to highlight particular device types or device states. Once gaining access to that device, the user can then see how to configure (or reconfigure) the device as well as monitor what the device is doing.
- At the beginning of each Section is the following:
  - A figure that highlights specific parts of the interface. For electronic versions, there will be a link from these specific areas to the relevant section.
  - A table with links that includes the main tasks that are performed.
- When performing certain actions at the map interface, the system will automatically go to other views, since that view is what controls the action. When describing the map action in this document, there will be an electronic link to the other part of the document that has the details.
- Throughout the document, there will be subsections that show sample configurations. These subsections allow the user to see how specific Allied Telesis devices are configured and what strategies to use to ensure the network is being properly monitored. There will also be background information to help the user understand the sample configuration.

1.3 Document Conventions

To help the reader use this document, the following conventions are used:

- Menu selections are in bold/italic, with -> for accessing a submenu, such as ***Policy -> Add Policy***.
- Descriptions of properties are in a two-column table, with the order of properties matching those shown on the window.
- Names of windows and window elements (such as Tool Tips) are in bold, such as the **Restore Configuration** window.
- Admonishments use the words Note, Caution, and Warning, where note means added information, Caution means a potential degradation of service, and Warning means a potential loss of service/revenue.

1.4 How to Use Supporting Documents

1.4.1 Document Media

Customer documentation is included with the NMS CD-ROM and at the Allied Telesis website. The CD-ROM has only the documentation for a specific release, while the web-site will give the user the option to download available document releases.

1.4.2 Printing Hardcopy

Hardcopy of the documents is in pdf format and requires Acrobat Reader. The link to the Acrobat site is provided on both the CD-ROM and NMS document web site.

1.4.3 Accessing Online

The documents are also delivered in HTML format for viewing on a browser, and are included with both the CDROM and website download.

1.4.4 Using Online Help with AlliedView NMS

In the main screens of NMS and various forms, there is a help button. When the user presses this button, the relevant section of the online document will appear if the user has downloaded the online version of the User Guide onto the client. The links to other parts of the document will be active, allowing the user to navigate further in the document if necessary. The user can also press the **Show Document** link which will show the full online help document and therefore include a frame with the Table of Contents, Index, and Search window.

1.5 Reason for Update

Refer to the AlliedView NMS Administration Guide for a list of feature changes to the AlliedView NMS for Release 12.1.
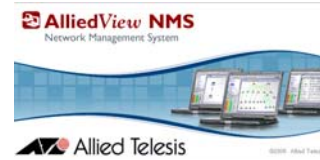
2. Starting Up the User Interface

2.1 Starting Up Methods

The AlliedView Network Management System (NMS) offers a variety of startup methods, with each having its advantages:

- Application Client - This is used entirely on the AlliedView NMS server.
- Application Start (Web Start) - This is the **preferred method** when accessing the NMS from a remote location. It requires Web Start (JRE: 1.6.0_nn) on the client. (This is also the first option on the Logon screen using a browser.) Refer to Figure 2-2.
- Web Client (HTML) - All that is required is a browser that meets the criteria listed in Table 2-1. (This is the second option on the Logon screen.)
- Applet Client - This involves loading of the correct applet and can be local or remote to the server. It requires the Java Runtime Environment (JRE)1.6.0_nn. (This is a link at the bottom of the Logon screen.)

Note: The monitor used by a AlliedView NMS client should have a resolution of 1280x1024 or better.

Table 2-1 lists the client types and the startup methods for each platform.

TABLE 2-1 User Interfaces and Startup Methods for the NMS

Client Type	Description	Windows	Solaris
Web Start	You must have the correct browser to view the logon screen. These are the same as for the Web Client (HTML) option. This is used for terminals connected remotely to the NMS server. It is the **preferred** method of accessing the NMS from a remote location, since the correct applet is automatically included as part of the startup and does not require reloading on subsequent client startups	On the Logon screen, select the **Launch** button for the **Application Client (Web Start)**. Refer to 2.2.2.	The same as Windows

TABLE 2-1 User Interfaces and Startup Methods for the NMS (Continued)

Client Type	Description	Windows	Solaris
Web Client (HTML)	This uses a browser using HTML only and can be used from remote and local inter-faces. Browsers: - Internet Explorer 7 and 8 - Firefox 3.0 or above	On the Logon screen, select the second option, and input the user Name and Password Refer to 2.2.2.	The same as Windows
Application	This is used for terminals con-nected directly to the NMS server and includes all soft-ware needed.	From the *Start* menu of win-dows, select ***Programs->Allied Telesis -> AlliedView NMS ->Start NMS Client***. Directly from the home directory of the NMS Client, go to the **bin** directory and invoke the **star-tApplicationClient.bat** file.	From the home directory of NMS Client, go to the **bin** directory and invoke the **startApplicationClient.sh** file.

Note: *When using the html client type, the browser property should be set so that for every visit to the page there is a check for the newer versions of the stored page. This is to ensure that any changes made are immediately reflected in the GUI. Refer to 7.2.2 for an example.*

2.2 Logging In

2.2.1 Using the Non-HTML Client

By choosing the *Start NMS Client* option from the *Start* menu, you get the **AlliedView NMS Authentication** dialog box. By default, the username and password are **root** and **public**, respectively. You can also change the username and password based on your requirements.

By default the form shows only the User ID and Password. If you select the Advanced button you see the figure below. Included is the name of the host machine on which the NMS server is running, which is usually already filled in. The default port number is 9090. If the **Show Console** option is checked, the **Logs** console will appear on the screen; otherwise it will not be shown.

After entering the username and the password, you can connect to the host server by clicking the **Connect** button.

FIGURE 2-1 Logon Using the Application Client (Advanced Button)

2.2.2 Using the Browser

Connect the host from the browser after providing the name of the host and the port number as the Uniform Resource Locator (URL), such as **http://<hostname>:9090.** The logon screen (Figure 2-2) appears. Choose one of the three logon methods.

Note: The login and password entry field on the main AlliedView NMS web page are not used when the user selects "Application Client (Web Start)". The Web Start Client log in procedure will prompt for the user/password on another window displayed later in the start up process.
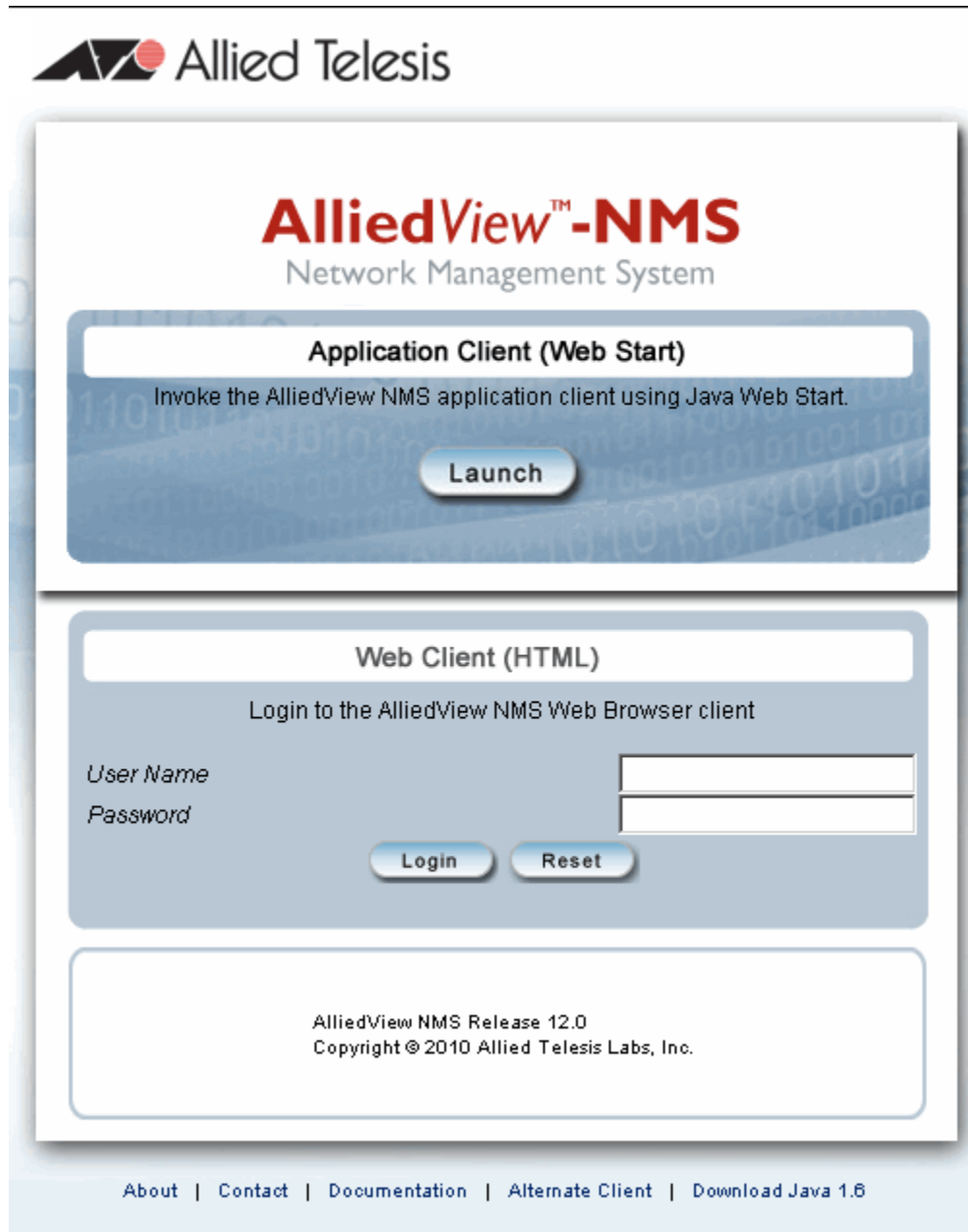
FIGURE 2-2 Logon Screen Using the Browser

2.3 Connecting to the NMS Server

2.3.1 First Time Connection (Configuring the Password)

The NMS provides the option to configure your password once you have logged into the application client or the browser client for the first time. The **Password Configuration** dialog box appears by choosing the *Tools -> Change Password* menu item. Refer to the following figure. You can type in your new password and set the time duration for which this password is to remain valid. Refer to the following figure.

Note: The expiration duration is the number of days before the password expires; 0 (or negative number) means no expiration. To force a password to expire, the user must set the duration for one day, and the password will expire on the second day.
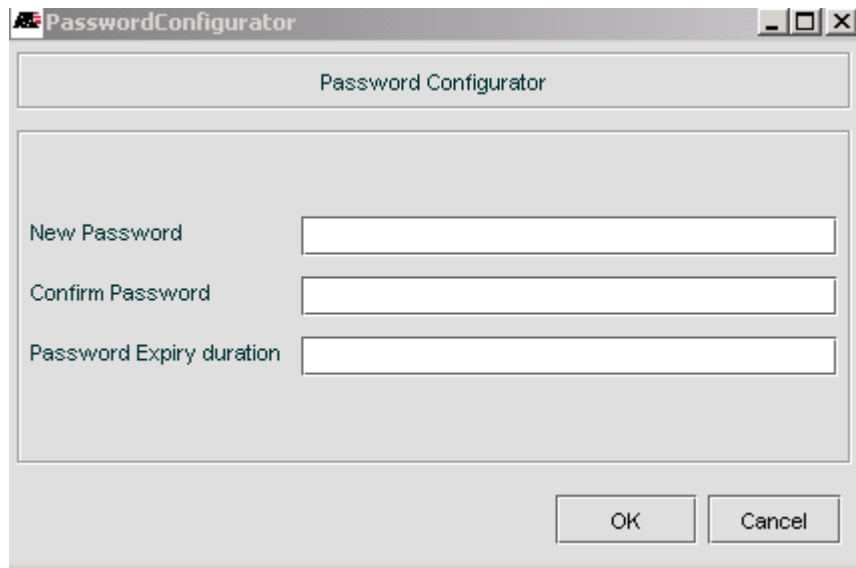
FIGURE 2-3 Setting a New Password

2.3.2 Possible Connection Failures

2.3.2.1 Password Has Expired

If you try to log in to the NMS Server after your password has expired, you will get an error message. You can reset the password.

2.3.2.2 User Account Has Expired

If your account has expired, a **Login Failed** dialog box pops up. In this condition, you will be unable to access the Java Client until your user account is re-activated by the NMS Administrator through the Security Administration User Interface (UI).

2.3.2.3 User is Disabled

If your user account is disabled by the NMS Administrator through the Security Administration UI, you will be unable to access the Java Client until your account is re-enabled. A **Login Failed** dialog box will pop up indicating that your account is disabled.

2.3.2.4 Maximum Number of Client Sessions is Reached

If you try to log in to the NMS Server while five other users are already logged in, your login attempt will fail with an error message indicating that the maximum number of sessions has been exceeded. The AlliedView NMS Server supports a maximum of five simultaneous client sessions. If you receive this error message, you will have to wait until one or more of the current users log out before you can log in.

2.3.2.5 Client-Server Connection is Lost

If you lose your connection with the NMS server, a dialog box with a message pops up. Restart the client using the methods in Table 2-1.

2.4 The Application Screen

2.4.1 Initial Screen Layout

2.4.1.1 Screen Areas

When you log in to the application interface, the initial screen that is displayed shows the map symbols representing the discovered network devices. An example is shown in Figure 2-4. Callouts in the figure identify the various screen areas.

Note: For display purposes, the entire map is not shown in the figure.

You can find the Panel-Specific Menu Bar, Toolbar, Map Toolbar, NMS Tree, Alarm Count Panel, Status Bar, and the NMS Display Panel displayed in the user interface.
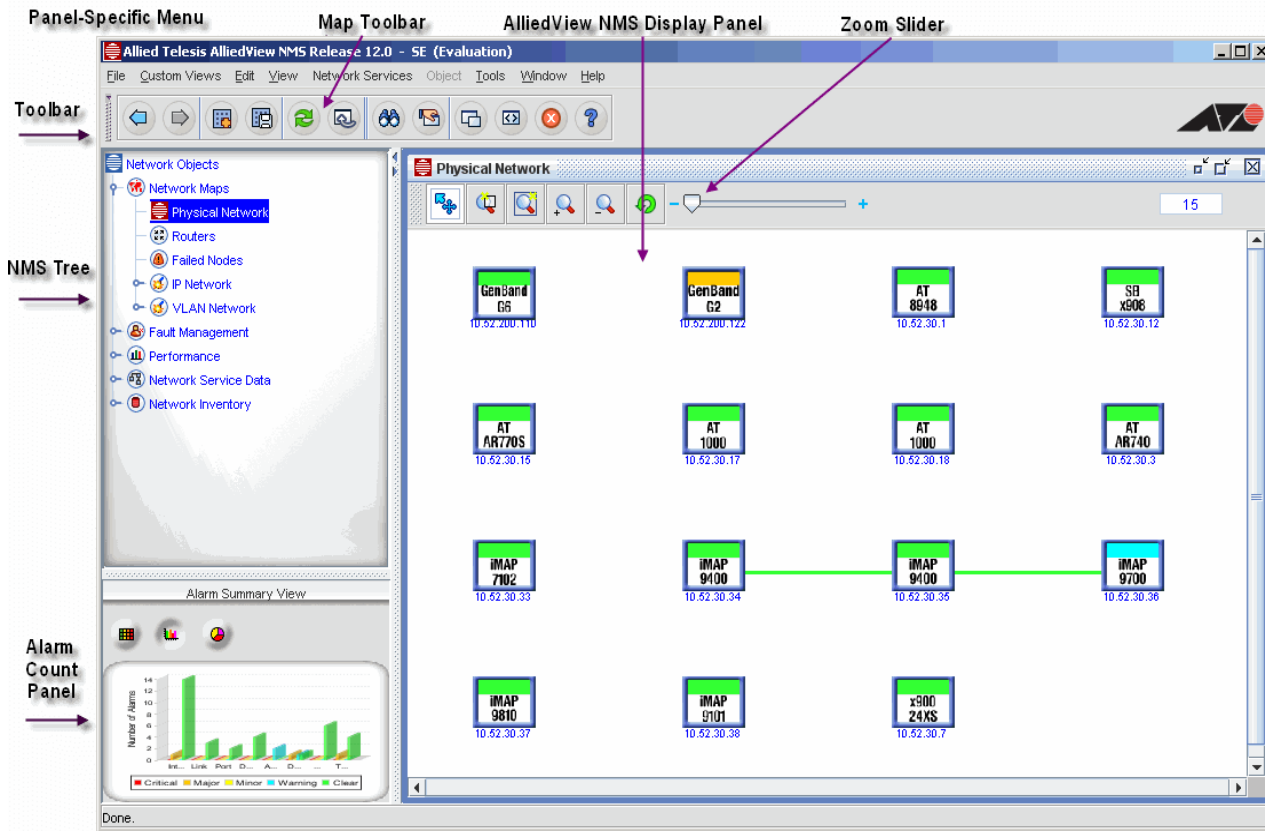
FIGURE 2-4 Layout of Initial Screen for Application Client

2.4.1.2 Panel-Specific Menu Bar

The Panel-Specific Menu Bar is positioned at the top edge of the display area. This menu bar contains the labels of drop-down menus attached to it. Right-clicking a menu label displays the drop-down list of menu items for that menu label. In a drop-down menu, separator lines distinguish types of tasks. The menu list is context-specific and will vary depending on which node in the NMS Tree is being displayed in the NMS Display Panel. However, a few of the items are common to all of the displays. These include: Refer to www.google.com

- *File* - Provides control of the NMS client tool and the displays. The items include:
    - *Back* - Moves the display in the NMS Display Panel back to the previous display
    - *Forward* - Moves the display in the NMS Display Panel forward to the next display
    - *Detach* - Puts the current display in the NMS Display Panel in a separate window
    - *Close* - Closes the current display in the NMS Display Panel
   - *Close All* - Closes all open displays in the NMS Display Panel
    - *Broadcast Message* - Sends a message to other NMS users
    - *Exit* - Exits the NMS Client
- *Tools* - Provides various tools related to the NMS. The items include:
    - *View Tasks* - Displays a list of currently scheduled tasks
    - *Manage CLI Users* - Provides Command Line Interpreter (CLI) user management functions
    - *System Log Configuration* - Provides configuration functions for System Log Management
    - *NMS Database Backup* - Provides NMS database backup functions
    - *Discovery Configurator* - Provides configuration functions for NMS discovery
    - *Security Administration* - Provides security administration functions
    - *Change Password* - Allows you to change your password
    - *Application Manager* - Provides application management functions
    - *Mib Browser* - Provides Management Information Base (MIB) browsing functions
    - *Open Telnet* - Allows you to telnet to another device
- *Window* - Provides control for the NMS client display windows. The items include:
    - A radio-button list of the most recently accessed panels
    - *Cascade* - Cascades the open windows in the NMS Display Panel
    - *Tile Horizontal* - Tiles the open windows horizontally in the NMS Display Panel
    - *Tile Vertical* - Tiles the open windows vertically in the NMS Display Panel
    - *Save Location and Size* - Saves the current size and screen location of the NMS display
    - *Show Toolbar* - Displays or hides the Toolbar
- *Help* - Provides Help information for the AlliedView NMS.

The context-specific menu items will be described later in this document.

2.4.1.3 Toolbar

The Toolbar displays a collection of actions, commands, or control functions. Toolbars are used to display frequently used components. It is placed below the menu bar and has various tools for different nodes. A tool tip is provided for each tool. The Toolbar is movable and floatable. The tools that appear on the Toolbar will vary depending on which NMS Tree node is being displayed in the NMS Display Panel. The Toolbar for the Network Maps node is shown in the following figure.

FIGURE 2-5 Example Toolbar

The Toolbar icons and their function are listed in the following table.

TABLE 2-2 Toolbar Tools and their Function

Toolbar Icon	Function
	Move backward to the previous display in the NMS Display Panel.
	Move forward to the next display in the NMS Display Panel.
	Add a new map.
	Delete the currently displayed map.
	Save the currently displayed map.
	Refresh the map data.
	Re-layout the currently displayed map.
	Delete the currently selected item(s) in the map.
	Undo the last Add or Delete.
	Search a map or display for a specific string.
	Access the properties for the selected item or the currently displayed map. If no object is selected in the map, the map properties are displayed. If multiple objects are selected, a property sheet for each selected item will be displayed.
	Detach the current display in the NMS Display Panel from the NMS Display Panel. The display will appear in a separate window from the main NMS window.
	Launch the NMS HTML user interface.
	Stop the currently in-progress action.
	Access the AlliedView NMS Help information.
	Add a custom view.

TABLE 2-2 Toolbar Tools and their Function

Toolbar Icon	Function
	Modify a custom view.
	Remove a custom view.

Note: *Not all of the icons listed in Table 2-2 are shown in Figure 2-5. The actual icons that appear will depend on which tree node is being displayed in the NMS Display Panel.*

2.4.1.4 NMS Tree

The NMS Tree is built by the user to display a set of hierarchical data. The fundamental object in a tree is called a *node*, which represents a data item in the given hierarchical set. Thus, a tree is composed of one or more nodes. The root node is the top node of the hierarchical data.

Nodes inside the root nodes are called *child nodes*. Nodes that contain no child nodes are called *leaf nodes*. By choosing a particular node, the corresponding panel will be displayed on the right-side frame.

2.4.1.5 Alarm Count Panel

The Alarm Count panel shows the count of alarms of each severity (major, minor, critical, etc.) for each category. The Alarm Count panel is located below the tree. An example is shown in the figure.
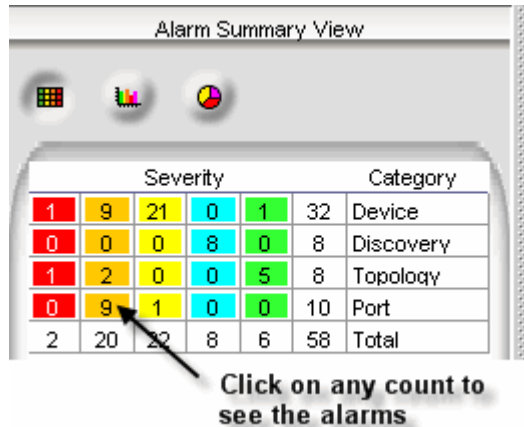
FIGURE 2-6 Example Alarm Count Panel

The colors used in the alarm display and their meaning are shown in the following table.

TABLE 2-3 Status Colors and their Meaning

Description	Sample	Meaning
Red		Critical alarm condition
Orange		Major alarm condition
Yellow		Minor alarm condition
Light Blue		Warning
Green		No alarm-normal operation
Gray		Not managed by the NMS

The categories are as follows:

- Topology - Alarms in the Topology map
- Fan - Fan Failures
- Provisioning - Components have not been provisioned properly
- Rediscovery - Alarms for rediscovery (mainly for iMG./RG)
- Interface -
- Discovery - Alarms from the discovery process
- VLAN Interface -
- Device - Alarms received from devices
- Port - Alarms relevant for device ports

Clicking an alarm count displayed in the Alarm Count panel displays the alarms of the specific severity in the corresponding Alarm panel. This panel is updated automatically and the counts can be seen all the time, regardless of the current View. The tool tip and the cursor shape change when the mouse pointer is pointed on alarm counts. By clicking the counts in the alarm count panel, you can find the display of the respective alarms on the Alarms display in the NMS Display Panel.

Note: The Alarms display panel is described later in this document.

2.4.1.6 Status Bar

The Status Bar indicates the status of the process going on such as **Done** or if all the contents are loaded or **loading**... if the process is in progress. The transformation of the status bar color from dark blue to green takes place during the loading of the product.

2.4.1.7 AlliedView NMS Display Panel

The NMS Display Panel is the main window and shows the results of what is selected in the tree or in a menu.

*Note: As you click on different nodes or menu items, the displays will stack on top of each other. Use the **Window** menu options as described in 2.4.2 to control how the displays are stacked.*

2.4.1.8 MAP Toolbar

The Map Toolbar displays a collection of commonly performed actions, commands, or control functions specific to the map being displayed. The Map Toolbar is described in 3.1.3.

2.4.1.9 Zoom Slider

The zoom slider allows you to quickly zoom in or zoom out the map display. It appears only on Network Maps. Left-clicking the slider button while dragging it to the right zooms in, while dragging it to the left zooms out.

2.4.2 Controlling Windows

The pull-down *Windows* menu allows the user to control how the display panels are organized.

- The current open displays are listed as a radio button list with the display currently in the foreground checked. Clicking one of the display buttons brings the corresponding display to the foreground.
- *Cascade*, *Tile Horizontal*, and *Tile Vertical* control the layout of the displays.
- *Save Location and Size* freezes the current window size. Selecting again toggles back.
- *Show Toolbar* checkbox toggles showing of the Toolbar. When checked, the Toolbar is displayed.

2.4.3 Allied Telesis Name

Clicking on the Allied Telesis name brings up the Allied Telesis Networks web site.

2.5 Broadcasting a Message

You can send messages to all clients connected to the front-end server or to all the clients managed by the main NMS back-end server by selecting *File->Broadcast Message*. Refer to the *NMS Administration Guide* for details.

3. Using the Network Maps

3.1 Overview

A Network Map is a graphical representation of networks and Network Elements (devices). Network elements, such as desktops, workstations, storage devices, servers, notebooks, printers, switches, routers etc., which are connected in a network, can be represented pictorially in a map. This ability of maps to expose logical relationships between devices and to show small but significant changes in the state of the Managed Objects (MOs), combined with showing complex networks, make maps an important component of NMS. The map panel consists of a background image and map symbols, which are representations of the managed objects. An example is shown in the following figure.
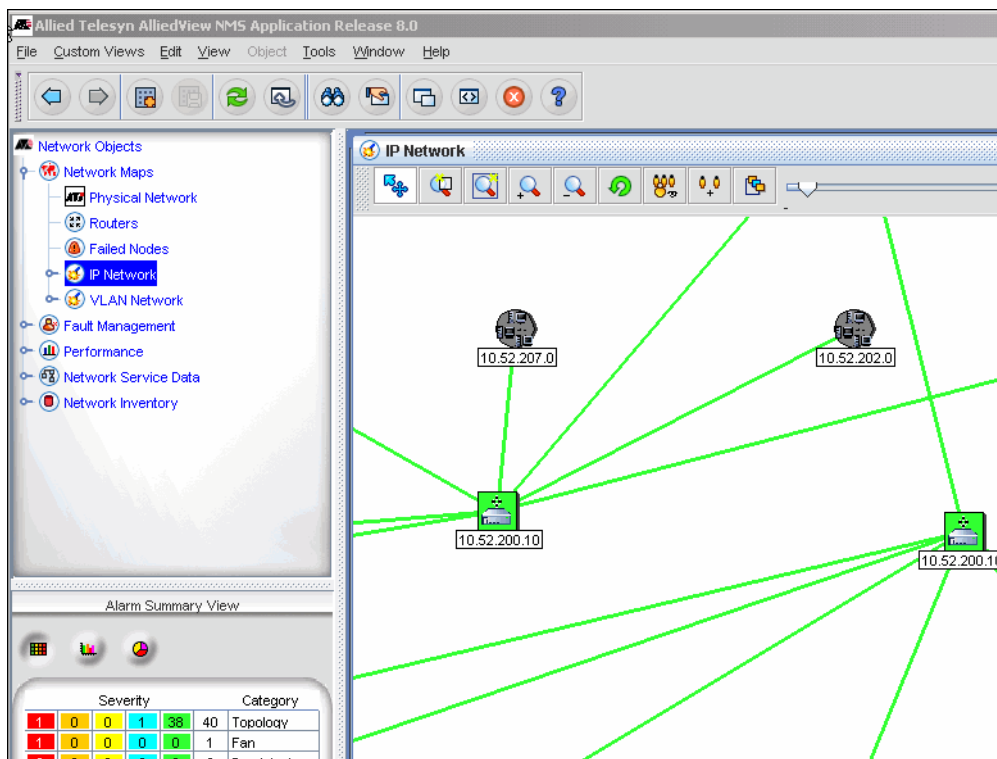
FIGURE 3-1 Network Map Panel

3.1.1 Accessing the Maps

The maps are accessed by clicking on the appropriate node in the network tree. When you click on a node, the map appears in the NMS Display Panel as shown in Figure 3-1. As the various maps are accessed, the panel-specific menu changes to reflect map-specific menu items. These menu items are described later in this section.

3.1.2 Understanding the Map Symbols and Colors

Each of the five default maps use symbols to represent various components of the network. These symbols and their meaning are shown in the following table.

TABLE 3-1 MAP Symbols

Symbol	Meaning
172.16.18.0	This symbol represents a network in an Internet Protocol (IP) network or Virtual Local Area Network (VLAN).
172.16.33.2(2)	This symbol represents a router in a network.
————	This symbol is a solid line that interconnects objects on the map. It represents physical or logical connectivity between the two objects.
Telesyn 7400 172.16.33.11	This symbol represents a physical device on a network. The device type is reflected in the symbol table (e.g. iMAP 7400).
VLAN IF 172.16.33.1_vid3	This symbol represents a VLAN interface.
- - - - - - - -	This symbol is a dashed line that interconnects two VLAN interfaces in a VLAN. It represents logical connectivity between the two VLAN interfaces (VLAN IFs).

Each symbol on a map depicts the state of the associated component with one of six colors. Each of these colors and its meaning are listed in Table 2-3. Notice that all of the symbols shown in Table 3-1 reflect a no alarm state (green). Should some other condition exist, the green shown in the affected symbol will be replaced with an appropriate color from Table 2-3.

3.1.3 Using the Map Toolbar

The Toolbar specific to the map module is required for performing operations that are specific to maps and their display components. The Map Toolbar is displayed at the top of the right side panel of the selected map. Refer to the following figure.

FIGURE 3-2 Map Toolbar

The Map Toolbar icons and their descriptions are given in the following table.

TABLE 3-2 Map Toolbar Icons

Toolbar Option	Icon	Description for Toolbar Icons
Select Mode		Enables or disables select for objects on the map. When enabled (icon background is white), objects on the map can be selected. When disabled (icon background is gray), objects on the map cannot be selected.
Zoom Overview Window		Displays the **Zoom Overview** window. You can select a particular map symbol and click the Zoom Window tool of the Toolbar. The **Zoom Overview** window pops up displaying the exact location of the selected map symbol in the map view. This option is very useful when there are thousands of map symbols displayed in the map view, wherein you can find the exact location of the map symbol.
Zoom Mode		Enables you to select one or more map symbols for zooming. This is used for specific viewing of Map Symbols.
Zoom In		Enlarges the view of the selected map. The selected map gets zoomed at the center.
Zoom Out		Reduces the view of the selected map that has been zoomed in. With every click on the tool, the map retracts by one size.
Undo		Undoes a performed action. That is, if an action, like deleting a map symbol, is performed then you can retrieve the symbol in the map by clicking this tool.

3.1.4 Using the Panel-Specific Menu for Maps

When a Network Map is accessed, menu items appear in the Panel-Specific Menu Bar that are specific to maps. Some of the items are common to all Network Maps, while others are specific to individual maps. The items common to all Network Maps include:

- *Custom Views* - Provides the means to create and modify maps. The items include:
    - *Add New Map* - Allows you to add a custom map
    - *Delete Map* - Deletes a map
    - *Relayout Map* - Restores the layout of the map symbols to the original positions
    - *Save Map* - Saves the map information to a file
- *Edit* - Provides map editing functions. The items include:
    - *Undo Add/Delete* - Removes the previously added item or restores the previously deleted item
    - *Clear Alarms* - Clears the alarms on a selected object
    - *Delete Alarms* - Deletes the alarms associated with a selected item
    - *Order By* - Sorts the objects on the map based on specific criteria
    - *Select All* - Selects all objects on a map
    - *Search* - Searches a map for specific information
- *View* - Provides access to information on a selected object. Items include:
    - *Details* - Displays the properties associated with a selected object
    - *Events* - Displays the events associated with a selected object
    - *Alarms* - Displays the alarms associated with a selected object
    - *Performance* - Displays the performance information associated with a selected object
    - *Refresh* - Refreshes the information for a selected object

The items specific to the individual maps are described later in this section.

3.1.5 Performing Common Tasks with the Maps

Use the following table to locate the task you wish to perform. If you are using NMS, use the screen or form name as well to locate the relevant section.

TABLE 3-3 Task List for the Map

Task	Screen /Form Name (if Applicable)	Section
Using the Physical Network map	Not applicable (n/a)	(3.2.1)
Using the Routers map	n/a	(3.2.2)
Using the Failed Nodes map	n/a	(3.2.3)
Using the IP Network map	n/a	(3.2.4)
Using the VLAN Network map	n/a	(3.2.5)
Searching in a Map	n/a	(3.4.4)
Sorting Map Symbols	n/a	(3.4.1)
Searching for Elements	Search	(3.4.4)
Accessing Devices	iMAP Object Properties	(3.4.5)
Map Properties	iMAP Map Properties	(3.4.6.2)
Link Properties	iMAP Object Properties	(3.4.6.2)

3.2 The Default Maps

The default Network Maps include the following:

- Physical Network - Shows the physical interconnections in the network
- Routers - Shows the routers in the network and how they are interconnected
- Failed Nodes - Shows the nodes that currently have one or more failures
- IP Network - Shows the IP interconnections in the network
- VLAN Network - Shows the VLAN configurations in the network

Each of these maps is represented as a node under the Network Maps branch of the NMS Tree. A node can be added anywhere in the tree by specifying the parent node of the node to be added. The menu found in this panel for the parent and the child need not be the same. That is, the child can have either the same tree pop-up menu as that of the parent node or any other tree pop-up menus. This feature fulfills the *Any Node Anywhere* concept, where you can provide different types of node under a parent node.

Note: Most commonly you would place nodes where they matched the management area.

3.2.1 Physical Network Map

The Physical Network map shows the discovered devices and their physical connections. An example is shown in the following figure.
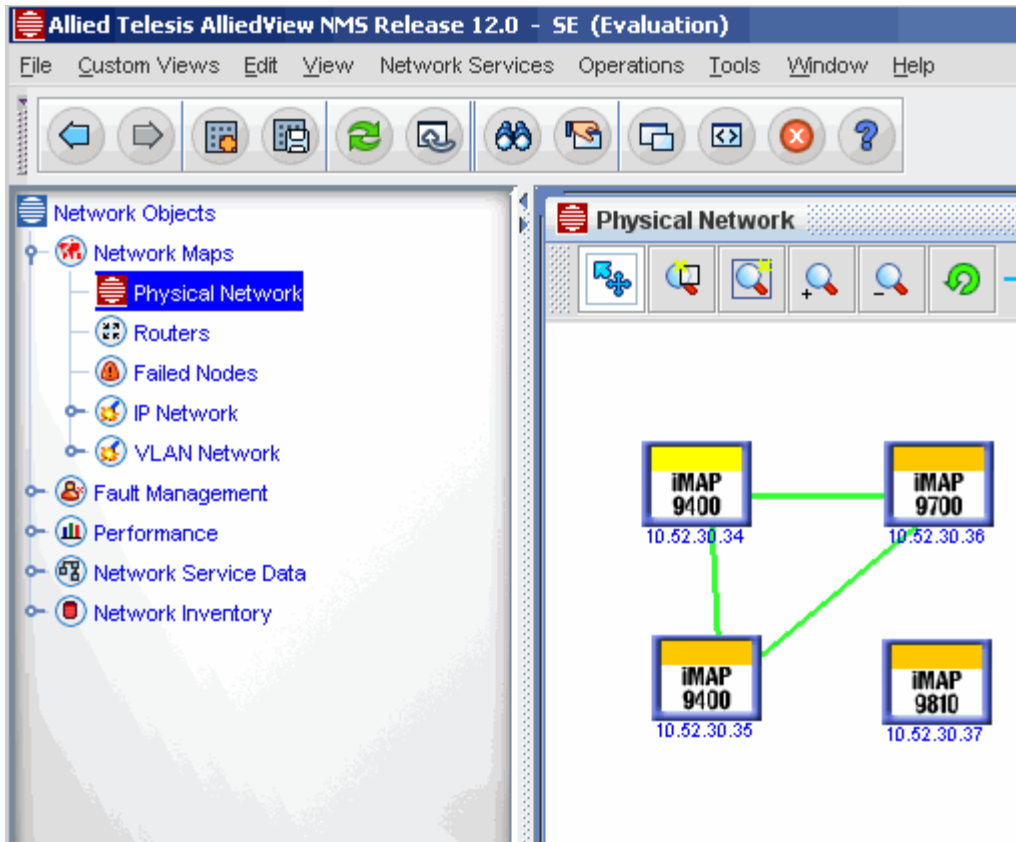
FIGURE 3-3 **Example of a Physical Network Map**

3.2.1.1 Physical Map Symbols

This map includes a physical device symbol for each discovered device. Each symbol includes the device type, a label, and a color, which represents the current criticality of the device. The physical connections are represented by a solid line on the map, which, in reality, may be one or more physical links. Since each line on the map may represent more than one physical link, the lines are referred to as link sets.

Note: *Physical connections between devices must be manually specified so that they can show up as seen in Figure 3-3. Refer to Section 6 of the AlliedView NMS Administration Guide.*

3.2.1.2 Physical Map Panel-Specific Menus

When the Network Map is selected, items appear on the Panel-Specific Menu Bar that are specific to the Physical Map. These items include:

- *Network Services* - Provides network link and VLAN functions initialized with selected node/link sets. Items include:
  - *Link Operations* - Provides the ability to add and delete Layer 2 links.
  - *Create Unmanaged Link Line* - Creates s symbolic link between two selected nodes.
  - *Audit CES Circuits* - Refer to the Admin Guide.

- *VLAN* - Provides show, create, and delete functions for VLANs, and provides access to the Network VLAN Manager.
- *QoS* - Create QoS policies that will be applied to ports.
- *Profile Menu* - Create Profiles for devices, ports, and iMG/RGs.

- *Operations* - Appears only when one or more network devices are selected and when a network object is right-clicked. It provides operational functions on the selected device or devices. Items include:
  - *View Chassis* - Displays the current chassis view for the selected device
  - *View Device Log* - Show in table format the logs for a selected device.
  - *Provision* - Provides provisioning functions for the selected device
  - *Network Services* - Provides network link and VLAN functions for the selected device
  - *Alarms/Events* - Displays the alarms or events, or a summary of the alarms and events for the selected device
  - *Performance* - Displays the performance information for the selected device
  - *View Config Comparison* - Brings up a tool to compare two config files.
  - *Discover Attached iMG/RGs* - Run discovery for the iMGs/RGs connected to the device ports.
  - *Display Switch FDB* - Display the Forwarding Database for the selected device.
  - *Telnet To Device* - Opens a Telnet session to the selected device
  - *Browse Device* - Opens a window to login to the device using its IP address. After entering an id and password, an interface (using html and javascript) opens, and allows local configuration, monitoring, managing, and diagnosing of the device.
  - *Rediscover Device* - Re-initiates discovery for the selected device
  - *Managed Object Propertie*s - Displays the MO properties for the selected device
  - *UnManage/Manage* - Sets the device to unmanaged if it is currently managed, or managed if it is currently unmanaged
  - *Update Status* - Updates the information on the selected device

- *Physical Link* - Appears only when one or more link sets are selected and when a link set is right-clicked. It provides operations and information on the selected link set or link sets. The items include:
  - *Link Operations* - Provides network link functions on the selected link set
  - *Show VLANs* - Displays all of the VLANs that are connected via the selected link set
  - *Link Alarm Events* - Display the alarms or events for the selected link
  - *Properties* - Displays the map symbol properties for the selected link set
  - *Managed Object Properties* - Displays the Managed Object Properties form for the selected link set
  - *UnManage/Manage* - Sets the link set to unmanaged if it is currently managed, or managed if it is currently unmanaged
  - *Update Status* - Updates the information on the selected device/links.

3.2.2 Routers Map

The Routers map displays all of the discovered routers on the network. An example is shown in the following figure.
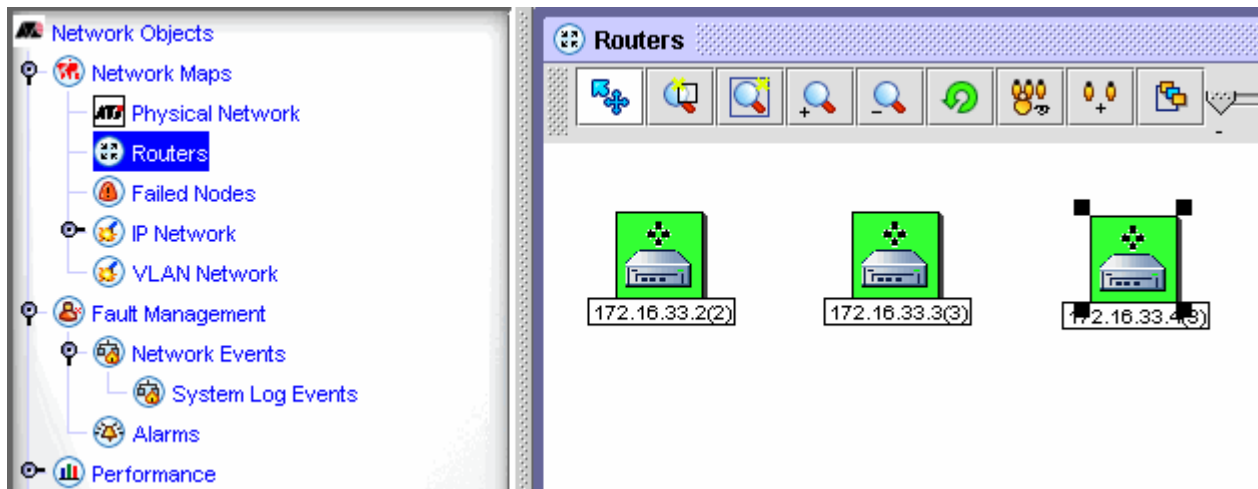
FIGURE 3-4 **Example of the Routers Map**

3.2.2.1 Router Map Symbols

The Router Map displays one router symbol for each discovered router. Each symbol has a label that identifies the router and a color that represents the current criticality of the router.

3.2.2.2 Router Map Panel-Specific Menus

When the Router Map is accessed, the *Router* menu appears on the Panel-Specific Menu Bar when one or more routers on the map are selected. The *Router* menu is also displayed when a router object is right-clicked. The *Router* menu provides various functions on the selected router or routers. The items on this menu include:

- *Router Details* - Displays the **Router Display Panel** for the selected router
- *Symbol Properties* - Displays the Symbol Properties form for the selected router
- *Managed Object Properties* - Displays the Managed Object Properties form for the selected router
- *Node Edit* - Provides the means to delete the symbol from the map or add/delete properties for the selected router
- *Delete Object and Traces* - Deletes the selected router from the map
- *Routing Table* - Displays the router table for the selected router
- *Interfaces* - Displays the interfaces for the selected router
- *TCP Table* - Displays the Transmission Control Protocol (TCP) table for the selected router
- *UDP Table* - Displays the User Datagram Protocol (UDP) table for the selected router
- *IpNetToMedia Table* - Displays the IP network to media table for the selected router
- *RMON Tables* - Displays the Remote Monitor (RMON) tables for the selected router
- *Events And Alarms* - Displays the alarms and events for the selected router
- *Telnet to device* - Initiates a Telnet session on the selected router
- *SnmpMonitor* - Starts the Simple Network Messaging Protocol (SNMP) monitor on the selected router
- *Performance* - Displays performance information for the selected router
- *UnManage/Manage* - Sets the link set to unmanaged if it is currently managed, or managed if it is currently unmanaged
- *Update Status* - Updates the status information on the selected router

3.2.3 Failed Nodes Map

The Failed Nodes map displays all nodes that have reported a major or critical failure. This map can be used to view all devices that are in such an alarm state. An example is shown in the following figure.
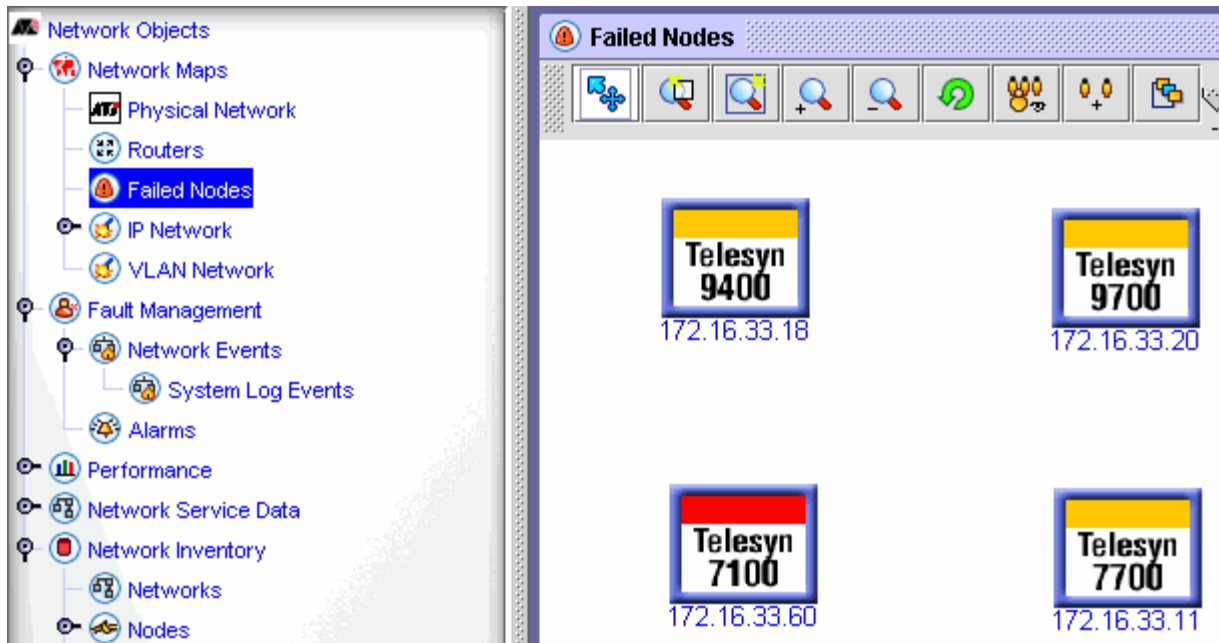
FIGURE 3-5 Failed Nodes

3.2.4 IP Network Map

The IP Network Map shows the configuration of the discovered IP networks. This map can be used to get a high-level view of the state of your networks. An example is shown in the following figure. Below the IP Network node in the NMS Tree may be one or more subnet maps. These maps narrow the view to a subnet. Clicking on any of the subnet map nodes will display a similar map for the selected subnet.
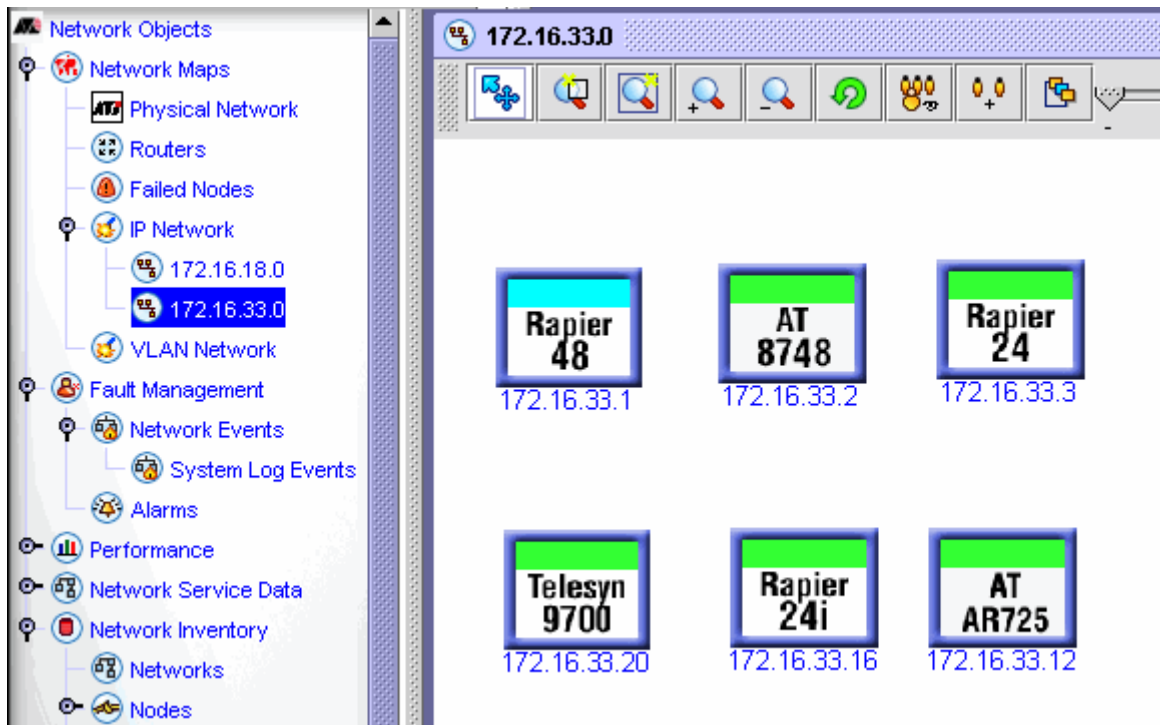
FIGURE 3-6 **Example of the IP Network Map**

3.2.4.1 IP Network Map Symbols

The IP Network Map uses the following symbols:

- Network - One symbol exists for each discovered network.

- Router - Represents a discovered router.

- Logical Connection - A solid line that interconnects the objects. Although identical in appearance to the physical connection symbol in the Physical Network map, this symbol represents a logical connection in the IP Network map and not a physical link set.

3.2.4.2 IP Network Panel-Specific Menus

When the IP Network map or one of its submaps is accessed, items appear in the Panel-Specific Menu Bar that are specific to IP Network maps. These menu items include:

- *Network* - Appears when one or more network objects are selected on the map or when a network icon is right-clicked. It performs various functions on the network object. The items include:
  - *Open Submap* - Displays the submap for the selected network
  - *Symbol Properties* - Displays the map symbol properties for the selected network
  - *Managed Object Properties* - Displays the Managed Object Properties form for the selected network
  - *Node Edit* - Provides the means to delete the symbol from the map or add/delete properties for the selected router
  - *Delete Object and Traces* - Deletes the select network object
  - *Stop Discovery* - Stops the discovery process for the selected network
  - *UnManage/Manage* - Sets the link set to unmanaged if it is currently managed, or managed if it is currently unmanaged
  - *Update Status* - Updates the status information for the selected network

- *Operations* - Appears when one or more router objects are selected or when a router object is right-clicked. This menu is the same as the *Operations* menu in the Router Map (refer to 3.2.2.2).

- *Linkmenu* - Appears when one or more link objects are selected or when a link is right-clicked. This menu provides access to information on the link. Items include:

  - *Properties* - Displays the map symbol properties for the selected link

  - *Managed Object Properties* - Displays the Managed Object Properties form for the selected link

  - *Delete Object and Traces* - Deletes the selected link

  - *Add/Delete Property* - Adds or deletes a property for the selected link

  - *UnManage/Manage* - Sets the link set to unmanaged if it is currently managed, or managed if it is currently unmanaged

  - *Update Status* - Updates the status information for the selected link

3.2.5 VLAN Network Map

The VLAN Network Map shows the configuration of discovered VLANs. This map can be used to get a high-level view of all the VLANs in your network and their Layer-3 (IP) connectivity. An example is shown in the following figure.

Note: *To have a VLAN network map with links, these links must be already configured. Refer to Section 6 of the AlliedView NMS Administration Guide.*
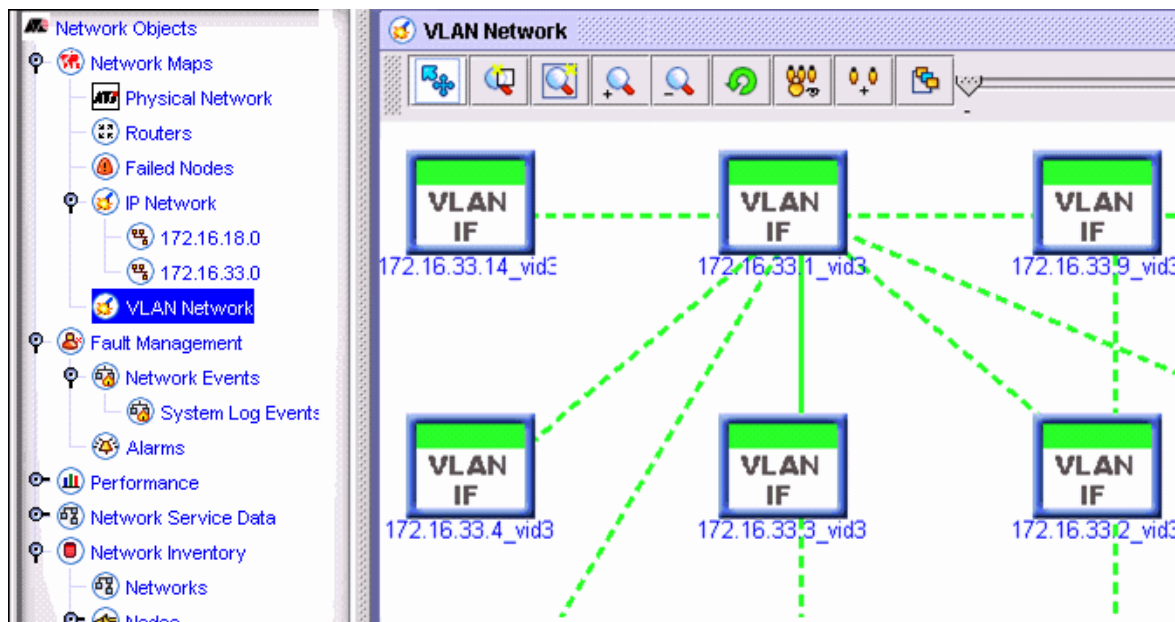
FIGURE 3-7 Example of the VLAN Network Map

Below the VLAN Network node in the NMS Tree may be one or more VLAN maps that show a single subnetwork or VLAN. These maps narrow the view to a specific Layer-2 subnetwork. Clicking on any of the VLAN map nodes will display a similar map for the selected VLAN.

3.2.5.1 VLAN Map Symbols

The VLAN Network map uses the same symbols as the IP Network map to show the VLAN configurations. These symbols include:

- Networks
- Routers

- Logical Connections (solid lines)

The VLAN Network submaps use the VLAN interface symbols and the VLAN connection symbols (dashed lines) to show VLAN configurations.

3.2.5.2 VLAN Network Panel-Specific Menus

When the VLAN Network map is accessed, items appear in the Panel-Specific Menu Bar that are specific to the VLAN Network map. These menu items include:

- *VlanNetwork* - Appears when one or more network objects are selected in the map. This menu provides functions on the VLAN networks. The menu items include:
  - *Open Submap* - Displays the submap for the selected network
  - *Symbol Properties* - Displays the map symbol properties for the selected network
  - *Managed Object Properties* - Displays the Managed Object Properties form for the selected network
  - *Alarms/Events* - Displays the alarms or events, or a summary of the alarms and events for the selected device
  - *UnManage/Manage* - Sets the link set to unmanaged if it is currently managed, or managed if it is currently unmanaged
  - *Update Status* - Updates the status information for the selected network
- *Operations* - Appears when one or more router objects are selected in the map. This menu is the same as the *Operations* menu in the IP Network map. Refer to 3.2.4.2.
- *Linkmenu* - Appears when one or more link objects are selected in the map. This menu is similar to the ***Linkmenu*** menu in the IP Network map. Refer to 3.2.4.2.

3.2.5.3 VLAN Network Submap Panel-Specific Menus

When a VLAN Network submap is accessed, items appear in the Panel-Specific Menu Bar that are specific to the VLAN Network submaps. These menu items include:

- *VLAN Operations* - Appears when a VLAN Network submap is displayed in the NMS Display Panel. This menu performs operations on VLANs and the VLAN submaps. The menu items include:
  - *Delete VLAN* - Deletes a VLAN. Refer to the *NMS Administration Guide*.
  - *Map Properties* - Displays the Object Properties form for the map.
- *VLAN Interfaces* - Appears when one or more VLAN interface objects are selected on the map. This menu performs various operations on VLAN interfaces. The menu items include:
  - *Configure VLAN Interface* - Configures the selected VLAN interface. Refer to the *NMS Administration Guide* for information on configuring VLAN interfaces.
  - *Extend Vlan* - Extends a VLAN. Refer to the *NMS Administration Guide* for information on extending VLANs.
  - *Managed Object Properties* - Displays the Managed Object Properties form for the selected VLAN interface.
  - *Alarms/Events* - Provides alarm and event information for the selected VLAN interface.
  - *UnManage*/*Manage* - Marks the selected interface as unmanaged if it currently is being managed, or as managed if it is currently unmanaged.
  - *Update Status* - Updates the status information on the selected VLAN interface.
- *VLAN Link* - Appears when one or more VLAN logical connection objects are selected in the map. This menu provides various operations on the VLAN links. The items include:
  - *Delete Vlan Link* - Deletes the selected VLAN link. Refer to the *NMS Administration Guide*.

- *Properties* - Displays the Symbol Properties tab of the Object Properties form for the selected VLAN link.

- *Managed Object Properties* - Displays the Managed Object Properties form for the selected VLAN link.

- *UnManage/Manage* - Sets the link set to unmanaged if it is currently managed, or managed if it is currently unmanaged.

- *Update Status* - Updates the status information for the selected network.

3.3 Custom Views

Refer to 8.4 for a list of properties that are commonly used to create meaningful custom views.

3.4 Using the Network Maps and Symbols

3.4.1 Sorting Map Symbols

To arrange the map symbols and facilitate the viewing of map symbols in maps, you can use the sort option. To sort the map symbols, select *Edit->OrderBy* from the Panel-Specific Menu Bar, and then specify a criteria**.** You can sort the map symbols as you wish based on the criteria in the following table.

TABLE 3-4 Sorting Criteria for Map Symbols

Criteria for Sorting	Description for Sorting Criteria
name	Sorts the map symbols based on their *names*. Order of sorting is ascending American Standard Code for Information Interchange (ASCII).
label	Sorts the map symbols based on the symbols' *label* values. Order of sorting is ascending ASCII.
objName	Sorts the map symbols based on the name of the managed object that is represented by the symbol.
status	Sorts the map symbols based on the status of the managed objects represented by the symbols. Order of sorting is from *critical* to *clear,* meaning critical symbols will be positioned first followed by symbols of lower severity.
objType	Sorts the map symbols based on the type of the managed object represented by the symbols. (Node, Network, Router, Switch etc.)

Note: *The sorting of map symbols will not take place once you save the map. This is because sorting occurs only for the symbols whose anchor property is set to False. When you save a map, the anchor property of all symbols is set to True and so the sorting will not occur.*

3.4.2 Managing and Unmanaging Elements in the Map

Managing an element means that you are making the NMS monitor the element, while unmanaging an element means that you are making the NMS stop monitoring the element. Every object in the map has a symbolic representation of a network element, so the user can manage or unmanage elements as needed.

A selected map symbol can be made managed or unmanaged either by selecting the map symbol and then selecting the *Operations->Manage* or *Operations->UnManage* from the Panel-Specific Menu Bar, or by right-clicking the map symbol, and then selecting *Manage* or *UnManage*. The actual option selected will depend on whether the selected map symbol is currently in the managed or unmanaged state (it is a toggle operation).

Once a selected map symbol is made managed, you can find the icon displayed against the selected map symbol in the color that reflects the severity status of the device. The same icon becomes gray in color when the selected device is made unmanaged.

Note: *When the NMS has discovered an object (device) but it is not yet being managed (monitored), it will have a gray color. Double-clicking the device will cause the message **No Data** to appear in the console. (Refer to 2.2.1 on how to enable the console.) Since the device has been*

> *discovered, selecting the **Network->Manage** from the Panel-Specific Menu Bar will load the data and change the device color to reflect the device severity status.*

3.4.3 Drilling Down

Drilling down into a network means exploring the details of a network element displayed in a map. Each displayed network element is represented by a network icon in the displayed map. The network layout of this network element gets displayed as a submap by double-clicking the corresponding network icon. In this way, you can retrieve the information of all the elements of the sub networks, which are represented pictorially in the sub maps. The displayed map may contain certain sub maps of the displayed networks.

3.4.4 Searching for Elements in a Map

You can search for elements in a map based on certain match criteria. For example, you can search all elements displayed in the current map based on the element's label name. This section describes how you should go about searching for an element in a map. The search is made on all the elements in the current map displayed on the interface.

The search option can be invoked by selecting ***Edit->Search*** from the Menu-Specific Menu Bar, or by clicking

the **Find** button ( ) in the Toolbar. The result is the following figure.
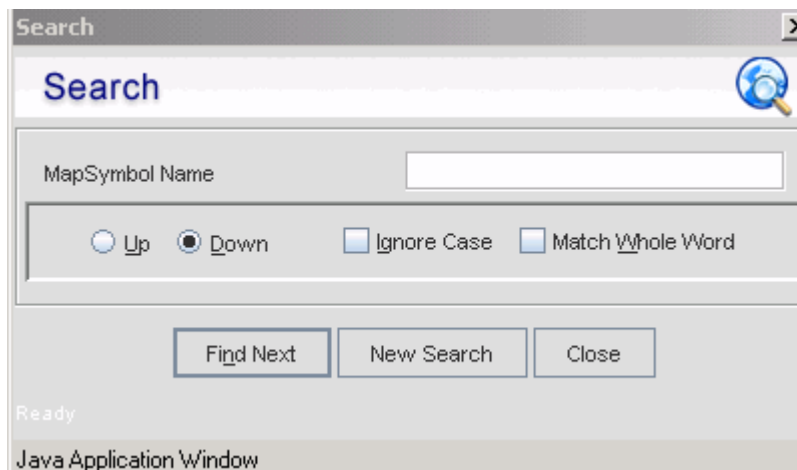
FIGURE 3-8 Find/Search Form

In the **Find** form, enter the label name in the **Symbol label** text field available in the search screen and click **Find next**. You can skip a particular map by choosing the **Next map** button, which moves to the next map available in the NMS Tree.

The **Up** and **Down** radio buttons can be used to notify the direction in which the search is to be performed. To search for an element in a map, you can also use the **Ignore case** option and the **Match whole word** option for an easy search. The **New search** button resets the values on the search form to the defaults. The **Close** button closes the search window, and the **Help** button displays the help document *Searching for Elements in Map Views*.

3.4.5 Accessing Devices (Managed Object Properties)

When a network is discovered, all the devices that are discovered in that network are represented as symbols in the submap associated with each network. When devices are discovered, their symbols are added to the submap. Each device has properties associated with it. The property details of every device that has been discovered can be viewed by displaying the device Object Properties form.

The Object Property form is a tabbed panel that contains the tabs **Managed Object Properties** and **Symbol Properties**. The details, such as a description of the element status, the device name, the display name, the device

status, whether the device is managed or not, etc., are given in the Object Properties form. You can access the device Object Property form by clicking its symbol, and then selecting *View -> Details* from the Panel-Specific Menu Bar, or by right-clicking the device symbol, and then and selecting the *Managed Object Properties* option.

The Object Property form is the same for all network elements. The following figure shows a sample Object Properties form.

Note: For a complete list of MO attributes and examples, refer to Section 8.

FIGURE 3-9 Object Properties Form

Note: The communication and inventory details (placed together as Advanced Device Information) of the discovered devices can also be accessed. All these details are given as tables. The tabular information derived from the SNMP Agents associated with these devices is defined in

the RFC 1213 MIB, Bridge-MIB, and in the Printer MIB. These details are presented in ***Advanced Device Information*** *in the NMS Administration Guide. The advanced device information details how the packets traverse in a network.*

The **Managed Object Properties** fields can be entered in both the map view and the Network Inventory view.

3.4.6 Viewing Map and Symbol Properties

3.4.6.1 Map Properties

The Map Properties form contains the map properties, such as its name, label, image name, etc. The details can be viewed and modified, if necessary, by double-clicking on the map or by selecting ***View->Details*** from the Panel-Specific Menu Bar when no objects on the map are selected. The various map properties that are displayed are shown in the following figure.

FIGURE 3-10 Map Symbol Properties Form

The following table lists the map properties while the next table lists the map criteria properties that appear after clicking **Next** on the properties form.

TABLE 3-5 Map Properties

Property	Description for Map properties
Name	The unique name of the map, which is non-editable.
Label	The label of the map, which is displayed in the tree.
TreeIconFileName	The icon that is to represent the map in the tree.
ImageName	The image that appears as the background of the map.
MapLinkRenderer	The name of the renderer for the links placed in the map.
MapSymbolRenderer	The name of the renderer for the symbols placed in the map.
CurrentTopology	The name of the renderer for the symbols placed in the map.
Anchored	A checkbox that specifies whether the map symbols are anchored. If checked, the user cannot edit, cut, or copy any map symbols, links, etc.
AutoPlacement	A checkbox that specifies whether the map symbols are to be placed automatically. If checked, the symbols are placed automatically.
HelpDoc	The URL of the help document to be invoked for the help option of this map.

TABLE 3-6 Map Criteria Properties

Property	Description for Map Criteria Properties
MenuName	The panel-specific menu configuration file

3.4.6.2 Link Properties

Links represent the connection between two objects. The Object Properties form consists of properties such as name, label, source, destination, etc. It also contains the object-related properties and the user-related properties. The following figure shows a sample Object Properties form for a link.

FIGURE 3-11 Link Symbol Properties Form

The Symbol Properties tab in the Object Properties form are shown in the following table.

TABLE 3-7 Symbol Properties for Links

Property	Symbol Property for Links
Name	A unique name for the map link. This property cannot be edited.
Label	The label of the map link.
ObjName	The name of the managed object with which the map link is associated.
Source	The name of the starting map symbol from where the link starts.
Destination	The name of the destination map symbol where the link ends.
MapName	The name of the map on which the link is placed. This property cannot be edited.
MenuName	The name of the object-specific menu configuration file.

TABLE 3-7 Symbol Properties for Links (Continued)

Property	Symbol Property for Links
ObjType	The type of the managed object from the combo box.
LinkType	The type of link that is to be rendered in the map. That is, based on the value specified for the LinkType, the desired type of link can be rendered in the map.
Status	The severity of the symbol is mentioned here. This property cannot be edited.
Managed	A checkbox that indicates whether the object is managed by the NMS. If checked, the object is managed.
Thickness	The thickness of the link line.
OwnerName	The name of the owner to whom the link belongs.
Type	The type of the link.
iconName	The name of the icon that is to represent the link in the Network Inventory.
X	The X coordinate value of the position of the Map Link.
Y	The Y coordinate value of the position of the Map Link.
ParentName	The name of the parent in the NMS Tree.
Anchored	A boolean that indicates whether the object is anchored on the map. If set to true, the object is anchored.

3.4.6.3 Network Object Properties

The Object Properties form that is displayed for network objects includes symbol and managed object properties. The following figure shows a sample Symbol Properties form for a network symbol.

FIGURE 3-12 Network Symbol Properties Form

The following table lists the Symbol Properties for network objects.

TABLE 3-8 Symbol Properties for Network Objects

Property	Symbol Properties for Network Objects
Name	A unique name for the map symbol. This property cannot be edited.
Label	The label of the map symbol.
ObjName	The name of the managed object for which the map symbol is added.
MapName	The name of the map on which the symbol is placed. This property cannot be edited.
IconName	The name of the icon that represents the map symbol.
MenuName	The name of the object-specific menu configuration file. You can change the menu file at run time.

TABLE 3-8 Symbol Properties for Network Objects

Property	Symbol Properties for Network Objects
ParentName	The name of the parent in the tree.
ObjType	The type of the managed object from the combo box.
Status	The severity of the symbol is mentioned here. This property cannot be edited.
Managed	A checkbox that sets the object to managed/unmanaged. When checked, the object is managed.
Discover	A checkbox that enables/disables object discovery. When checked, discovery is enabled.
Anchored	A checkbox that sets the object to anchored/unanchored. When checked, the object is anchored, which means the symbol is not handled by the map layout. For example, you can move the symbol anywhere in the layout. When you zoom in, it won't be in the moved position; that is, it remains in its original position.
X	The X coordinate value of the position of the map symbol.
Y	The Y coordinate value of the position of the map symbol.
Height	The height of the map symbol image.
Width	The width of the map symbol image.
OwnerName	The name of the object owner.
Type	The object type.

3.4.6.4 Container Object Properties

Containers are created in a map and contain different map symbols. The map symbol, whose container name is specified against the parentName property in the form, is encapsulated in a specific container. The following table lists the properties for containers.

TABLE 3-9 Container Object Properties

Property	Description for Container Properties
containment	A boolean that indicates whether the symbols inside the container should truly be contained within the boundaries of the container. If the value is set to True you cannot move any of the symbols outside the boundaries of the container (meaning containment is true). If it is set to False you can move symbols outside the boundaries and still they will be children objects of the container with their ParentName referring to the container object.
layout	The layout of the map symbols that are contained in the container. You can change the layout as per your requirement.
currentlayout	The current layout of the map symbols of the container.

3.4.7 Monitoring and Controlling Devices

3.4.7.1 Overview

A Network Manager must be informed on the state of every device on the networks that he or she is monitoring. The Network Manager receives network notifications about the state of every managed device. These notifications are either unsolicited messages sent either by the agent in the device or through status polling techniques configured by the Administrator. These malfunctions or faults are acknowledged by the NMS as generated events and alarms. You can view the generated events and alarms for a MO by selecting the corresponding map symbol displayed in the map. This can be accomplished by selecting *View->Events* or *View->Alarms* from the Panel-Specific Menu Bar. On selecting the required menu item (i.e., *Events* or *Alarms*) from the Panel-Specific Menu Bar, the corresponding panel is displayed, which contains the generated events or alarms of the selected map symbol.

3.4.7.2 Accessing Alarms for Device

You can view the alarms generated for the MOs by selecting the corresponding map symbols displayed in the map and selecting *View->Alarms* from the Panel-Specific Menu Bar. On clicking this menu option, the Alarms panel (under Fault Management) of the NMS Tree gets selected, displaying the last generated alarm and its severity status for the selected map symbol.

You can also right-click on a device, and then select *Alarms/Events - > Alarms* from the pop-up menu.

3.4.7.3 Accessing Events

You can view the events generated for the MOs by selecting the corresponding map symbols displayed in the map and selecting *View->Events* from the Panel-Specific Menu Bar. On selecting this menu option, the Network Events panel (under Fault Management) of the NMS Tree is selected, displaying the list of generated events over a period of time for the selected map symbol.

You can also right-click on a device, and then select *Alarms/Events - > Events* or *Alarms/Events - > Summary* from the pop-up menu.

3.4.7.4 Accessing Statistics

You can retrieve polled data collected for the MOs by selecting the corresponding map symbols displayed in the map and selecting *View->Performance* from the Panel-Specific Menu Bar. Based on the collected statistical data, the performance of the selected device can be monitored for a given time period. On selecting this menu option, the Configured Collection panel (under Performance) of the NMS Tree is selected, displaying the created polled data for the selected map symbol.

You can also right click on a device, and then select *Performance* from the pop-up menu.

3.4.7.5 Updating Status

To poll an element for its status, you can right click on the element, and then select *Update Status* from the pop-up menu. This menu item enables the user to view the status of the selected map symbol despite the set polling period. You can also select the symbol on the map, and then select *Operations->Update Status* from the Panel-Specific Menu Bar.

4. Using the Fault Management View

4.1 Overview

Views are used in the AlliedView NMS to display information related to a specific aspect of network management, such as network events. The Fault Management view is a default view that displays information related to events, system logs, and alarms. In addition to the Fault Management view are two other default views: Performance and Network Inventory. These views display additional information on the network and are described later in this document. This section focuses on the Fault Management view and how it is used.

Network Events are entities that represent the various happenings in the network devices. Events can convey general information or the current status of the devices in a network. Working with the NMS, the user can know the history of a device by browsing through the Event Viewer in the client. The Event Viewer provides a wide range of features to the user in extracting the required information from the Network Events.

System logs are indications from individual devices that some change has occurred on the device. It may be a minor change in which case the log merely provides information, or it may be a significant change that requires attention, such as an alarm or failure. The System Log Events viewer, which is a subview of the Network Events view, provides a wide range of features to the user in extracting the required information from the system logs.

Alarms are generated when a failure or fault is detected in the network devices. The generated Alarms are displayed in the Alarm Viewer. The Alarm list containing alarms of various severity levels, such as critical, major, minor, clear, etc., can be viewed in the Alarm Viewer. The Alarm Viewer provides a wide range of features to the user in extracting the necessary information from the Alarms and viewing them in a specific way.

4.2 The Network Event View

This Event Viewer gets displayed on selecting the Network Events Panel under Fault Management of the NMS Tree as shown in the following figure.

FIGURE 4-1 Network Events Main Panel

As shown in Figure 4-1, the Network Events view presents information on all events that have occurred on the network.

Note: The **Node clear. No failures on this node** *event indicates the node was successfully polled and that the results show a previous failure on the node has cleared. When this event occurs, if no other alarm conditions exist on the node, the alarm severity for the node will change to green. However, if another alarm exists on the node, such as a Threshold Crossing Alarm (TCA), the alarm severity of the* **Node clear. No failures on this node** *event and the node will reflect the severity of the persisting alarm even though the event indicates no failures on the node. Please keep in mind that the Node clear. No failures on this node event means that all failures have been cleared on the node and not that all alarms have been cleared.*

4.2.1 Panel-Specific Menus for Views

As with Network Maps, the Panel-Specific Menu Bar is available for each view. Some of the menus are common to all views, while others are specific to an individual view. The relevant menus appear when a view is displayed in the NMS Display Panel.

4.2.1.1 Panel-Specific Menus Common to all Views

The panel-specific menus that are common to all views include:

- File
- Custom Views
- Tools
- Window
- Help

The *File*, *Tools*, *Window*, and *Help* menus are the same menus that appear for Network Maps. These menus are described in 2.4.1.2. Although the *Custom Views* menu also appears for Network Maps, the items in this menu are different for views. For views, the items in the *Custom Views* menu include:

Add Custom View - Adds a custom view to the NMS Tree (custom views are described later in this document)

Remove Custom View - Removes a view from the NMS Tree

Modify Custom View - Modifies the filtering criteria for a view

Save Custom View State - Preserves the state of the current view displayed in the NMS Display Panel

Rename Custom View - Renames a view

4.2.1.2 Panel-Specific Menus for the Network Events View

When the Network Events view is displayed in the NMS Display Panel, the following menu items appear in the panel-specific menu that are specific to the Network Events view:

- *Edit* - Provides editing functions for the view. Items include:
  - *Configure* - Provides configuration functions for trap and event parsers, and for event filters.
  - *Search* - Provides a search function for the view (refer to 4.2.2.1).
  - *Export Table Data* - Provides an export function for all of the view data. The data may be exported to a file (in delimited tabular form) or to a Web browser. The data may also be filtered. Refer to the *NMS Administration Guide* for more information.
  - *Export Selected Rows* - Provides an export function for selected rows in the view data. Refer to the *NMS Administration Guide* for more information.
  - *Schedule Event Export* - The Events in the View can be exported to a file now or at a later time. There is a separate subsection (4.2.1.3) to explain this feature.
- *View* - Provides additional display functions for the view. Items include:
  - *Event Details* - Brings up the Event Details Form, where attribute values can be seen.

- *Source Details* - Brings up the Details Form, except as follows:

  - For the VLAN IF, the Chassis View appears.

  - For the iMG/RG, the Triple Play Service Management Form appears

  - For a port, brings up the Port Menagement Form

- *Alarms* - Provides alarm information specific to the selected event.

Note: Selecting this option will take you to the Alarms view.

- *Refresh* - Refreshes the view information.

- *Actions* -

  - *Save To File* option, which saves the event information to a file.

  - *Export Events* -

4.2.1.3 Schedule Event Export

The menu item *Schedule Event Export* exports the event view to a file either now or a later time. Figure 4-2 shows the form that is displayed.

FIGURE 4-2 Export Scheduler Task Window

This form is similar to other scheduling forms. Note the following:

- The words DATE and TIME in the Export Destination will be replaced by the date and time on the server when the schedule is executed and the names of files generated will have the actual date and time.

- Separator fields work the same way as they do in on-demand table data export and the selected separator will be used when the data is exported to text files.

- Match criteria fields (options) available on the screen are very similar to those in on-demand Events/Alerts Table Data Export.

- One new option in match criteria used instead of dates allows the user to select number of previous days within a range to be included in each of the scheduled export. The criteria is **Days/Range** and **within**.

  For example, the user may set a schedule to export of all critical events every day by selecting Recurring radio button and every day of the week checkboxes and set the Days/Range option to 1 to export daily data

every day. For every week by the user would select one day in the Recurring schedule and set the Days/Range to 7 to export data for the past seven days once every week.

- The output files generated by each export are very similar to those generated by on-demand Events/Alerts Table Data Export. In the scheduled export there will be a new file every time the schedule is executed.

All schedule fields are the same as used in other schedule related operations such as NMS backup.

4.2.2 Navigating in a View

By using the Navigation Panel, the user can help isolate specific items in a view. Refer to the following figure.
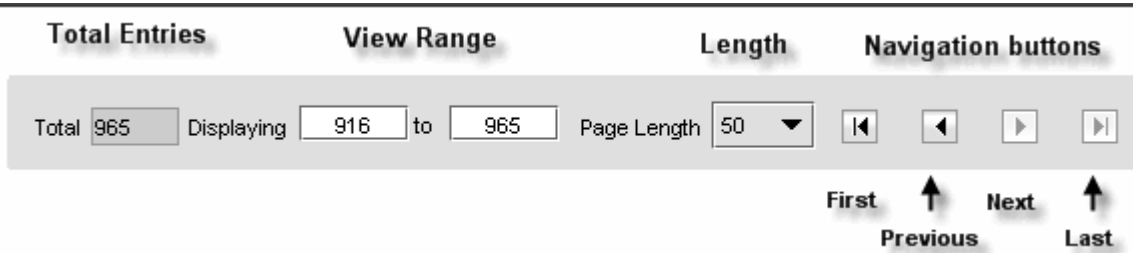

FIGURE 4-3 **Navigation Panel**

The Navigation Panel button functions are as follows:

- First – View the first page of the items
- Previous – View the previously viewed frame
- Next – View the next frame of items
- Last – View the last frame of items

The range of items to display is controlled by the View Range fields. You can also use the drop-down list to use the default ranges available.

You can sort the items based on the column type by clicking on the column. There are two types of sorting:

- Server **–** By clicking on the column, you sort the complete data. Clicking on the column again will toggle the ascending to descending. The sort indicators for server-side sorting for ascending and descending are ▼ and ▲, respectively
- Client – By pressing and holding the Ctrl key, and then clicking the column, you sort the client-side data. The sort indicator for client side sorting for ascending and descending are ▼ and ▲, respectively.

You can combine both in one column by performing both types of sorts. You can also reorder the columns by dragging a column header to the right or left.

Note: *When starting the client and opening the Network Events or Alarms panel for the first time, you will see the last page with the most recent events or alarms shown. Click the Date column twice, then click the First Page button, so that the most recent events or alarms appear on the first page in descending order (most recent event or alarm first).*

Note: *Sorting on IP Addresses results in lexical order, not numeric.*

4.2.2.1 Searching in a View

To search for specific items in a view, select *Edit -> Search* from the Panel-Specific Menu Bar, or click the

Search button (🔍) in the Toolbar. This will display the search window shown in the figure, which will allow you to specify the search criteria.
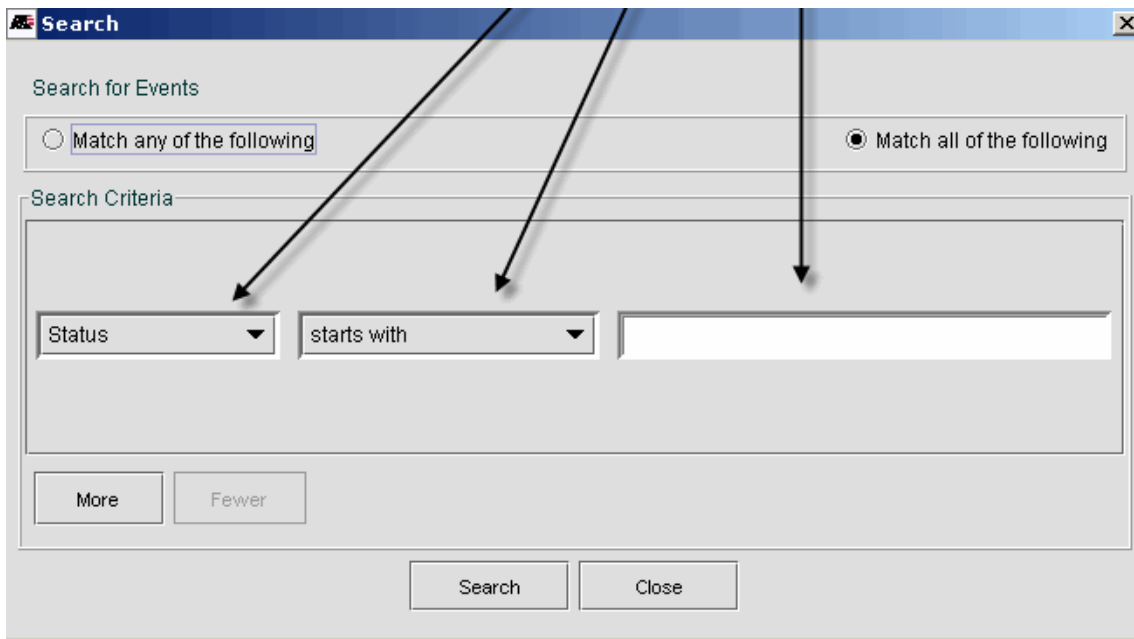
FIGURE 4-4 **View Search Window**

You can choose whether all the criteria or any of the criteria should match by clicking the **Match any of the following** or the **Match all of the following** radio button.

Each criteria is defined as the column name, a search pattern qualifier, and the search pattern. The column name can be selected from a drop-down list of the column names displayed in the current view. The search pattern qualifier can be selected from a list of the following:

- starts with
- doesn't start with
- ends with
- doesn't end with
- contains
- doesn't contain
- equals
- not equals

The search pattern is the string to be matched in the search and is simply typed into the text box. To add additional criteria, click **More**. To begin the search, click **Search**.

When **Search** is clicked, the entries matching the search criteria will be displayed in the view, and the **Show All** button will appear to the right of the navigation buttons. (If no entries match the criteria, the view display will be blank.) To restore all of the entries in the view, click the **Show All** button.

Note: Searching on Date will result in incorrect match on current date.

The following behavior may be observed when searching on the Message column in Syslog Events:

- using the search pattern qualifier "starts with" or "ends with" takes a while to complete
- using the search pattern qualifier "equals" yields an empty result set
- using the search pattern qualifiers "doesn't start with", "doesn't end with", and "not equals" returns all messages including those that do not meet the criteria.
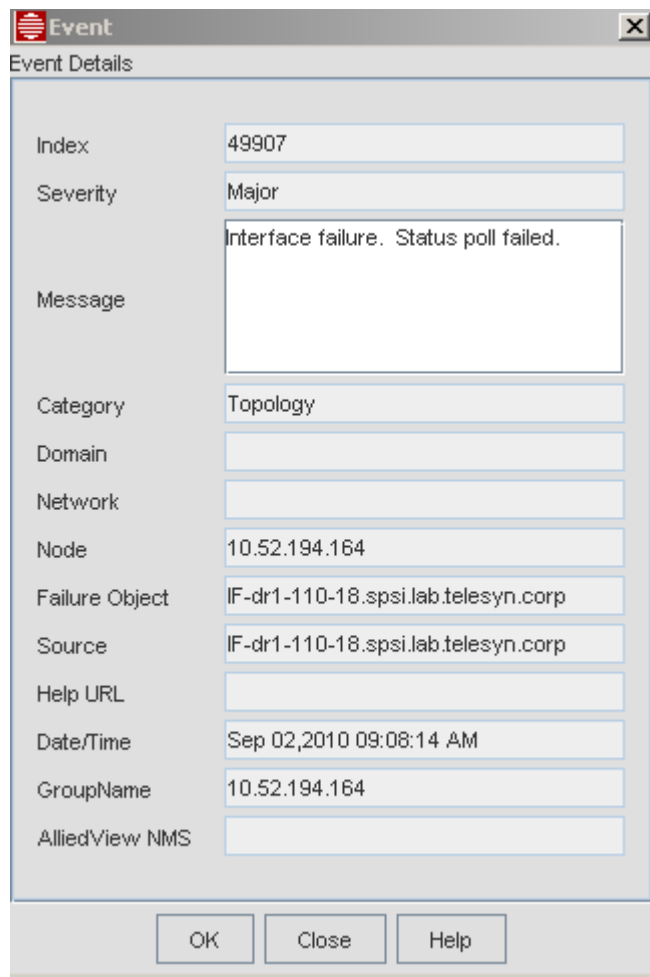
4.3 Creating Custom Views for Events

Refer to 8.4.10 a list of properties that are commonly used to create meaningful custom views.

4.4 Event View Tasks

4.4.1 Specify Event Details

Event Details gives detailed information about the properties of the event that is selected from the displayed Event viewer. The properties are displayed in the Details form in which you can view properties such as Severity, Message, Category etc.

By double-clicking any part of an event displayed in the Event Viewer, you can view the event property details. You can also select *View->Details* from the Panel-Specific Menu Bar to retrieve the property details after selecting the event. (The selected event will turn dark gray.) This brings up the Event Details form showing the common criteria, as shown in the following figure.

FIGURE 4-5 Event Details Form

The following table lists the properties and their values.

TABLE 4-1 Event Detail Properties

Property	Description for Event Detail Properties
Index	A unique index number to every generated event.
Severity (Class)	The severity of the event to be filtered can be assigned here using the combo box. Multiple severity can also be assigned by separating them using comma.
Message	A property in the event object which stores any important additional information of the event. If you want to view the event with a particular message, then you may fill the message in this field, which will display the events with the corresponding message.
Category	The text that appears in the Category column if it is displayed.
Domain	Any domain-specific information based on physical location, functional categorization, or logical categorization of the source of the event.
Network	Information about the network to which the source of the event belongs is specified here.
Node	Any additional information about the source, or the source itself, of the event.
Failure Object	Information about the specific entity within the source of the event, which is primarily responsible for the occurrence of this alarm. The name of the failure object to be filtered can be given in this field.
Source	Information about the source of the alarm. The source based on which alarms are to be filtered can be given in this field.
Help URL	The URL of the help document related to the event, which is reached through the Help button at the bottom of the event details sheet.
Date/Time	An date/time after which events that occur are displayed in the custom view. In other words, events that occur after this date/time are displayed.
AlliedView NMS	The name of the AlliedView NMS.

4.4.2 Saving Events to a File

The event information displayed in a Network Events map can be saved to a file by selecting *Actions->Save To File* from the Panel-Specific Menu Bar or by clicking the **Save** icon ( ) in the Toolbar. This will display the **Save Event file on Remote Server** window shown in the following figure.
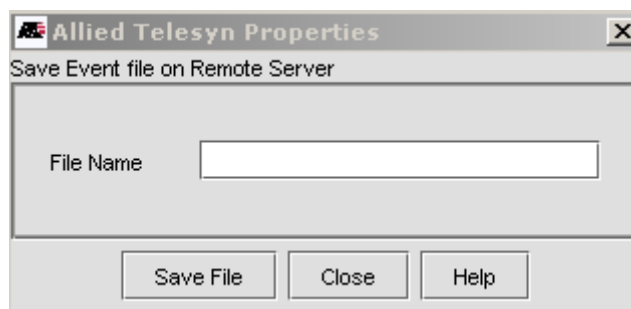

FIGURE 4-6 Save Event file on Remote Server Window

To save the information, type a file name in the File Name field, and then click the **Save File** button. A confirmation dialog box will appear indicating that the file was saved. You will find the file in directory `<Web NMS Home>/state`. The file will be an ASCII file that contains the event information in a colon-separated (:) list as shown in the following figure. You can open and view the file using any ASCII file editor, such as Notepad or vi.

FIGURE 4-7 Sample Event File

When saving these files, the AlliedView NMS sets as the default directory the `<NMS Home>/state` directory, so the file as entered in Figure 4-6 would be stored as:

            `<NMS Home>/state/NetEvents-AUG2003`

If the user wishes to store the file in another directory, the path included must be relative to the default path. For example, if the user wishes to save the file in the <NMS Home>/conf directory, the user would enter

            `../conf/NetEvents-AUG2003`

This will be shown in the status message when the file is successfully saved.

4.4.3 Configuring Trap Parsers

Configuring a trap parser is done to create and refine the information received from a trap (a specific unsolicited report by a device).

Configuring trap parsers can be done by using the information in the MIB to set the match criteria or by defining the configuration and saving it to a file.

To configure a trap parser, select *Edit -> Configure > Trap Parsers* from the Panel-Specific Menu Bar for Network Events.

Caution: Configuring Trap Parsers is an Administrator task. For information on adding, modifying, and deleting Trap Parsers, refer to the NMS Administration Guide.

4.4.4 Configuring Event Parsers

When an event arrives into Web NMS, the event parsers list is checked to see whether the incoming event satisfies the match criteria of the event parser. If the event parser matches, the event is passed through the corresponding event parser. The outgoing event from the parser is then matched with the remaining set of parsers (if any, in sequence). If there are any matches, the event will be passed through those parsers. This process will continue until there are no parsers left to be scanned.

Configuring Event Parsers can be done by defining the Event Parser or the information or defining the configu-
ration and saving it to a file.

To configure an event parser, select *Edit -> Configure > Event Parsers* from the Panel-Specific Menu Bar for
Network Events. The Event Parser Configuration form will appear as shown in the following figure.

**Caution: Configuring Event Parsers is an Administrator task. For information on adding,
modifying, and deleting Event Parsers, refer to the Administration Guide.**

FIGURE 4-8 **Event Parser Configuration Form - File**

In the Configured Event Parsers list on the Event Parser Configuration form, the user can view the list of cur-
rently configured event parsers. Clicking any of them will the display the corresponding details in the form. By
default, the event parsers that are saved in the file **event.parsers** under `<Web NMS Home>/conf` directory will
be loaded automatically when the server is started afresh. (cold start i.e., server is started after re initializing) and
displayed in the list.

4.4.5 Configuring Event Filters

Event Filters provide a way of setting matching criteria to filter events and then configuring an action (such as an
email) for those events. To configure an event filter, select *Edit -> Configure > Event Filters* from the Panel-
Specific Menu Bar for Network Events.

**Caution: Configuring Event Filters is an Administrator task. For information on adding,
modifying, and deleting Event Filters, refer to the Administration Guide.**

4.4.6 Viewing Related Alarms

To view the related alarms for a particular event, click anywhere on the event row and select *View -> Alarms*
from the Panel-Specific Menu Bar. The alarm view related to the event appears. Refer to 4.6.

4.5 System Log Events Subview

The System Log Events subview is a default subview of the Network Events view. The System Log Events view shows the system logs received from the managed devices on the network. It is shown in the following figure.

FIGURE 4-9 System Log Events Subview

The logs that are displayed in this view are configured using the System Log Configuration tool. Refer to the *NMS Administration Guide* for information on using this tool.

You can view detailed information on a log by right-clicking the log, and then selecting *Details* from the pop-up menu. An alternative method is to select the log, and then select *View* -> *Details* from the Panel-Specific Menu. In either case, the Event viewer will appear as shown in the following figure.

FIGURE 4-10 Log Event Details Window - File

You can create custom views and event parsers for system logs in the same way you create them for Network Events. You can also save the log information to a file by selecting *Actions->Save To File* from the Panel-Specific Menu Bar or by clicking the **Save** icon in the Toolbar.

4.6 Alarm View Display

The Alarm View displays alarm information on your network. To access the Alarm View, select the node Alarms from the NMS Tree. An example of the Alarms View display is shown in the following figure.

FIGURE 4-11 Alarm View Main Panel

Navigating the view is the same for all views and is described in 4.2.2. Searching for information in the view is also the same and is described in 4.2.2.1.

4.6.1 Panel-Specific Menus for the Alarms View

When the Alarms view is displayed in the NMS Display Panel, the following menu items appear in the Panel-Specific Menu Bar that are specific to the Network Events view:

- *Edit* - Provides editing functions for the view. Items include:
  - *Configure* - Provides configuration functions for trap and event parsers, and for event filters.
  - *Delete* - Deletes the selected alarm.
  - *Pick Up/UnPick* - Assigns or unassigns ownership of the selected alarm to you.
  - *Clear* - Clears the selected alarm.
  - *Search* - Provides a search function for the view (refer to 4.2.2.1).
  - *Export Table Data* - Provides an export function for all of the view data. The data may be exported to a file (in delimited tabular form) or to a Web browser. The data may also be filtered. Refer to the *NMS Administration Guide* for more information.
  - *Export Selected Rows* - Provides an export function for selected rows in the view data. Refer to the *NMS Administration Guide* for more information.
  - *Schedule Alert Export* - The Alarms in the View can be exported to a file now or at a later time. The form for this function is the similar to the Schedule Event Export, and is explained in subsection 4.2.1.3.
- *View* - Provides additional display functions for the view. Items include:
  - *Alert Details* - Brings up the Alarm Details Form, as explained in 4.8.1.
  - *Source Details* - Brings up the Details Form, except as follows:

    - For a port alarm, brings up the Port Details tabbed form.

    - For the VLAN IF, the Chassis View appears.

    - For the iMG/RG, the Triple Play Service Management Form appears
  - *Alarms* - Provides alarm information specific to the selected event.
- *Actions* - Provides a *Save To File* option, which saves the event information to a file.
- *Export Alerts* - Export to a file the rows displayed or all rows associated with the current view.

4.7 Creating Custom Views for Alarms

4.7.1 Overview

Refer to 8.4.11 a list of properties that are commonly used to create meaningful custom views.

4.8 Alarm View Tasks

4.8.1 Specify Alarm Details

By double-clicking or right clicking an alarm, you can view the complete details of the alarm. You can also select *View-> Details* from the Panel-Specific Menu Bar after selecting an alarm from the Alarm Viewer. (The selected alarm entry will turn a dark gray.) This brings up the alarm details form, as shown in the following figure.

FIGURE 4-12 Alarm Details Form

The following table lists the properties.

TABLE 4-2 Properties for Alarm Details

Property	Description for Alarm Detail Properties
Message	Important additional information regarding the alarm.
Failure object	Information about the specific entity, which has caused the alarm within the source as identified by the source field of the alarm.
Source	Information about the source of the alarm.
Owner	The name of the owner with which the alarm is associated.
Category	The category of the alarm.
Created	The date and time when the alarm was first created.
Modified	The date and time when the alarm was last modified.
Severity	The criticality of the alarm.
Previous severity	The previous severity.

On the alarm details screen are buttons that provide the following (left to right):

- **Pickup**

Clicking this annotates the alarm with the id of the user, so that others can see who is working the problem. The option then toggles to Unpick so that the user can remove the id later.

- **Annotate** (Alarm Annotations)

   Clicking this allows you to add notes for an alarm so that other users can see how this type of problem was solved, allowing for more efficient problem resolution.

- Refresh

   Clicking this refreshes the information on the form.

- **Properties**

   Clicking this opens a small window containing any user property that you have included for the alarm. This is actually non-editable and helps only to view the properties you have specified.

- **View history**

   Clicking this allows you to view the status of alarms added, updated, or deleted. NMS automatically takes care of updating, clearing, and deleting Alarm History.

- **Merge**

   Clicking this allows you to simultaneously view both Alarm Annotations and Alarm History by choosing the Merge option.

- Close

   Clicking this closes the window.

4.8.2 Configuring Alarm Filters

Alert filters are used to filter and modify the properties of an incoming alert. When the alert matches specified criteria, an action (such as sending an email) will occur.

To parse alarms, select *Edit -> Configure > Alarm Filters* from the Panel-Specific Menu Bar for Network Events. The Alert Filter Configuration form appears.

Caution: Configuring alarm filters is an Administrator task. For information on adding, modifying, and deleting Alert Filters, refer to the Administration Guide.

4.8.3 Saving Alarms to a File

Saving alarm information to a file is similar to saving network event information to a file, which is described in 4.4.2.

4.8.4 Viewing Related Events

To view the related events for a specific alarm, select the alarm anywhere in its row, and then select *View -> Events* from the Panel-Specific Menu Bar. This displays the Event view panel and displays the events related to the alarm.

4.8.5 Clearing and Removing Alarms

Clearing alarms means to change the status of the alarm to Clear. Highlight the alarm (or alarms using the Ctrl key), and then select *Edit -> Clear* from the Panel-Specific Menu Bar. To remove the alarms from the database so that they will not be reported, highlight the alarm, and then select *Edit -> Delete* from the Panel-Specific Menu Bar.

4.8.6 Alarm Count Panel

The Alarm Count Panel provides a way to view the summary of the Alarms generated by the NMS. The summary gives the number of Alarms that have been generated under various categories and severity levels, as shown in the following figure.
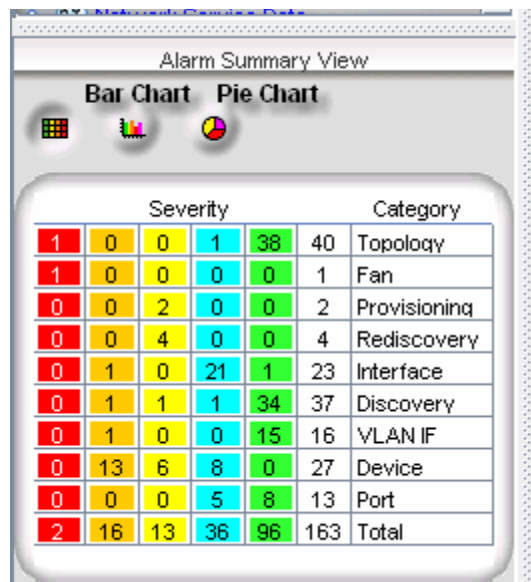
FIGURE 4-13 Alarm Count Panel

The Alarm Count Panel displays the Alarms generated in a tabular fashion to facilitate easy viewing. You can also see the alarm numbers in bar code and pie chart format.

Each row corresponds to a specific Application of Alarms. The Applications that are to be displayed in the Panel are configurable. Thus, the number of rows corresponds to the number of Applications of Alarms that have been configured to be viewed (excluding the last row that gives the Totals). An alarm will have a Severity; - Critical, Major, Minor, Warning, Clear. So, the number of columns corresponds to the number of Severity levels configured (excluding the last column that highlights the Application Name).

The Alarm count is done based on severity and when an Alarm is generated. The count is updated automatically under the appropriate column (Severity).

The last row gives the total count of Alarms of all applications (including the ones without any application defined) classified into different severity levels.
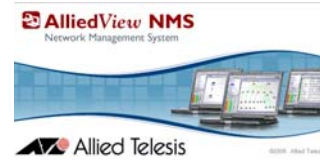
5. Using the Performance View

5.1 Overview

Performance monitoring basically means collecting useful data from network devices and determining how efficiently the network is functioning. Performance is measured based on various factors, such as:

- The number of bytes of data received (over a period) by a particular interface of a device
- The number of bytes of data sent (over a period) by a particular interface of a device
- An estimate of the interface's current bandwidth in bits per second

The data pertaining to a network device are collected based on the definition of performance variables (otherwise called statistics and polled data).

Use the following table to locate the task you wish to perform. If you are using AlliedView NMS, use the screen name or form name as well to locate the relevant section.

TABLE 5-1 Task List for Performance Monitoring

Task	Screen / Form Name (if Applicable)	Section
Review Screen Components	Configured Collection	(5.3.4)
View Graphs	Not applicable (n/a)	(5.5.3)
Print a Graph	n/a	(5.5.4)
View Data Real Time	n/a	(5.5.5)
Configure Thresholds	Threshold Properties	(5.6.1)
Configure Statistics	Data Collection Detailed Properties	(5.7) (Administrator Task)

5.2 Polling Concepts

The process of collecting the data from a network device is called *polling*. Every statistic has the following details:

- The data to poll
- The device from which the data will be polled
- The polling interval

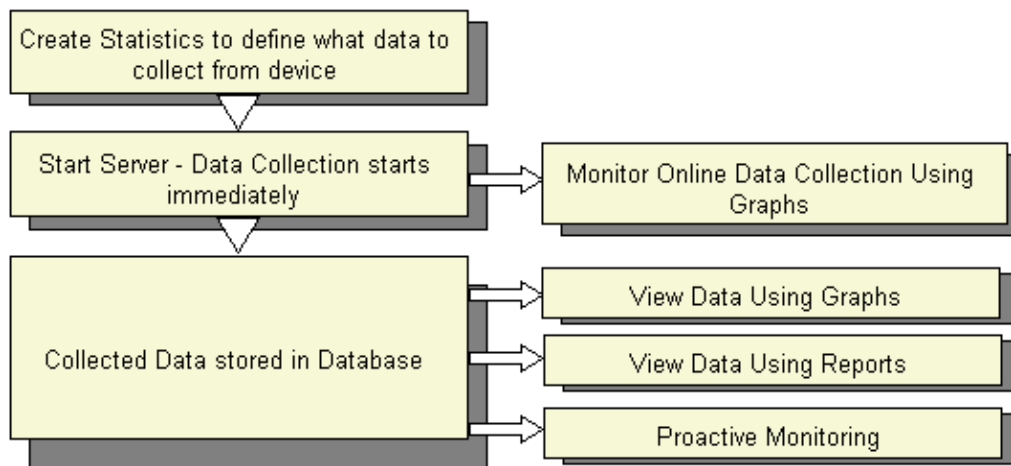The following figure lists the basic flow for Performance Monitoring.

FIGURE 5-1 Setting up Performance Monitoring

The person or persons responsible for performance monitoring will have the following tasks, which are explained in detail later in this section:

- Viewing Data Collection Details - Statistics are the basic unit of network data collection. The data about a network device is collected based on the definition of a statistic.

- Creating a Custom View - By default, you are able to view all the statistics of all the network devices in the Configured Collection panel. To view very often a particular set of statistics you can create a custom view and specify the matching criteria. Only those statistics that match the specified condition will appear in the custom view.

- Viewing the Data - AlliedView NMS allows you to plot collected statistical data as bar or line graphs. This is useful for trend analysis. You can view the collected data in the form of graphs and reports.

- Monitoring Real-Time Data Collection - If you want to view the data as it is collected rather than fetching it from the database, you can choose this option. This is otherwise called *on line data collection monitoring*. You may require this when you want to view the data currently collected for the device. Graphs and tables are available for monitoring.

5.3 Data Collection Interface

5.3.1 Overview

The interface for performance data in the AlliedView NMS is the Configured Collection view under the Performance node in the NMS Tree. This view displays the statistics for the nodes on the network and is used as the interface to the data.

5.3.2 Setting Up the Interface

Before starting any data collection process, you must define what data to poll, from where, in what interval, etc. This definition is created in objects called Statistics. To collect *n* type of data from a device you have to create *n* Statistics. The NMS Administrator can configure this setup and add more Statistics, if necessary, before the AlliedView NMS server starts. The NMS Administrator can also add Statistics at runtime. You can view the list of statistics associated with each of the MOs discovered in the network using the Configured Collection panel.

Note: An MO represents a network element for which data have to be collected. It can be a node, interface, a port, a card, a slot, etc.

5.3.3 Panel-Specific Menus for the Configured Collection View

When the Configured Collection view is displayed in the NMS Display Panel, the following items appear in the Panel-Specific Menu Bar that are specific to the Configured Collection view:

- *Edit* - Provides editing functions for the view. Items include:
    - *Threshold* - Provides the ability to add, modify, and delete thresholds.
    - *Polling Objects* - Provides the ability to view, add, modify, and delete polling objects.
    - *Add Statistic* - Provides the ability to add a new statistic.
    - *Remove Statistic* - Provides the ability to remove a statistic.
    - *Modify Statistic* - Provides the ability to modify a statistic.
    - *Search* - Provides a search function for the view (refer to 4.2.2.1).
    - *Export Table Data* - Provides an export function for all of the view data. The data may be exported to a file (in delimited tabular form) or to a Web browser. The data may also be filtered. Refer to the *NMS Administration Guide* for more information.
    - *Export Selected Rows* - Provides an export function for selected rows in the view data. Refer to the *NMS Administration Guide* for more information.
- *View* - Provides additional display functions for the view. The items include:
    - *Plot* - Provides graphing functions for the current and collected statistics. Refer to 5.5.2.
    - *Refresh* - Refreshes the view data.
- *Actions* - Provides a *Save To File* option, which saves the event information to a file.

5.3.4 Screen Components for Statistics

To access the Data Collection screen, perform the following:

1. Select the Configured Collection node from the tree in the left frame. You can see the Configured Collection panel in the right frame, which displays a list of nodes under the Hosts column. This list indicates that these devices have been identified in the network for data collection.

2. Select any of the hosts, and you will see the associated Statistic. (Each row of information is called a Statistic). Refer to the following figure.

FIGURE 5-2 Collection View Panel

The following table lists the components in.the previous figure.

TABLE 5-2 **Data Collection Screen Components**

Component	Description for Data Collection Screen Components
Property Columns	You can see for every statistic that the associated properties are displayed in columns. For example, Statistic name, Poll ID, Data Identifier, DNS Name, interval etc. The Administrator decides which properties are to be displayed. Some of the properties are described below. • Statistic Name - A string to identify the Statistic uniquely. This should be a meaningful name describing the Statistic • Poll ID - A unique number associated with each Statistic for AlliedView NMS Performance module to identify the Statistic. Poll ID is automatically generated and hence no two Statistics will have the same Poll ID. • DNS Name - This is the Host name (device name) with which this Statistic is associated • Data Identifier - This is the Identification number of the device interface from which data about the device is to be collected. This Data Identifier is otherwise called as Object Identifier (OID), which is unique for every device. A list of possible OIDs for a device exists in the MIB definition of the device. • Interval - This specifies when data should be collected for the Statistic. For example, the value 300 indicates that after every 300 seconds, data is collected.
Page Length	You can see a drop-down box labeled Page Length, which displays a number of hosts to be displayed per page. By default, it is set to 10. Hence, you can see 10 hosts displayed in the left panel of the Configured Collection frame.
From and To Range	There are two text boxes available labeled Displaying and To. You can set values in these and see the hosts list in that range. For example, If you set Displaying as 4 and To as 13, you will be able to view from Host 4 to Host 13. By default, the hosts are displayed in reverse alphabetical order.
Navigation Buttons	You can see four navigation buttons provided at the top right of the frame. They are Go to first page, Go to previous page, Go to next page and Go to Last page respectively. They will be enabled and disabled automatically based on your choice of page length and total number of hosts
Total	This text box cannot be edited, and it shows the total number of hosts available for data collection.

*Note: The green colored branch-like image adjacent to the Statistic name denotes the type of Statistic. Statistics are of three types: **Node**, **Interface,** and **Multiple**. The symbol with multiple branches* *denotes that the statistic is of type Multiple (one node and all associated interfaces).*

If no data are to be collected for a Statistic, the data are disabled temporarily by the Administrator. In such a case, you will see the Statistic row displayed in blue color. Once it is activated, the row color changes to green.

5.4 Creating Custom Views

Refer to Section 9 for a description of creating custom table views. Refer to 8.4.9 for a list of the properties that can be used when creating a custom view

5.5 Viewing Historical Data

5.5.1 Overview

Once the AlliedView NMS server starts, data collection also starts automatically. Data is collected from the devices listed under the Hosts list in the Configured Collection panel. Data is collected only for those Statistics listed in the panel for each host.

The collected data is stored in a database maintained by the AlliedView NMS. Every day's data is stored in separate database tables. Every table has a name with the current date appended to the name in the form STATSDATAmm_dd_yyyy. (The mm and dd fields may be one or two digits.) A sample database table name is STATSDATA4_23_2002, which contains data collected on April 23, 2002.

You can deal with the collected data in various ways:

- Allow the data to be stored in the database for later viewing (for long-period trend analysis).
- View the Data in the form of a graph.
- View the Data in the form of a report.

5.5.2 Using Graphs

Two types of graphs are provided: line graphs and bar graphs. The graph is plotted by fetching the collected data already available in the database. No update is made in the graph as it is being viewed; that is, there is no dynamic plotting of the graph for the data collected from the device for that moment.

5.5.3 Procedure to View a Graph

You can view the graph by following these steps:

1. Select the statistic in the Configured Collection panel for which you want to view the graph.
2. Select *View -> Plot -> Collected Statistic* from the Panel-Specific Menu Bar.

Possible Messages you may receive are:

- Data not yet Collected - By default, automatic data collection starts after five minutes after the server starts up. Also, data collection for a new statistic added via UI will start within five minutes of its creation. But this delay is configurable and will be set according to the requirement in your network. So do not get confused if you see the message **Data not yet collected** when you choose to view a graph or a report. It indicates that a data collection delay has been set. Please note that for counter-type OIDs, the first data collected is not stored. When second time data is collected, the difference between the two values is calculated and stored. Hence, depending on the polling interval set, the data will be collected on the second time. So, you might have more delay with respect to counter-type OIDs.
- A blank Graph and the message **No data collected** - There are two possible reasons:
    1. No data was collected for the current day, so choose Yes and change the From date and To date to view past data.
    2. The AlliedView NMS Server and Client are running on different machines and their time settings and time zones are not the same. Hence, synchronize the time settings to view the graph data.

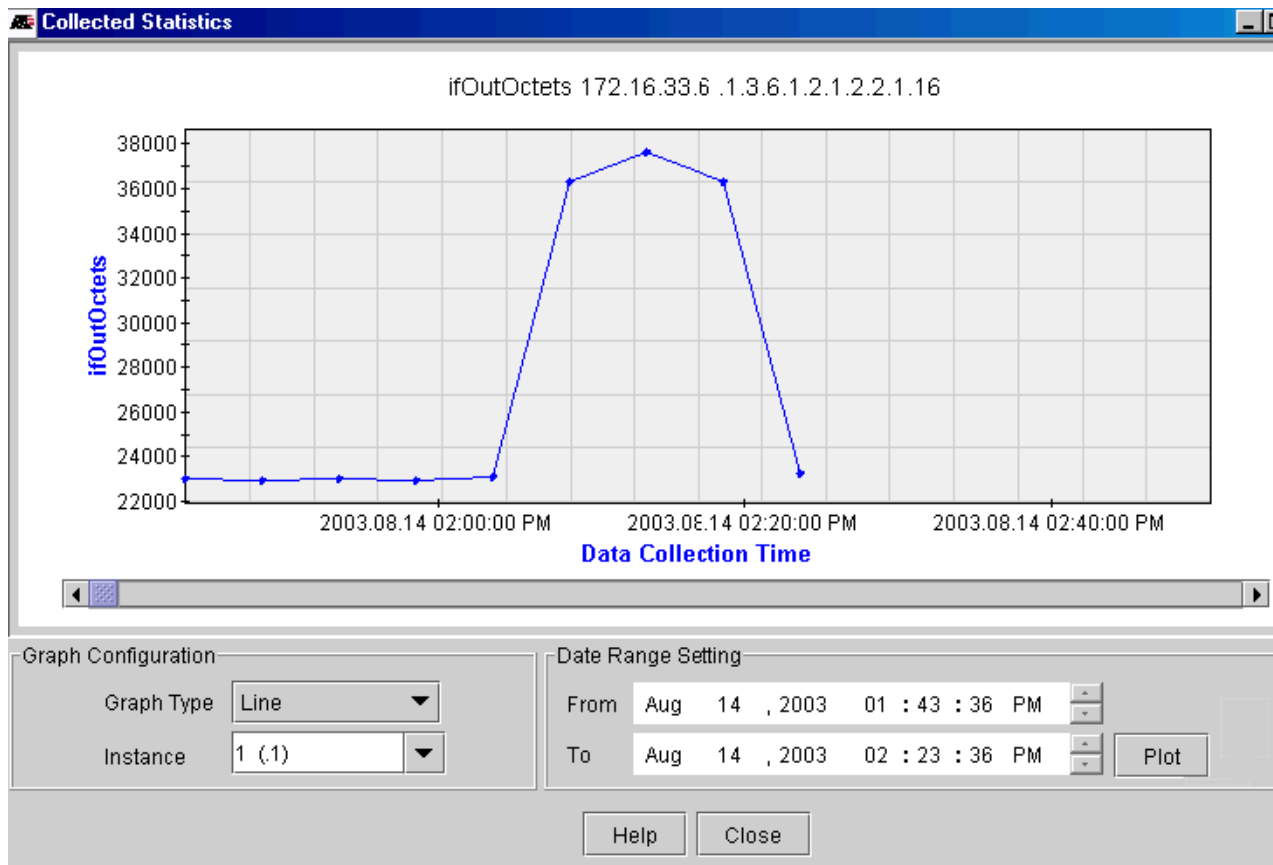The following figure shows the resulting graph.

FIGURE 5-3 Collected Statistics Graph

Following are the main graph components:

* Graph Type - A drop-down box that displays two options, Line graph and Bar graph. You can choose any of these whenever you want and monitor the collected data.

* Data Range Setting - To view the data collected between a particular date range.

* **Plot** Button - Whenever you change the Graph type or Date Range, click the **Plot** button to restart plotting.

5.5.4 Printing a Graph

You can print the graph using the *Print* option provided in the Web browser or by using the Print Screen key on the keyboard.

5.5.5 Viewing Real Time Data

Once you narrow down your search and identify which device is the cause of the problem, you can use real-time monitoring to view and analyze the data of a particular statistic as it is collected from the device.

You cannot achieve this using Collected Statistics graph because of the following:

* The Collected Statistic graph displays only historical data; that is, past data available in the database.

* The Collected Statistic graph does not update its display when you are viewing it. Hence, to view the updates in the graph, you will have to either close the graph window and redisplay it periodically, or change the time range and then click the **Plot** button.

In this situation, you can select the current statistics graph.

Note: You might get an error message such as Time out, which indicates that the agent has been delayed in responding or the agent is down.

Assume, for steady performance, that you might need the value of the statistic ifInErrors to be between 13000 and 13500. You can monitor it in real time in this graph, and if the value goes beyond these limits, you can monitor it for another time period and decide on an appropriate action.

The Current Statistic graph (also referred to as a Runtime chart) provides two advantages when you do real-time monitoring:

1. You can change the Data Collection interval

    By default, the data collection interval shown in the graph is 15 seconds. You can specify the required polling interval in seconds. Decrease the value if very close monitoring of a statistic is needed. This helps you in analyzing the effect of changes in intervals on data collection. But every time you change the interval, follow these steps:

    1. Click the **Stop** button.
    2. Change the interval.
    3. Click **Restart**. This helps you analyze the effect of change of time over data collection.
    4. Change Graph type.

2. You can choose to view the data as a bar or line graph as you monitor the collected data. When small values are plotted, line graphs can be difficult to view. In such cases, you can immediately change to a bar graph.

Follow these steps to view Current Statistic Graph:

1. In the Configured Collection panel, select the Statistic for which you want to monitor in real time.
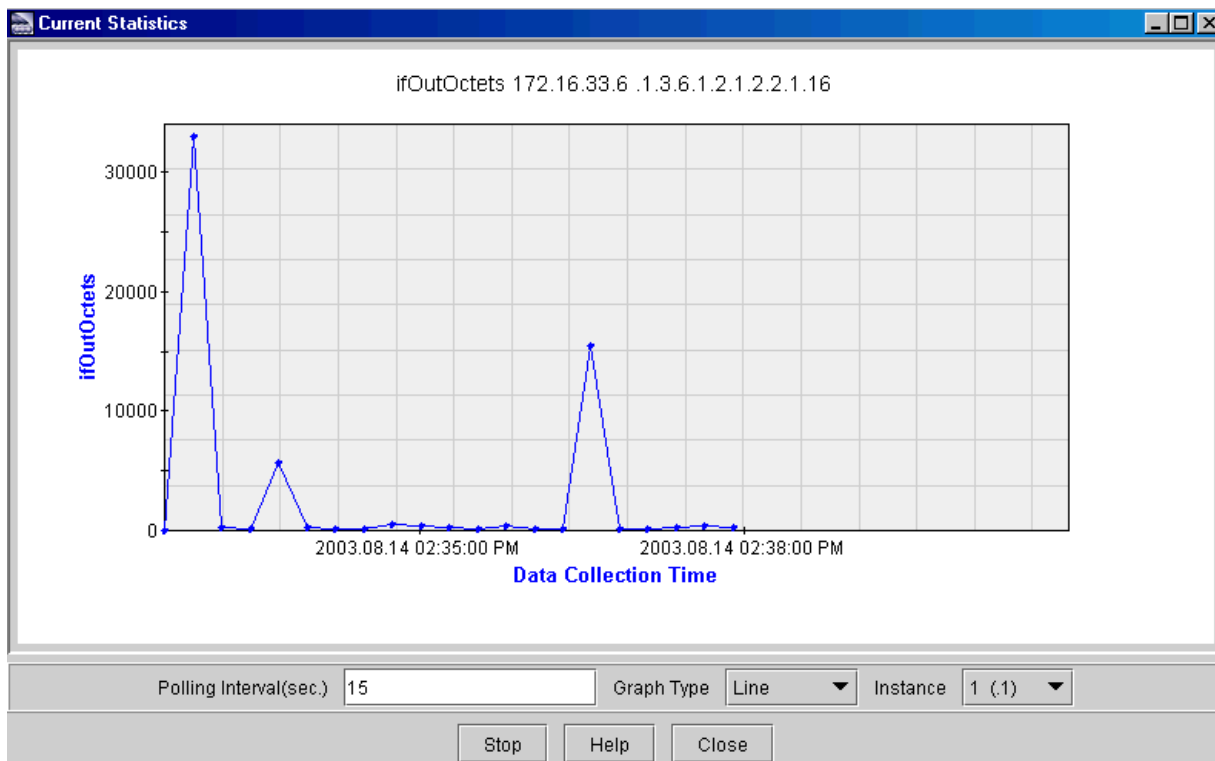2. Select *View -> Plot -> Current Statistic* from the Panel-Specific Menu Bar. You will see the following figure.

FIGURE 5-4 Plotting Current Statistic

You can change the Polling Interval and Graph Type and see the results change.

5.6 Threshold Notification

5.6.1 Overview

Performance monitoring involves the following concepts:

- Data is collected from agents of network devices and stored.

- The collected data is cross-checked with threshold values. If it exceeds the limits of the threshold values, a notification can be sent to the user indicating that network performance is degrading.

A threshold has the following:

- a value

- a type (Max, Min or Equal).

   For example, if type is set to Max, the Threshold is exceeded when the collected value goes above the threshold value.

- a message that is to be generated when the threshold is exceeded.

- a value at which the threshold is reset

Thresholds are defined and associated with Statistics. A single Statistic can have many thresholds indicating a severity, such as Critical, Major, Minor, etc. Whenever data are collected for the statistic, it is cross-checked with the associated thresholds. If the collected value exceeds the thresholds, the threshold message is displayed as an Event in Fault Management.

Note: If multiple thresholds are associated with a Statistic, then the collected value will be checked with every threshold value. For every threshold value exceeded, its corresponding message will be displayed.

Caution: Creation of thresholds and its association with statistics is an Administrator task. For information on adding, modifying, and deleting thresholds, refer to the NMS Administration Guide.

5.6.2 Example

Assume a Statistic called Interface_in_octet for the switch named switch_vg3w. For efficient performance of the switch, the value of this statistic must be between 1300 and 1370. This means that you should have some notification mechanism to inform you when the statistic value is not within this limit.

Define three thresholds for this statistic:

switch_vg3w-critical, switch_vg3w-major, and switch_vg3w-minor, as shown in the following table.

TABLE 5-3 Threshold Example

Threshold Property	Switch_vg3w-minor	Switch_vg3w-major	Switch_vg3w-critical
value	1320	1350	1371
type	max	max	max
threshold message	Has entered violation stage	Monitor the value; it might exceed critical threshold	Reached critical point. Immediate attention required.
reset value	1319	1349	1369

In short, if the Statistic value is 1350, the threshold switch_vg3w-major is exceeded. The message "Monitor the value; it might exceed critical threshold" will be generated. But if the statistic value goes below 1369, the threshold will be reset and, again, data collected for the Statistic will be monitored.

5.6.3 Threshold Interactions

- The reset value plays an important role. Once a threshold is exceeded, until the collected value reaches the threshold's reset value, the threshold will be in that severity state itself. As soon as the value reaches the reset value, the threshold is reset until the threshold is exceeded again.

- If another threshold exists of a lower severity and if the collected data falls in its limits, that threshold will generate the message.

- If another threshold exists with higher severity, the higher severity threshold will take precedence and its message will be displayed. The threshold with lower severity loses its importance and will not be generated until the threshold with the higher severity reaches its reset value.

5.6.4 Viewing Thresholds on the Network Events Screen

Once the collected value for a Statistic exceeds threshold limits, a notification is sent to the Fault module of the AlliedView NMS. The fault module receives this notification and displays it on its Network Events panel.

Note: *You can see the number of events that have been generated of different severity in the Alarm count by severity panel. Clicking on a number will display the associated alarms. The colors denote the severity (Red means Critical, Orange means Major, etc.).*

5.7 Configuring Statistics

When setting up the AlliedView NMS, an Administrator will have to set up polling objects and polling filters so that the polled data (Statistics) are written to the AlliedView NMS database as polled data (Statistics) and can be extracted to provide real-time or historical reports. Once a AlliedView NMS system has been in service for a period of time, additional statistics may be needed. This can be done by modifying the appropriate polling object or creating a Statistic for specific node.

To add a statistic, select *Edit ->Add Statistic* from the Panel-Specific Menu Bar. The Modify Polled Data form appears.

Caution: Creation of statistics is an Administrator task. For information on adding, modifying, and deleting statistics, refer to the Administration Guide.

6. Using the Network Inventory View

6.1 Overview

The Network Inventory view is used to view, search, modify, and delete network objects, such as networks, nodes, and interfaces. The Network Inventory view displays an inventory of all network entities, such as networks, nodes, ports, interfaces, routers, and links. Under the Network Inventory node in the NMS Tree are the following default subviews:

- Networks
- Nodes
    - Profile Association
    - Discovery Status
- Cards
- Ports
- iMG/RGs
- Interfaces
- Routers
- VLAN Interfaces
- EPSR Domains
- Physical Links

Each of these subviews narrows the network inventory to a specific type.

6.2 Network Inventory View

The Network Inventory maintains the properties of all MOs in a network. These MOs and their object properties are listed in the Network Inventory panel, as shown in the following figure.

FIGURE 6-1 Network Inventory Main View

Refer to 4.2.2 for information on navigating the view. Refer to 4.2.2.1 for information on searching the view.

When the Network Inventory view is displayed in the NMS Display Panel, items appear in the Panel-Specific Menu Bar that are specific to the Network Inventory views. Some of the items are specific to the type of object that is selected in the view, while others are common to all of the object types. The common items include:

- *Edit* - Provides editing functions for the view. Items include:
  - *Add Node* - Adds a node.
  - *Add Network* - Adds a network.
  - *Refresh Node* - Updates the information on the selected node.
  - *Clear Alarms* - Clears the alarms on the selected node.
  - *Delete Alarms* - Deletes from the alarm database the alarms on the selected node.
  - *Search* - Provides a search function for the view.
  - *Export Table Data* - Provides an export function for all of the view data. The data may be exported to a file (in delimited tabular form) or to a Web browser. The data may also be filtered.
  - *Export Selected Rows* - Provides an export function for selected rows in the view data.
- *View* - Displays additional information. Items include:
  - *Details* - Displays detailed information on the selected object.
  - *Events* - Opens a Network Events view in which the events associated with the selected object are displayed.
  - *Alarms* - Opens an Alarms view in which the alarms associated with the selected object are displayed.
  - *Performance* - Opens a Configured Collection view in which the statistics for the selected object are displayed.
  - *Refresh* - Updates the information on the selected object.

These menu items also appear for all of the Network View subviews. The object-type-specific menus include:

- *Network* - For network objects
- *Operations* - For nodes and routers on the network
- *Port* - For customer ports
- **Interface** - For Interfaces (This includes the Ping menu item.)
- *VLAN Interface* - For VLAN interface objects
- *Link* - For physical link objects

The object-type-specific menus are described in the following sections.

6.3 The Network Inventory Subviews

6.3.1 Networks Subview

The Networks subview narrows the Network Inventory view to the discovered network objects. To access this view, click on the Networks node under Network Inventory in the NMS Tree. An example is shown in the following figure.

FIGURE 6-2 Example Networks Subview

When the Networks subview is displayed in the NMS Display Panel or when a network object is selected in the Network Inventory view, the ***Network*** menu appears in the Panel-Specific Menu Bar, which is specific to networks objects. In the Networks subview, the menu appears when you select an item in the view. The items in the ***Network*** menu include:

- ***Managed Object Properties*** - Displays the Managed Object Properties form for the selected object.

- ***Delete Object and Traces*** - Deletes the selected network object. Refer to the *NMS Administration Guide*.

- ***Stop Discovery*** - Stops the discovery process in the selected network.

- ***UnManage/Manage*** - Marks the object as unmanaged if it is currently being managed, or as managed if the object is currently unmanaged. Managing an element means that you are setting the NMS to monitor its status. Unmanaging an element means that you are stopping the NMS from monitoring the element.

  Once a selected device is made managed (by selecting on the ***Manage*** menu item of either the table pop-up menu or the ***Network*** menu in the Panel-Specific Menu Bar), the icon displayed for the device will indicate the severity status of the device. The same icon will become gray in color when the selected device is made unmanaged by clicking the corresponding menu item. These menu items are also accessible from the object-specific menus.

- ***Update Status*** - Updates the status information for the selected object. If any changes have been made to the object (such as clearing alarms), clicking this will update the row.

6.3.2 Nodes Subview

The Nodes subview narrows the Network Inventory view to the nodes on the network. To access this view, click on the Nodes node under Network Inventory in the NMS Tree. An example is shown in the following figure.

Note: *It is possible to sort the Modes by Config Changed, so the user can see the latest nodes that have had their configurations changed and acknowledged by the Device Backup operation (for recurring backups).*

FIGURE 6-3 Example Nodes Subview

When the Nodes subview is displayed in the NMS Display Panel or when a node object is selected in the Network Inventory view, the *Operations* menu appears in the Panel-Specific Menu Bar. In the Nodes subview, this menu appears when a node is selected in the view.

Note: *If multiple nodes are selected and the nodes are of different types (e.g. Rapier, 9400, etc.), the **Object** menu will appear instead of the **Operations** menu.*

The items in the *Operations* menu include:

- *View Chassis* - Displays the current chassis view for the selected device. Refer to the *NMS Administration Guide*.

- *View Device Log* - Displays the Device Log Viewer.

- *Provision* - Provides provisioning functions for the selected device. Refer to the *NMS Administration Guide* for provisioning tasks.

- *Network Services* - Provides network link and VLAN functions for the selected device. Refer to the *NMS Administration Guide*.

- *Alarms/Events* - Displays the alarms or events, or a summary of the alarms and events for the selected device. Selecting this and then choosing Alarms or Events will bring up the Alarms or Events view. Selecting *Summary* will bring up the Events and Alerts display, which gives a summary of the Events and Alerts. Refer to the following figure.
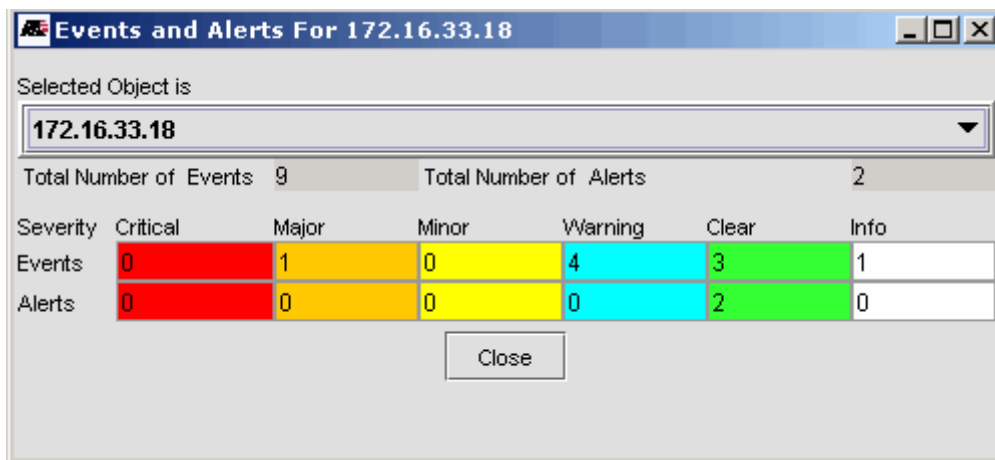

FIGURE 6-4 Summary Display for Events and Alarms (One Device)

- *Performance* - Brings up the Configured Collection window for the selected device.

- *View Config Comparison* - Brings up the Config Comparison Form. This is used for only non-i MAP devices, and must be text files.

- *Discover Attached iMGS/RGs* - If there are subtending iMGs/RGs, they are discoverd. This is used in a variety of provisioning scenarios in the *Allied*View NMS Administration Guide.

- *Display Switch FDB* - For swith (layer 2) devices, lists the Port, MAC, and VLAN association, as well as the Status.

- *Power over Ethernet Management* - This is for a future release.

- *Telnet To Device* - Opens a Telnet session to the selected device.

- *Browse Device* - Brings up the HTML browser for the device.

- *Rediscover Device* - Re-discovers the device immediately.

- *Managed Object Propertie*s - Displays the Managed Object Properties form for the selected device.

- *Delete Object and Traces* - Deletes the selected object. Refer to the *NMS Administration Guide*.

- *UnManage/Manage* - Sets the device to unmanaged if it is currently managed, or managed if it is currently unmanaged.

- *Update Status* - Updates the event and alarm information on the selected device.

6.3.3 Profile Association

This subview shows which profiles are associated with which devices. If the attributes are not in synch, a * appears next to the Profile name and should be reapplied. Refer to the AlliedView NMS Administration Guide for creating and applying Profiles.
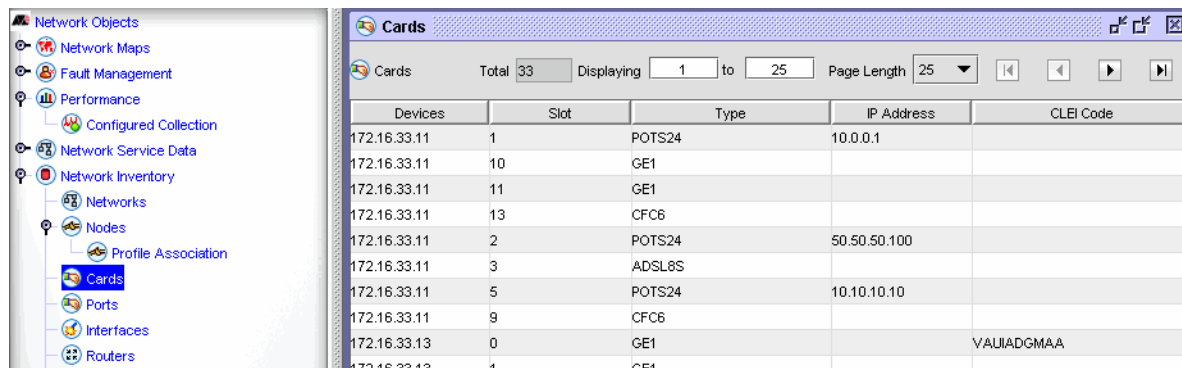
6.3.4 Discovery Status

This subview provides a quick way to see when a device was last discovered and whether the device passed or failed. It also gives the date of when the configuration of the device was last changed.

Note: This subview also includes the RG devices.

6.3.5 Customer Cards Subview

The Customer Card subview narrows the Network Inventory view to the customer cards. To access this view, click on the Cards node under Network Inventory in the NMS Tree. An example is shown in the following figure.

FIGURE 6-5 **Example Customer Cards Subview**

When the Customer Cards subview is displayed in the NMS Display Panel or when a customer port is selected in the Network Inventory view, the *Card* menu appears in the Panel-Specific Menu Bar, which is specific to customer ports. In the Customer Ports subview, this menu appears when you select a port. The items in the menu include:

- *View/Modify Details* - Displays the Port Management form for the selected port, which is used to manage (display and modify) the attributes of the port.
- *Remove Association with Profile* - Removes the association, so changing an attribute does not show the card as being Out-of-Profile.
- *Compare Card with Profile* - If the card has a Profile, compares the attributes and highlights what is not the same. (If the card has no Profile, there is the error message Profile not found.)
- *Audit CES Circuiits* - For CES cards, brings up the Diagnostic Audit screen
- *Alarms/Events* - Brings up the submenu to view associated alarms, events, or a summary.
- *Delete Object and Traces* - Deletes the selected card.

6.3.6 Customer Ports Subview

The Customer Ports subview narrows the Network Inventory view to the customer ports. To access this view, click on the Ports node under Network Inventory in the NMS Tree. An example is shown in the following figure.

FIGURE 6-6 Example Customer Ports Subview

When the Customer Ports subview is displayed in the NMS Display Panel or when a customer port is selected in the Network Inventory view, the *Port* menu appears in the Panel-Specific Menu Bar, which is specific to customer ports. In the Customer Ports subview, this menu appears when you select a port. The items in the menu include:

- *View/Modify Details* - Displays the Port Management form for the selected port, which is used to manage (display and modify) the attributes of the port.

- *Provision New Customer/Port* - Brings up the appropriate form to provision this port. This form can be the **Provision New Triple Play Customer Form** or the **Provision new DS1/E1 Port Form**.

- **De-provision Customer/Port** - If the port has already been provisioned, this form appears. Refer the the NMS Administration Guide for details on this form.

Note: In the EE version, the previous two items are not available.

- *Remove Association with Profile* - If a profile has been created and associated with the port, this option removes that association. Note that this does not affect the profile. Refer to Section 6 of the AlliedView NMS Administration Guide for details on creating port profiles and associating them with ports.

- *Compare Port with Profile* - Compares the attributes of the port with its profile. A window then appears that lists where attributes do not match (or the message No Differences).

- *Alarms/Events* - Brings up the submenu to view associated alarms, events, or a summary.

- *Delete Object and Traces* - Deletes the selected port.

The Port Management tool is used for the administration and maintenance of customer ports. The tool is accessed from the Customer Ports view by right-clicking a port in the view, and then selecting *View/Modify Details* from the pop-up menu. It can also be accessed by selecting *Tools->Customer Management->View/Modify Customer Ports* from the Panel-Specific Menu Bar.

The three main tabbed forms are:

- Triple Play Service Management

- DS1

- E1

Viewing the Triple Play Service Management Port form shows the attributes for the associated interfaces:

- Ether-like

- ADSL

- SHDSL

- POTS

- EPON

- ONU

- NTE8
- CES

These are explained in the following subsections.

Note: The Statistics tab and Log tag are common across these interfaces and show all statistics and logs for all ports in the Triple Play service.

6.3.6.1 Ether-Like Port Management

The display is a tabbed panel where each tab displays specific information on the Ethernet-like port. The tabs are as follows:

- **Status** - Displays general status
- **Ether-Like Configuration** - These have subtabs:
  - General - The main configuration attributes for the port
  - Port Thresholds - Displays the threshold settings for the RMON counters
  - Device Data Collection - Configures the data collection configuration (intervals and buckets)
  - IP Filters - Displays information on any IP filters that are applied to the selected port
- **Statistics** - Displays the results of the set-up that was done in the Configuration tab
  - RMON Stats - Allows enabling/disabling of performance and fault statistics
  - Graph Stats - Allows selecting and graphing of up to six statistics
- **Port Log** - Displays any log messages associated with the selected port

For information on using the Ether-like Port Management tool for port administration, refer to the *AlliedView NMS Administration Guide*.

6.3.6.2 ADSL Port Management

The display is a tabbed panel where each tab displays specific information on the ADSL port. The tabs are as follows:

- **Status** - Displays general status
- **ADSL Configuration** - These have subtabs:
  - General - Displays general status and configuration information for the selected port.
  - VCs/VLANs - Correlates the port to Virtual Channels (VCs) and then the VC to one or more (up to four) VLANs.
  - PMON Thresholds - Allows thresholds to be set for the ATU-C and ATU-R statistics.
  - Device Data Coll. - Configures buckets that will collect statistics and the interval at which they are filled
  - IP Filters - Allows classifiers to be applied to the port.
- **Statistics** - These have subtabs:
  - PMON Stats - Collects traffic statistics over a specified time period (called the interval).
  - RMON Stats - Tracks packet flows and highlights errors as well as overflows of packets.
  - Graph Stats - Makes graphs both in real-time and for statistics that have been collected.
- **Port Log** - Displays any log messages associated with the selected port

For information on using the ADSL Port Management tool for ADSL port administration, refer to the *NMS Administration Guide*.

6.3.6.3 SHDSL Port Management

The display is a tabbed panel where each tab displays specific information on the SHSDL port. The tabs are as follows:

- **Status** - Displays general status
- **SHDSL Configuration** - These have subtabs:
  - General - Displays general status and configuration information for the selected port
  - VCs/VLANs - Correlates the port to Virtual Channels (VCs) and then the VC to one or more VLANs. Note that in this release only one VLAN can be associated with the VC.
  - PMON Thresholds -
  - Device Data Collection - Configures buckets that will collect statistics and the interval at which they are filled
  - IP Filters - Allows classifiers to be applied to the port
- **Statistics**
  - PMON Stats - Collects traffic statistics over a specified time period (called the interval)
  - RMON Stats - Tracks packet flows and highlights errors as well as overflows of packets.
  - Graph Stats - Makes graphs both in real-time and for statistics that have been collected
- **Port Log** - Displays any log messages associated with the selected port

For information on using the SHDSL Port Management tool for port administration, refer to the *NMS Administration Guide*.

6.3.6.4 POTS Port Management

The display is a tabbed panel where each tab displays specific information on the POTS24 port. The tabs are as follows:

- **Status** - Displays general status
- **Voice Configuration**
  - POTS - The main attributes of the POTS port
- **Statistics**
  - POTS Stats - Lists the RTP statistics. For an explanation, refer to the *iMAP Administration Guide*.
  - Graph Stats- Makes a graph of selected statistics and displays them with varying attributes
- **Diagnostics**
  - POTS - allows the user to run a set of diagnostics on the port interface
- **Port Log** - Lists all the port-related management logs that have been generated.

For information on using the POTS Port Management tool for port administration, refer to the *AlliedView NMS Administration Guide*.

6.3.6.5 DS1/E1 Port Management

The display is a tabbed panel where each tab displays specific information on the DS1/E1 port. The tabs are as follows:

Note: The form is the same for dual endpoints, but the panels/fields are changed to accommodate two rather than one DS1/E1 port.

- **Status** - Displays general status
- **DS1/E1 Port -** Lists the status and main attributes of the port.

- **PSPAN** - Lists the attributes for the PSPAN. For dual endpoints, the initially selected port is what is on the left panel of the form.

- **PMON Statistics** - Enables for viewing the port and PSPAN statistics.

- **Stats Graph** - Makes a graph of selected statistics and displays them with varying attributes. For dual endpoints, the statistics are suffixed with an -A and -Z.

- **Port Thresholds** - Sets the DS1 and PSPAN thresholds that will activate a log and event.

- **Port Log** - Lists all the port-related management logs that have been generated

For information on using the DS1/E1 Port Management tool for port administration, refer to the *AlliedView NMS Administration Guide*.

6.3.7 iMG/RGs Subview

This subview shows the iMGs/RGs and shows its main attributes (such as Customer ID) as well as profile associateionj. For details on this, refer to the AlliedView NMS Administration Guide.

6.3.8 Interfaces Subview

The Interfaces subview narrows the Network Inventory view to the network interfaces. To access this view, click on the Interfaces node under Network Inventory in the NMS Tree. An example is shown in the following figure.

FIGURE 6-7 Example Interfaces Subview

When the Interfaces subview is displayed in the NMS Display Panel or when a network interface object is selected in the Network Inventory view, the *Interface* menu appears in the Panel-Specific Menu Bar, which is specific to network interfaces. In the Interfaces subview, this menu appears when you select an interface in the view. This menu provides various functions in the interface. The items include:

- *InterfaceMonitor* - Provides a ping function, which allows you to ping the selected interface. Refer to the following figure. Selecting this item brings up the Status Message window, which contains the ping results. Refer to the following figure.
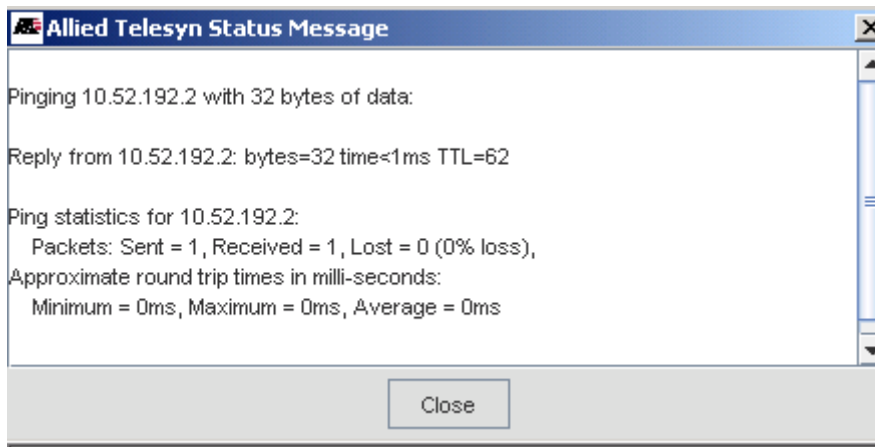
FIGURE 6-8 Ping Result Display

- *Managed Object Properties* - Displays the Managed Object Properties form for the selected interface. Refer to Section 9.

- *Delete Object and Traces* - Deletes the selected interface. Refer to the *NMS Administration Guide*.

- *UnManage*/*Manage* - Marks the selected interface as unmanaged if it currently is being managed, or as managed if it is currently unmanaged.

- *Update Status* - Updates the status information for the selected interface.

6.3.9 Routers Subview

The Routers subview narrows the Network Inventory view to the routers on the network. To access this view, click on the Routers node under Network Inventory in the NMS Tree. An example is shown in the following figure.
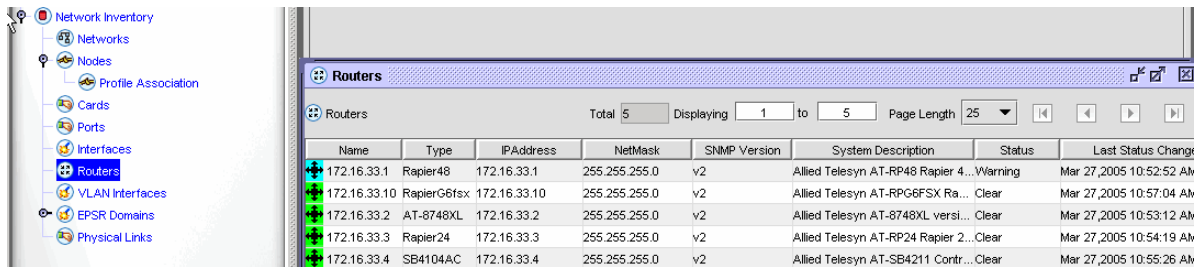

FIGURE 6-9 Example Routers Subview

When the Routers subview is displayed in the NMS Display Panel or when a router object is selected in the Network Inventory view, the *Operations* menu appears in the Panel-Specific Menu Bar. In the Routers subview, this menu appears when you select a router in the view. This is the same *Operations* menu that appears in the Nodes subview. Refer to 6.3.2.

6.3.10 VLAN Interfaces Subview

The VLAN Interfaces subview narrows the Network Inventory view to the VLAN interfaces on the network. To access this view, click on the VLAN Interfaces node under Network Inventory in the NMS Tree. An example is shown in the following figure.
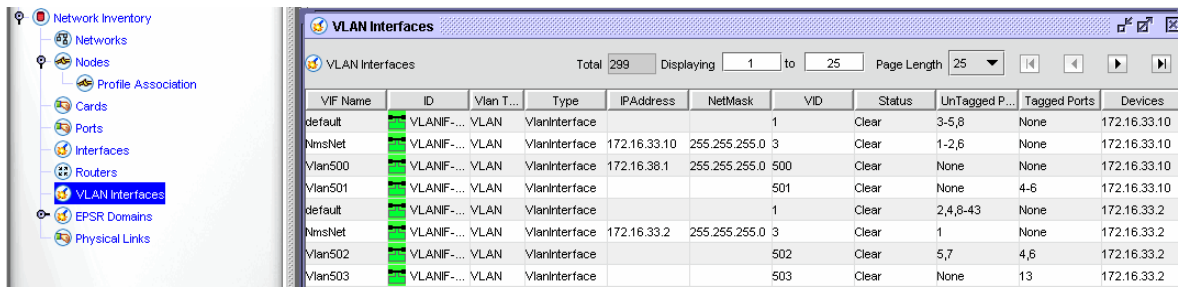
FIGURE 6-10 Example VLAN Interfaces Subview

When the VLAN Interfaces subview is displayed in the NMS Display Panel or when a VLAN interface is selected in the Network Inventory view, the *VLAN Interfaces* menu appears in the Panel-Specific Menu Bar, which is specific to VLAN interfaces. In the VLAN Interfaces subview, the menu appears when an interface is selected in the view. This menu provides various functions on VLAN interfaces. The menu items include:

- *Configure VLAN Interface* - Provides functions for configuring the selected VLAN interface. Refer to the *NMS Administration Guide* for more information on configuring VLAN interfaces.

- *Extend Vlan* - Provides functions for extending a VLAN. Refer to the *NMS Administration Guide* for more information on extending VLANs.

- *Alarms/Events* - Provides alarm and event information for the selected VLAN interface.

- *Managed Object Properties* - Displays the Managed Object Properties form for the selected VLAN interface. Refer to Section 9.

- *Delete Object and Traces* - Deletes the selected VLAN interface. Refer to the *NMS Administration Guide*.

- *UnManage*/*Manage* - Marks the selected VLAN interface as unmanaged if it currently is being managed, or as managed if it is currently unmanaged.

- *Update Status* - Updates the status information on the selected VLAN interface.

6.3.11 EPSR Domains Subview

The EPSR Domains Subview is a way to see in list format all of the domains that have been defined and the devices/control VLANs that are part of that domain. Refer to the following figure.

Note: Refer to the AlliedView NMS Administration Guide for how to use this table to understand and troubleshoot the EPSR configuration.
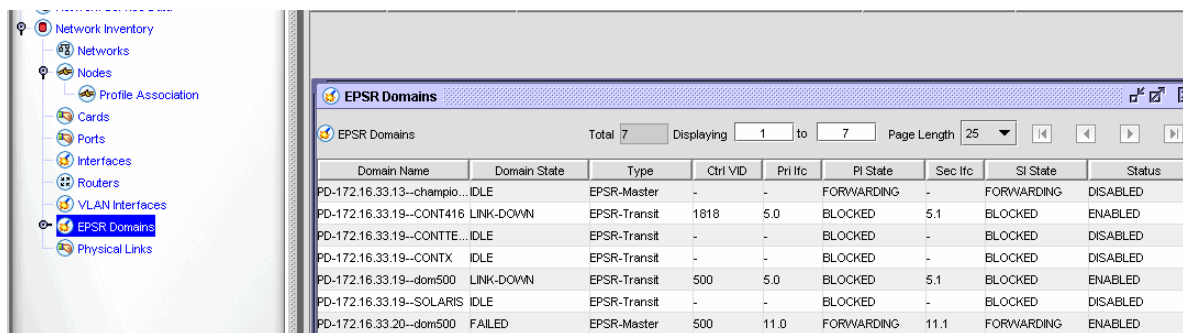

FIGURE 6-11 EPSR Domains Subview

6.3.12 Physical Links Subview

The Physical Links subview narrows the Network Inventory view to the physical links on the network. To access this view, click on the Physical Links node under Network Inventory in the NMS Tree. An example is shown in the following figure.
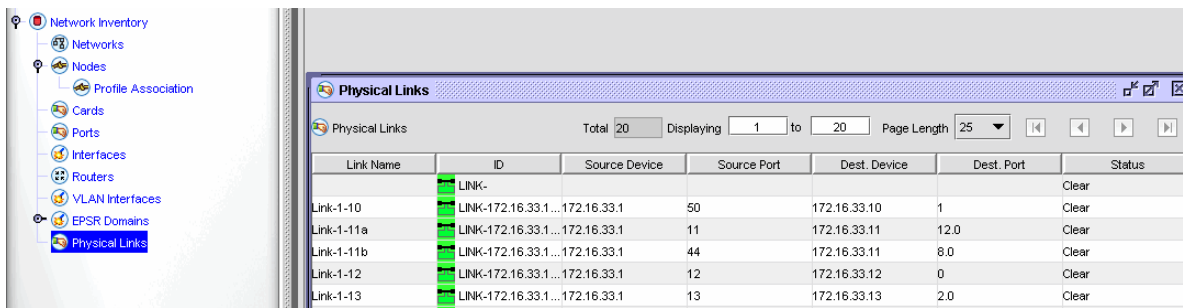
FIGURE 6-12 Example Physical Links Subview

When the Physical Links subview is displayed in the NMS Display Panel or when a physical link object is selected in the Network Inventory view, the *Link* menu appears in the Panel-Specific Menu Bar, which is specific to physical links. In the Physical Links subview, the menu appears when a link is selected in the view. This menu provides various functions on physical links. The menu items include:

- *Link Operations -* This brings up the Layer 2 form that allows the user to add or delete physical links. Refer to Section 6 of the AlliedView NMS Administration Guide on how to use this form.

- *Managed Object Properties* - Displays the Managed Object Properties form for the selected link. Refer to Section 9.

- *Alarms/Events* - Provides alarm and event information for the selected link.

- *UnManage/Manage* - Marks the selected link as unmanaged if it currently is being managed, or as managed if it is currently unmanaged

- *Update Status* - Updates the status information on the selected link.

6.4 Creating Custom Views

Refer to 8.4.2 a list of properties that are commonly used to create meaningful custom views.

6.5 Adding a Node / Network (without Discovery Configurator)

The user can add networks and nodes in the Network Inventory screen as Managed Objects (not modifying the seed.file) and this will take effect immediately. The menu choice:

- *Network Inventory / Edit -> Add Network*

- *Network Inventory / Edit -> Add Node*

brings up the dialog to add a network or node.

Caution: Adding a Network is an Administrator Task and is covered in the NMS Administration Guide.

6.6 Adding and Refreshing a Node

Select *Edit -> Add Node* from the Panel-Specific Menu Bar to add a new node to the existing object list in the Network Inventory panel.

Caution: Adding a Node is an Administrator Task and is covered in the NMS Administration Guide.
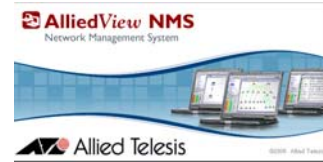
7. Using the HTML Interface

7.1 Overview

Use the following table to locate the most common tasks you wish to perform. If you are using NMS, use the screen name or the form name as well to locate the relevant section.

TABLE 7-1 Task List for HTML Interface

Task	Screen / Form Name (if Applicable)	Section/Notes
Change Password	Not applicable (n/a)	(7.2.3)
Review Screen	n/a	(7.3.2)
Network Map Tasks		Overview (7.4.1)
Manage Alarms	Alarms	Review Screen (7.5.1)
Manage Network Events	Network Events	Review Screen (7.5.4)
	Event Details	View Details (7.5.6)
Managing Network Inventory	Network Inventory	Review Screen (7.7.1)
	Object Details	(7.7.2)
Managing Nodes	SNMP MIB Manager	(7.8.1)
Setting up Users	n/a	(7.9)
Logging Out	Main screen, logout option	**Note: If you log out by closing the browser, it requires 30 minutes for the client session to time out. Use the Logout option.**

7.2 Starting Up

7.2.1 Overview

You can view the HTML Interface through any Web browser, such as Mozilla or Internet Explorer. Just open the Web browser and type the machine name and port number of the server in the address bar, as shown below:

```
Input: http://<machine name>:<port number>
```

For example:

```
Input: http://nms-server:9090
```

In the above example, nms-server is the name of the machine in which the server is running, and 9090 is the port number on which the server is listening.

Note: *The HTML AlliedView NMS interface does not have all the features and functions of the Java interface, and is therefore more suitable for query and report functions that can be accessed over any compatible browser. There are administrative tasks that can be done, but these should be done by authorized personnel only.*

7.2.2 Setting Web Browser Caching

The web browser caching function should be set to always check for updates from the server before retrieving content from cache.

For example, with IE, use *Tools -> Internet Options* and click on the General tab. Under Temporary Internet files, select **Settings...**

In the **Settings** window, under **Check for newer versions of stored pages**:, select the button **Every visit to the page**.

7.2.3 Modifying the User Account and Password

There are several situations in which the user account status or password must be modified. These include:

- Setting up user names and passwords for the first time.
- The password has expired - If you try to log in to the NMS Server when your password has expired, you get a message stating that your password has expired.
- The user account has expired - If you try to log in to the AlliedView NMS Server when your user name has expired, you get the message:

        The User Account has EXPIRED. Please contact the Administrator.

  You will have to contact your NMS Administrator to have your account renewed.

- The user account has been disabled - If you try to log in to the AlliedView NMS Server when your user account is disabled, you get the message:

        The User Account has been DISABLED. Please contact the Administrator.

  You will have to contact your NMS Administrator to have your account re-enabled.

Note: Defining users, user profiles, and user groups from the html interface is explained in the AlliedView NMS Administration Guide.

7.3 Common Interface Components

7.3.1 Overview

After you have logged into the browser HTML client by giving a valid user name and password, the screen displays the following three frames: the Tree frame, Display frame, and the Alarm Count frame. An example screen is shown in Figure 7-1. This section explains the various setups available initially on the screen.

7.3.2 Initial Screen Layout (Function Tabs)

The initial screen has the following components:

- At the top of the html frame is a set of function tabs. Each tab controls what appears in the Tree Frame and Display Frame. Directly underneath the tabs is a reminder of where the user is in the tab hierarchy.
- The **Tree Frame** is on the left-hand side of the screen. It has the tree that displays the different nodes for the chosen function tab.
- The **Alarm Count Frame** is on the left-bottom corner of the screen. It shows the categories of alarms, based on severity. Clicking on any number will list the associated alarms in the Alarm view. This frame appears regardless of which tab has been selected. The Alarm view is explained in 7.5.
- The **Display Frame** is on the right side of the screen. It shows the different nodes or tables for the node chosen in the Tree frame.

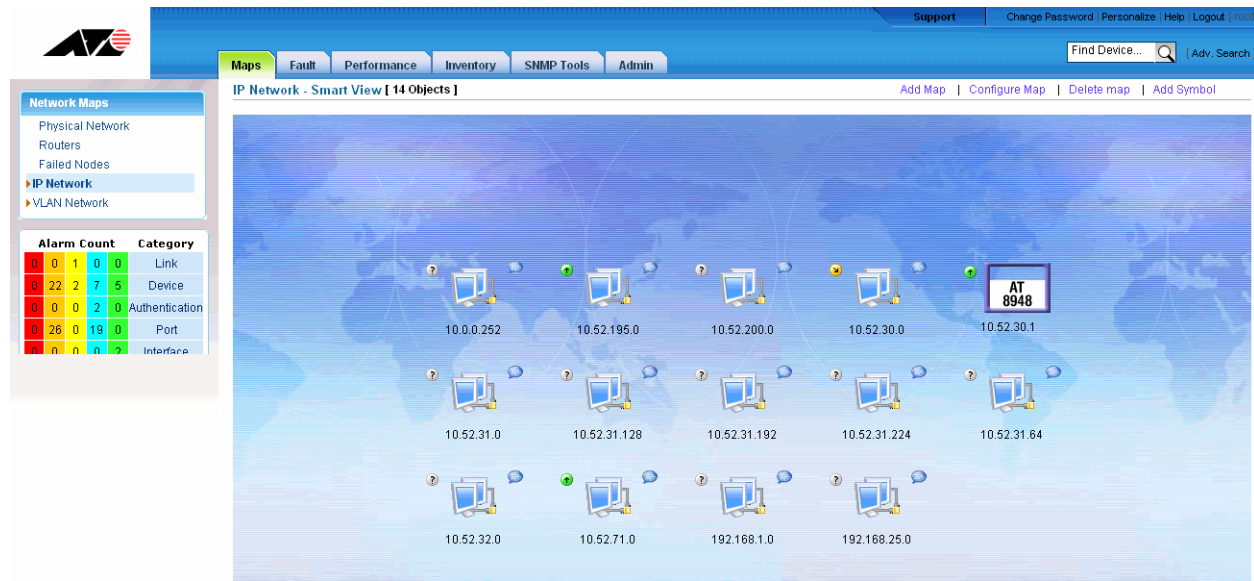Refer to the following figure for an example initial screen and what icons mean.

FIGURE 7-1 Initial Screen for html Interface

7.3.3 Search Function

To search for a particular device, the user can input a device attribute in the Find Device field, and then select GO. The Adv. Search brings up the Network Inventory View (explained later) with a Search Criteria options.

7.3.4 Maps and Symbols

For all the map types, the user has the following options:

- Add Map - This allows the user to add a map type to the Network Map tree. The newly created map will appear as a node of where the user is currently at; for example if the user is at the Physical Network Node and creates a map, the new map will appear as a node (leaf) under the Physical Network node. In the example below, the user has created a map called 33_1_only to show only a single device.

FIGURE 7-2 Creating a Map under Physical Networks

FIGURE 7-3 Map Created Successfully

- Configure Map - This allows the user to change the attributes of the create Map

- Delete Map - This deletes the Map the user is currently displaying

Note: Do not delete a Map that is included by default, since the default Maps have information that is usually important to assess the network.

- Add Symbol - Allows the user to add a symbol (image) to the map. This symbol can then be given attributes so that network changes can be highlighted using the image. NEED INFO - can give fault attributes to symbol?

7.3.5 Performance Monitoring

In previous releases, there was a separate tab for a Performance Monitoring frame. This has changed; the properties of a node in the Network Inventory view now include the appropriate graphs of statistics, and this is explained in the Network Inventory section, 7.7.

7.4 Network Maps

7.4.1 Overview

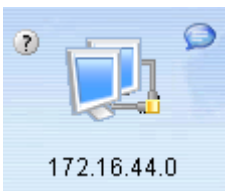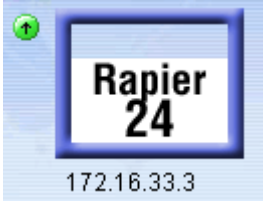The Network Maps Tree has the following default nodes:

- Physical Network
- Routers
- Failed Nodes
- IP Network (usually highlighted when accessing the html interface for the first time)
- VLAN Network

The main map tasks are as follows, and explained in the next subsections:

- Drilling down the networks - The method to reach the exact, desired map element. This makes the monitoring easier.
- Managed properties - The method to get the details of a particular map symbol. It shows the editable properties and provides information on the allowable values for the properties.
- Query and Control the Device - From the map symbol the user can manage/unmanage the node and view events and alarms (which changes the function tab view). This is explained in detail below.

All icons accessed from the Network Maps tree have three buttons to perform these tasks. The following table explains these buttons.

TABLE 7-2 Actions available from Network Map and Device Icons

Icon	Icon Buttons	Action
172.16.44.0		Clicking on this brings up the managed objects form, explained in 7.4.2.
		A state button, brings up the Fault Management View
		Brings up a smart (custom) view if one has been created.
172.16.33.3		Clicking on this brings up the managed objects form, explained in 7.4.2.
		A state button, brings up the Fault Management View

7.4.2 Managed Properties Form

The necessary details of map symbols are available in a form called the Properties form. Refer to the following figure.

FIGURE 7-4 Map Properties Form (Network)

The properties are grouped as follows:

TABLE 7-3 Properties Form for Network Map Objects (Editable fields are in bold)

Type	Area	Detail
General	General Information	Device Type
		Status
		Is Managed - the result of Manage / Unmanage
		Display Name - what appears for the object
	Identification Details	IP Address
		Netmask
		Is DHCP Enabled?

TABLE 7-3 **Properties Form for Network Map Objects (Editable fields are in bold)**

Type	Area	Detail
Monitoring	Status Monitoring Details	**Is Status Polling Enabled** - whether the object status polling has been enabled for the object
		Tester for Status Polling - how the device is polled
		Last Status Update Time
		Last Status Change Time
		User Class Name
		Failure Threshold - number of failed polls before alert created
		Failure Count - how many times polling has failed
		Status Polling Interval -
Discovery	Discovery Setting	Discovery Status
		Start / Resume Discovery
Details	Nodes & Interface Details	List of Nodes
		List of Interfaces
		Sub Networks
		Sub Netmasks
		Parent Netmask
		Parent Network
Utilization	Currently Unused	CPU
		Memory
		Disk
Alarms		Status
		Failure Object
		Alarm Details
		Date / Time
Tabs	Symbol Properties	
	Manage/Unmanage	
	View Events	
	View Alarms	

Some of the above properties are kept editable so that you can make changes as per your requirements. For example, the icon displayed for the map symbol can be changed to any other image by changing the icon name under General Properties.

7.4.3 Physical Network

The physical network lists all the device icons as described in Table 7-2, and is shown in the following figure.

Note: As with the non-html interface, the RGs are not included in the Physical Network view; these are shown when the user chooses the relevant IP network.

FIGURE 7-5 Physical Network - All Devices (Except iMG/RGs)

Clicking on the icon will bring up the Managed Object Properties Form, as shown in the following figure and table.

FIGURE 7-6 Managed Object Properties Form for a Device

TABLE 7-4 Properties Form for Device Map Objects (Editable fields are in bold)

Type	Area	Detail
General	General Information	Device Type
		Status
		Is Managed - the result of Manage / Unmanage
		Display Name - what appears for the object
	Identification Details	IP Address
		Netmask
		Is DHCP Enabled?
Monitoring	Status Monitoring Details	**Is Status Polling Enabled** - whether the object status polling has been enabled for the object
		Tester for Status Polling - how the device is polled
		Last Status Update Time
		Last Status Change Time
		User Class Name
		Failure Threshold - number of failed polls before alert created
		Failure Count - how many times polling has failed
		Status Polling Interval -
Interfaces & Parent Networks		List of Interfaces
		Parent Network
		Parent Object
		List of Groups
		Is Container?
		Children Keys
		Is Group?
Protocol Configuration Settings		SNMP Port
		Base MIBs
		Read Community
		Write Community
		SNMP Version
		SysOID
		System Description
		Host Netmask
Interfaces		Index
		Description
		Speed
		Status
		MAC
Utilization		CPU
		Memory
		Disk
Other Graphs		Performance Monitoring

7.4.4 Other Network Maps

- Routers - These show only the devices configured as routers

- Failed Nodes - These show only those devices that have an Alarm with a severity

- VLAN Network - This shows the devices associated with each VLAN interface for the network chosen. Therefore, there will usually be a VLAN id repeated for the different devices it is configured on. Refer to the following figure.

FIGURE 7-7 VLAN Interfaces for the Selected Network

7.5 Fault Management (Events and Alarms)

7.5.1 Overview of Alarms

The devices connected with the NMS create various events. These events are converted (parsed) into alarms based on their significance. By default, the alarms are classified into five categories: Critical, Major, Minor, Warning, and Clear. This classification is based on the severity of the fault.

When you click the Alarms node in the Fault Management tree, the Alarms page is displayed, as shown in Figure 7-8. By default, it shows the following columns:

- Status - These are color-coded to indicate criticality in the same manner as events:
    - Red - Critical
    - Orange - Major
    - Yellow - Minor
    - Blue - Warning
    - Green - Clear
- Failure Object - Clicking on the link brings up the Alarm Details form.
- Actions - Using the icons, the user can acknowledge the alarm and annotate the alarm for future reference.
- Alarm Details - The text for the alarm.
- Date/Time - The date and time the alarm occurred.
- Alarm Group - ALarms can be assigned to a group when a parser is created. Groups are not used in the base NMS and are not shown in the HTML interface.
- Owner - The name of the login filled in the Alarm Details form.
- System Location - This is the value that was filled in the Managed Object Properties form.

The alarms are grouped by default for sets of 25 alarms in a page. This can be changed using the pull-down.

By clicking on a column header name, you can sort the list by the selected column information. When you click the name, an arrow shows the direction of the sort (up descending, down ascending). Each time you click the name, the sort direction toggles.
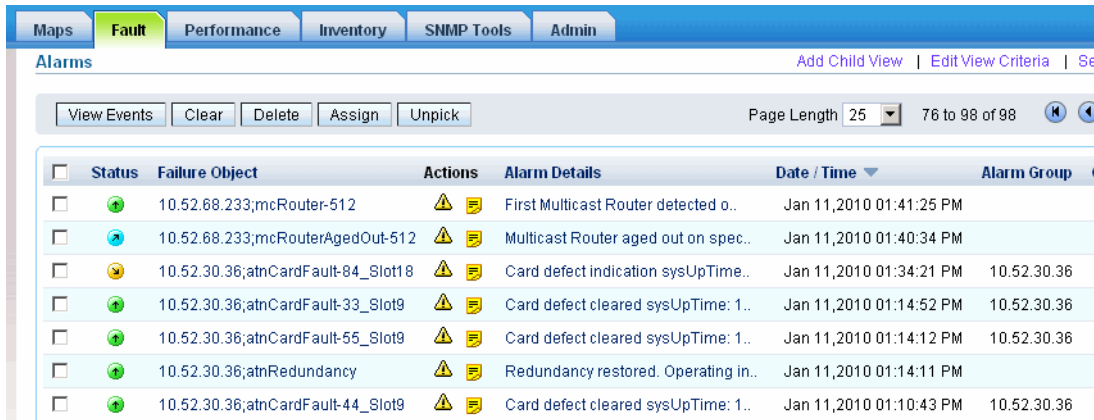
The following figure shows the alarm view.

FIGURE 7-8 **Alarm View for HTML Interface**

7.5.2 Alarm View Options

The following options are available from the Alarm View. (These options are also used in the Events and System Logs Events view.)

7.5.2.1 Add Alarm Child View

This options allows the creation of a filtered view so that only certain alarms are shown. The following figure shows the Custom View Form.

FIGURE 7-9 Creating an Alarm Child View

The name (Child view name) must be unique. For the criteria, refer to 8.4.11

When the child view is created, it appears as a subnode to the Alarms node (where it appears cannot be changed).

The following table lists the properties.

TABLE 7-5 Alarm Custom View Properties

Property	Description
Custom View Name	The name of the custom view. This is a mandatory parameter. If you try to submit the form without mentioning the name, the message "No Custom View is mentioned" is displayed.
Severity	The severity of the event object, which indicates the criticality of the event. You can choose one of the severity (All, Major, Minor, Warning, Clear, Info, or Unknown) from the list box.
Previous Severity	The matching criteria based on the previous severity of the alarm.
Owner	The name of the owner with whom the alarm is associated.
Group	A group value based on which alarms are grouped in the client.
Message	An Alarm message for the particular custom view.
Category	The name of the category to which the alarm belongs. This could be used for better organization of alarms.
Failure Object	Information about the specific entity within the source of the event, which is primarily responsible for the occurrence of this event. The name of the failure object which caused the event to occur can be given in this field.

TABLE 7-5 Alarm Custom View Properties

Property	Description
Source	Information about the source of the alarm. Alarms matching a particular source can be filtered out using this criterion.
From Date/ Time (Modified Time)	A from date and time for filtering out alarms modified from a particular date/time onward.
To Date/Time (Modified Time)	A to date and time for filtering out alarms modified before a particular date/time.
From Date/ Time (Create Time)	A from date and time for filtering out alarms generated from a particular date/time onward.
To Date/Time (Create Time)	A to date and time for filtering out alarms generated before a particular date/time.
GroupViewMode	The mode of grouping. It could be max, latest, or none. If max is selected, then alarms are grouped with the alarms of maximum criticality being shown at the top of the group. If latest is selected, then alarms are grouped with the latest alarm in a group shown at the top of the group. If GroupViewMode selected is none, then the alarms are not grouped.
Alarm Age	An age for filtering alarms based on the age of alarms. Age of an alarm denotes the time lapsed since the occurrence of the alarm in the NMS system.
Refresh Period (in Min.)	The frequency at which the latest alarms should be updated in the alarm browser from the database.

7.5.2.2 Edit View Criteria

This option allows the user to modify the criteria for the selected view. The criteria is the same as when creating a custom view.

7.5.2.3 Search

The search option allows the user to further refine a view by listing columns and the criteria the column must match. The More button allows more that one column to be used, and the Match radio buttons allow an OR (any) or AND (all) criteria to be set. Refer to the following figure, which shows a search based on the severity of Clear.

FIGURE 7-10 Advanced Search for a View

For the text values for criteria, refer to 8.3.3.

7.5.2.4 Customize Columns

This options allows the user to control which columns are displayed in a view. The user moves (using the right and left arrows) the columns to be displayed. To control the order, select one of the Displayed columns and use the up and down arrows to control where it is placed. Refer to the following figure.

7.5.2.5 Operations

After checking the tic box for one or more alarms the user can choose one of the following actions:

- **View Events** - displays the list of events for the object that had created the alarm.

- Clear - This will set the status to Clear and show what the previous status was.

- Delete - Deletes the alarm (after a confirmation window).
- Pickup - Allows a user to be associated with an alarm.
- Unpick - Disassociates a user with an alarm.

Note: If any of the parameter fields (except Custom View Name) is left blank, the default value all is assigned.

7.5.3 Alarm Properties (Details)

After clicking on the link for the Failure Object, the user will see the Network Inventory Window with the MO Objects properties form. The properties of this form are explained in

The user has the following options:

- Unmanage
- View Events
- View Alarms

If the object is a Network, a list of alarms is listed at the bottom of the window, and the user can query the individual failure object. For details on the Network Inventory frame, refer to 7.7.

172.16.33.0

| Unmanage | View Events | View Alarms | Delete Object and Traces |

General Information			Edit
Device Type	Network	Status	Warning
Is Managed ?	true	Display Name	172.16.33.0
IP Address	172.16.33.0	Netmask	255.255.255.0
Is DHCP Enabled ?	false		

Status Monitoring Details			Edit
Is Status polling enabled?	false	Tester for Status Polling	max
Last Status Update Time	Mar 23,2005 01:25:07 PM	Last Status Change Time	Mar 23,2005 01:25:07 PM
User Class Name	null	Failure Threshold	1
Failure Count	0	Status Polling Interval	1800 secs

Discovery Settings			Edit
Discovery Status	Completed	Start / Resume Discovery	true

Nodes & Interfaces Details			
List of Nodes	--	List of Interfaces	172.16.33.1
Sub Networks	172.16.33.128	View Details [Select and click view details of sub networks]	Sub Netmasks	255.255.255.128
Parent Netmask	–	Parent Network	--

CPU Utilization	Memory Utilization	Disk Utilization
Not Available	**Not Available**	**Not Available**

Other Graphs

Alarms

Status	Failure Object	Alarm Details	Date / Time
Warning	172.16.33.0_NET	One or more nodes in this network has a Wa...	Mar 23,2005 02:57:24 PM
Clear	172.16.33.0	Network clear. No nodes failed on this net.	Mar 23,2005 02:57:28 PM

FIGURE 7-11 Alarm Details Form

7.5.4 Overview of Network Events

Events are simply the complete sets of notifications from the network. They are basically of two types: External and Internal events. External events are actions or notifications that are external to the NMS (for example, Traps, which are basic notifications from the SNMP agents or management applications). Internal events are notifications that are generated by the NMS during data polling and status polling (for example, threshold events and status events). The following figure shows the default Event view.
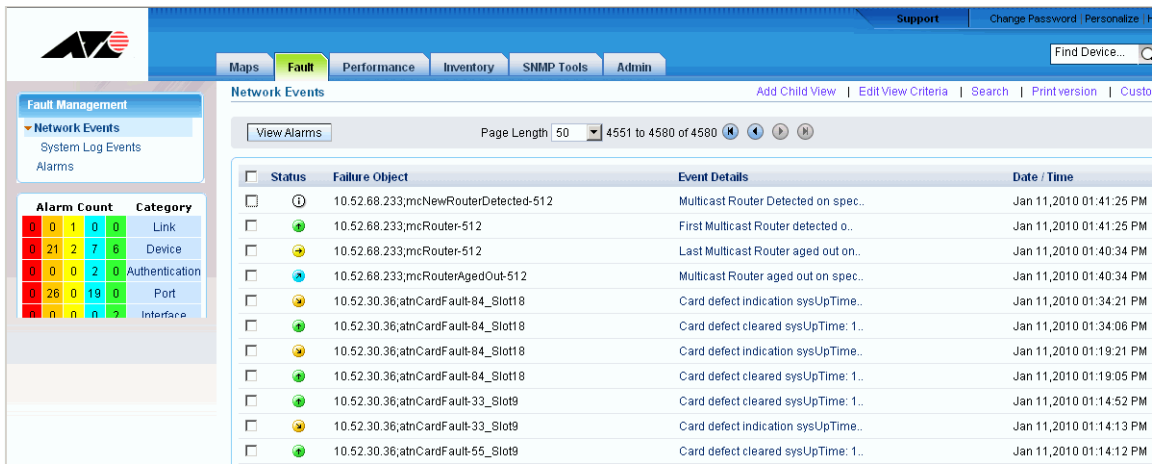
FIGURE 7-12 Network Events View for html Interface

7.5.5 Event View Options

The options for the event view are the same as the alarm view, explained in 7.5.2.

7.5.6 Viewing Event Details

The Event Details page is accessed by choosing the Source field, and has the same fields as the Alarm view, explained in 7.5.3.

7.5.7 System Log Events View

The relationship between the components that provide system logs is as follows:

- The filtering of logs produced by the device that are sent to the NMS is controlled by applying log filters. This is described in the AlliedView NMS Administration Guide.

- The logs that are displayed in the **System Log Events** tree node (Under **Network Events**) are controlled through configuring the system log server.

At the html GUI, the initial System Log Events view lists the logs that the NMS has been set up to filter and display. Refer to the following figure.

FIGURE 7-13 Initial System Log Events View

The properties of the System Log Events are shown by clicking on the **Source** field, and are almost the same as the Alarm properties as explained in 7.5.3.

Refer to the following figure.

FIGURE 7-14 SYSLOG Event Properties

7.6 Performance

7.6.1 Overview

To control statistics that are collected and reported the user can select a host and then add, modify, or delete a statistic. Refer to the following figure.
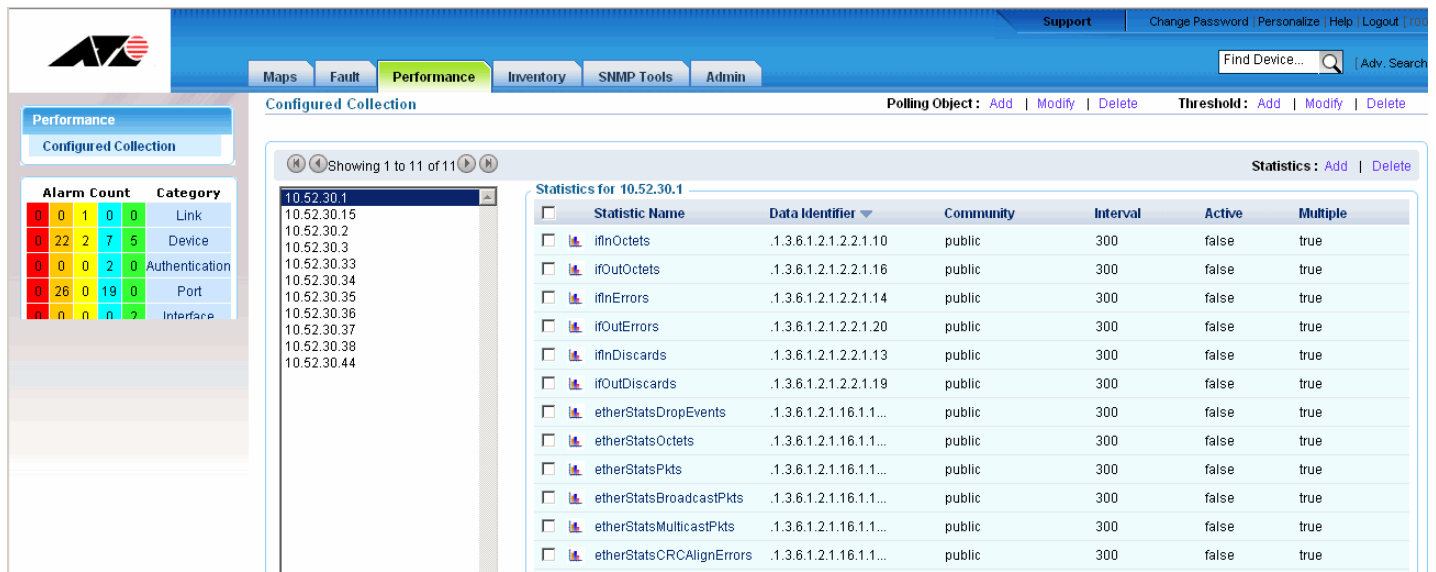
FIGURE 7-15 Controlling Performance Data

7.7 Network Inventory

7.7.1 Overview

The Network Inventory, sometimes referred to as the topology database, is the repository of all of the data for all of the objects managed by the AlliedView NMS. A network, therefore, is an object that contains one or more nodes, each of which in turn contains one or more interfaces. The properties of all these objects are maintained in the Network Inventory. These are shown under the Network Inventory node in the tree.

The inventory views for all of these objects are based on a table view, where each row pertains to a managed object. Clicking on the column name sorts the table data according to the information in the selected (clicked) column.

The following figures and tables show each object view, the icons that are used, and descriptions of the table columns.
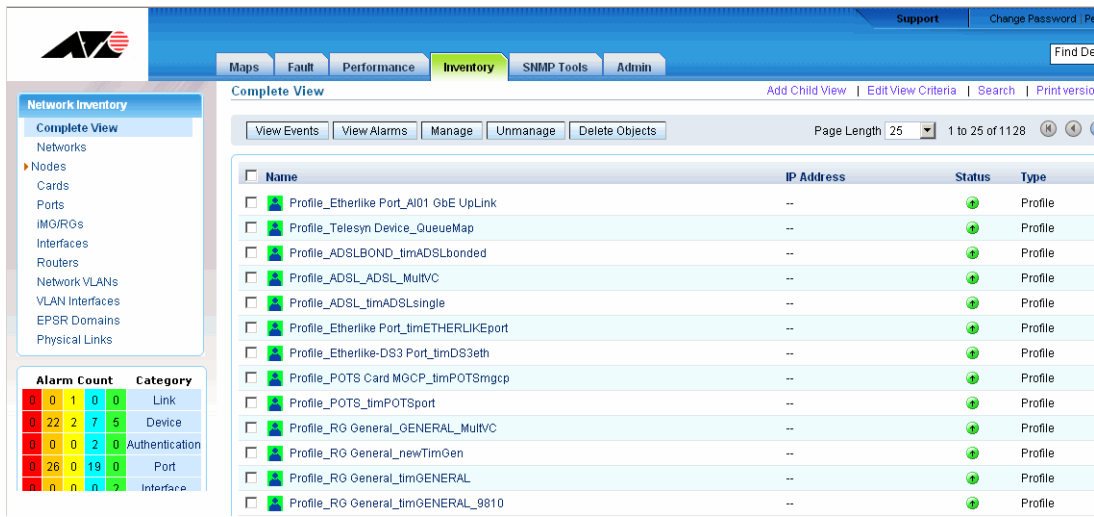
FIGURE 7-16 Network Inventory View (HTML)

TABLE 7-6 Network View Columns

Column	Meaning
Name	The object name. The icon to the left of the name ( ) is the icon for a network object, which is the object type, where the icon color depicts current criticality state of the object.
	Left-clicking the name brings up the Object Details form.
	The arrow to the right of the name (>>) brings up a menu of appropriate actions (Manage/Unmanage). Left-clicking the arrow brings up the menu.
IPAddress	The object IP address. Every object has a unique IP address.
Status	The alert status.
Type	One of the types listed in the Network Inventory tree
NetMask	The object subnetwork or network category.

FIGURE 7-17 Node View (HTML)

TABLE 7-7 Node View Columns

Column	Meaning
Name	The object name. The icon to the left of the name ( ) is the icon for a network node object, which is the object type, where the icon color depicts current criticality state of the object. Left-clicking the name brings up the Object Details form. The arrow to the right of the name ( ) brings up a menu of appropriate actions (Manage/ Unmanage). Left-clicking the arrow brings up the menu.
SysLocation	The MO property to identify a location
Type	The device type (the type of AT device).
Release	The software release the device is running.
Serial Number	The unique name given by AT to identify the device.
IPAddress	The object IP address.
NetMask	The object subnetwork or network category.
Status	The alert status.
Last Status Time Change	The date and time at which the object information was last updated.
webcli- ent.topo.con- figChange	

FIGURE 7-18 Profile Association

TABLE 7-8 Profile View Columns

Column	Meaning
Name	The object name. The icon to the left of the name (such as) is the icon for a network node object, which is the object type, where the icon color depicts current criticality state of the object. Left-clicking the name brings up the Object Details form. The arrow to the right of the name ( ) brings up a menu of appropriate actions (Manage/ Unmanage). Left-clicking the arrow brings up the menu.
Type	The device type (the type of AT device).
IPAddress	The object IP address.
Profile	The associated Profile

FIGURE 7-19 Card Inventory View

TABLE 7-9 Cards View Columns

Column	Meaning
Device	The device that contains the card
Slot	The slot number of the card
Type	The type of card.
IP Address	For cards that require an IP interface (POTS24, CES8)
CLEI Code	For cards that have a CLEI code

FIGURE 7-20 Customer Ports View

TABLE 7-10 Customer Ports View Columns

Column	Meaning
Device	The node name
Port	The port number on the card. Typically, the port number is the customer's telephone number
Type	The interface for the port
Customer ID	An ID number that uniquely identifies the port.
Status	The current status of the port.
Profile	The profile the port has been associated with. If there is an *, the data on the port and the associated profile do not match.
ADSL IfIndex	Index number created for the ADSL port
ifIndex	Index number created for the ethernet port

Note: For details on the iMG/RG view, refer to the AlliedView NMS Administration Guide.

FIGURE 7-21 Interface Inventory View (HTML)

TABLE 7-11 Interface View Columns

Column	Meaning
Name	The object name. The icon to the left of the name ( ) is the icon for an interface object, which is the object type, where the icon color depicts current criticality state of the object. Left-clicking the name brings up the Object Details form.
Type	The object type (interface).
IPAddress	The object IP address.
NetMask	The object subnetwork or network category.
IsSNMP	The state of SNMP in the device (enabled or disabled).
Status	The alert status.
Last Status Time Change	The date and time at which the object information was last updated.

FIGURE 7-22 Routers Inventory View (html)

TABLE 7-12 Routers View Columns

Column	Meaning
Name	The object name. The icon to the left of the name ( ) is the icon for a router object, which is the object type, where the icon color depicts current criticality state of the object. Left-clicking the name brings up the Object Details form. The arrow to the right of the name ( ) brings up a menu of appropriate actions (Manage/Unmanage). Left-clicking the arrow brings up the menu.
Type	The object type (AT device).
IPAddress	The object IP address.
NetMask	The object subnetwork or network category.
Version	The version of SNMP (v1 or v2) in the object.
System Descr	The detailed name of the device and software load running.
Status	The alert status.
Last Status Time Change	The date and time at which the object information was last updated.

FIGURE 7-23 VLAN Interfaces View (html)

TABLE 7-13 VLAN Interface View Columns

Column	Meaning
Display Name	Matches the name given for the associated VLAN
Name	The object name. The icon to the left of the name (![icon]) is the icon for an interface object (VLAN interface, in this case), which is the object type, where the icon color depicts current criticality state of the object. Left-clicking the name brings up the Object Details form.
VLAN Type	
ID	The object (interface) ID.
Type	The object type (AT device).
IPAddress	The object IP address.
NetMask	The object subnetwork or network category.
VID	The version of SNMP (v1 or v2).
Status	The object status.
UnTagged Ports	The ports on the VLAN interface object that are untagged.
Tagged Ports	The ports on the VLAN interface object that are tagged.
Device	The device on which the VLAN IF resides
Network Vlan	The name of the VLAN if crosses mulitple devices.
Forwarding Mode	For the UFO VLAN interface, the type of Forwarding used. (Standard VLANs do not have Forwarding configured.)
Node Type	Whether the Node is a Primary Upstream Node (into the upstream network), Secondary Upstream Node, or Non-Upstream
Pri UP Node Status	The status of the Primary Upstream Node (should be active)
Sec UP Node Status	The status of the Secondary Upstream Node (if configured, should be standby)

FIGURE 7-24 EPSR Domain View

TABLE 7-14 EPSR Domain View Columns

Column	Meaning
Display Name	Matches the name given for the associated VLAN
Name	The domain name that applies to this specific Network VLAN and all of its associated nodes.
Domain State	The overall state of the EPSR domain. LINK DOWN means one (or more) of the data VLANs has been broken.
Type	Whether the Domain is a Master or Transit
Ctrl VID	The VID of the network VLAN that is being used to create the protection ring
Pri Ifc	The interface for the associated VLAN with a state of Primary
PI State	The state of the Primary interface (BLOCKED or FORWARDING)
Sce Ifc	The interface for the associated VLAN with a state of Secondary
SI State	The state of the Secondary interface. (BLOCKED or FORWARDING
Status	The overall state of the domain (whether it is ENABLED or DISABLED)

FIGURE 7-25 Physical Links View

TABLE 7-15 Physical Links View Columns

Column	Meaning
Display Name	
Name	The name supplied when the link was created (optional) The icon to the left of the name (such as) is the icon for a link object, which is the object type, where the icon color depicts current criticality state of the object. Left-clicking the name brings up the Object Details form
Source Device	The source node name
Source Port	The port on the source device to which the link is attached
Dest. Device	The destination node name
Dest. Port	The destination port
Status	The alert status

7.7.2 Network Inventory View Options

The options from Network Views (Add Child View, Edit View Criteria, etc.) are similar to other views. Refer to 7.5.2 for details. Also the options for individual objects, once selected using the tic box, are similar to other views.

The necessary details of network objects are available in a form called the Properties form. The properties of an object are displayed by clicking on the underlined value for a column, usually <u>Name</u>. Once the properties form is displayed, <u>Expand</u> lists all properties. Refer to the following example figure for Network Objects.

Note: Cards, Ports and EPSR objects do not have a Details form.

When editable fields have been changed, the **Update Object** button applies these changes so that the AlliedView NMS database will register these the next time this object is discovered. (The user can go up to the objects view level, check the tic box, and perform a Start Discovery if desired.)

FIGURE 7-26 Object Details Form for Network Object (html)

TABLE 7-16 Properties Form for Network Objects

Type	Area	Detail
General (All objects)	General Information	Device Type
		Status
		Is Managed
		Display Name
	Identification Details	IP Address
		Netmask
		Is DHCP Enabled?
Monitoring (All objects)	Status Monitoring Details	Is Status Polling Enabled
		Tester for Status Polling
		Last Status Update Time
		Last Status Change Time
		User Class Name
		Failure Threshold
		Failure Count
		Status Polling Interval
Discovery (Network objects only)		Discovery Status
		Start / Resume Discovery
Network Elements (Network objects only)	Nodes & Interface Details	List of Nodes
		List of Interfaces
		Sub Networks
		Sub Netmask
		Parent Netmask
		Parent Network
Relationship (All objects except networks)	Interfaces & Parent Networks	List of Interfaces
		Parent Networks
	Logical & Hierarchical Relationship Details	Parent Object
		List of Groups
		Children keys
		View Details

TABLE 7-16 **Properties Form for Network Objects**

Type	Area	Detail
Protocol Setting (All objects except networks and links)	Protocol Configuration Settings	SNMP Port - Base MIBs Read Community Write Community SNMP Version
	Interface	Physical Media Physical Address Interface Speed Interface Description
SNMP (All objects except networks, links, and VLANs)	SNMP Details	System Object Identifier (SysOID) System Description Host Netmask

7.8 Working with SNMP Tools (MIB Manager)

7.8.1 Overview

The MIB Browser is displayed by selecting the *SNMP Tools* tab from the HTML menu, as shown in the following figure.
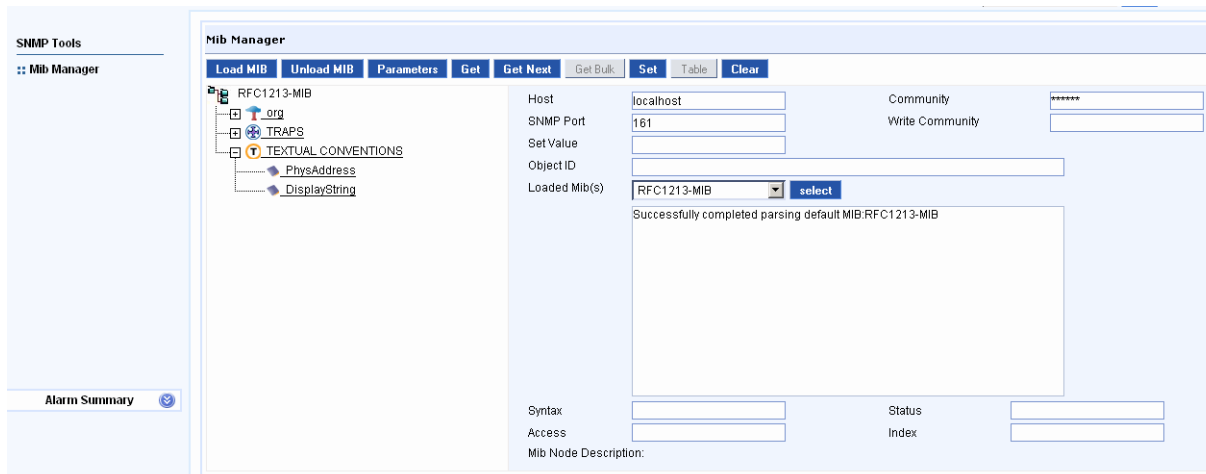
FIGURE 7-27 **MIB Browser (HTML)**

The functionality of HTML UI MIB Browser is similar to that of the Java UI MIB Browser. The difference is that MIB Browser of the Java UI has some more advanced features in addition to the features found in HTML UI.

The HTML UI MIB Browser allows "**GET**", "**GETNEXT**", "**GETBULK**", and "**SET**" SNMP requests to a particular variable in the MIB of an SNMP managed device. It also allows table viewing. Apart from these features, the UI of the HTML UI MIB Browse represents and differentiates the various objects under the MIB with unique icons. In addition, the selected node under the MIB is highlighted with specific colors for easy identification as shown in Figure 7-27.

The left-side frame is the MIB tree, in which the selected MIB file is shown, and the right-side frame is for setting the options and for the result display. The right frame includes fields for:

- the current Node Object ID that's being operated upon the current MIB module
- the SNMP agent name or address (Host)
- the community name
- a text field to enter the value for the set operation
- a Write Community value, which is used for a set request
- a drop-down box that shows the currently loaded MIBs
- a text area to view query results

TRAP definitions and textual conventions for a specific MIB can be viewed by choosing the TRAPS node or the TEXTUAL CONVENTIONS node from the tree-view of MIB Browser.

The operations allowed with the HTML UI MIB Browser are available through the various icons in the toolbar at the top of the frame, which are shown in the following table.

TABLE 7-17 Task List for HTML Interface

Action	Meaning
Load MIB	Load the MIB files in the HTML UI MIB Browser.
UnLoad MIB	Unload the MIB files in the HTML UI MIB Browser.
Parameters	Sets the values for port, version, time-out, retries and max-repetitions. This displays a dialog where the Snmp Version, Snmp Port, Time-out, Retries, Max-Repetitions can be specified
Get	Performs a GET operation. This gets all the objects under the selected MIB object, or the specific object if the MIB node and instance are specified
GetNext	Performs a GETNEXT operation. This gets the next object after the specified object, or the specific object instance if a MIB node is specified.
GetBulk	Performs a GETBULK operation. This gets a sequence of Next Objects immediately after the specified object. The number returned Object instances are equal to the Max-Repetitions field.
Set	performs a SET operation. This enables setting the value of the specified object, based on the value in the **Set Value** field. To do a SET for Octet String Type in hex format enter the bytes in hex format with each bytes separated by a colon and the entire string within single quotes. For example to give 0xff0a3212 enter 'ff:0a:32:12' in the SetValue field
Table	Allows you to view the SNMP Table. This brings the display of SnmpTable, if the selected OID is a table
Clear	Clears the text area. It clears the QUERY RESULTS, which sometimes overflow its capacity and needs to be cleared

The **select** button, in the right-side frame, is used to select the MIB to be displayed in the tree-view of HTML Client. Apart from these, there are text fields for displaying Syntax, Access, Status, Index, and MIB Node Description, which give a brief description of the selected MIB file

Note: The UI of HTML UI MIB Browser is not the same as that of Java UI MIB Browser. Apart from the difference in the UI, some of the features present in the Java UI MIB Browser such as v3 support, graphing, etc., are not available in the HTML UI MIB Browser

7.8.2 Loading and Unloading MIBs

The MIB files can be loaded or unloaded as per your requirements. To load the MIB files, use the **Load MIB** option. This displays the HTML page with the list of MIBs.

The MIB Browser allows loading of compiled MIB files. To store the compiled information, there are two file types are used for storing the MIB information in a formatted structure:

- cmi - This file type contains MIB information such as MIB node, MIB module, naming hierarchy, etc.

- cds - This file type contains the description and reference of the nodes in the MIB.

The compiled MIB files reduce the loading time leading to performance improvement. The **Load MIBs from compiled Files** check box can be checked/unchecked to load the MIB files directly or as compiled MIB files. By default, this option is unchecked. If this is unchecked, you can directly load the MIB file, as provided.

When **Load MIBs from compiled File** is enabled, the MIB Browser tries to load the **.cmi** and **.cds** file, if they are present. Otherwise, this parses the MIB file and writes the output in **.cmi** and **.cds** files and then loads the MIB file. For example, for RFC1213-MIB, the compiled MIB files are **RFC1213-MIB.cmi** and **RFC1213-MIB.cds**. The advantage of using this option is that we need not parse the MIB each time we load it, thus optimizing the loading time.

While loading the compiled MIBs it is enough if we load the **.cmi** file alone. The **.cmi** file has reference to the **.cds** files. The <mib_file_name>**.cds** file should not be loaded directly.

After loading the MIB file as a compiled MIB file, any change done in the MIB file doesn't get reflected in the loaded MIB file. You have to remove the existing **.cmi** and **.cds** files, and then load the MIB to get the latest changes done. The **Overwrite existing compiled MIB files** check box can be enabled to overcome this. If this option is set to True, the **.cmi** and **.cds** files are created each time the MIB is loaded.

Enabling this option is recommended only if you have changed the contents of the MIB file. Otherwise, this unnecessarily increases the load time of the MIBs.

The MIB files displayed in the list box (as shown in the above screen) are provided in the *<NMS Home>/mibs* directory. It may be convenient to copy your MIB files to be loaded, into the *<NMS Home>/mibs* directory.

Choose the MIB to be loaded from the list box displayed and choose the **Load** button.

You can also load multiple MIBs, which get displayed in the list box provided, as shown in Figure 7-27. Select one of the listed MIBs from the list box. Use the **Load** button to display it in the tree-view of HTML Client. When any MIB module is selected, the root node for that MIB becomes the current OID.

Note: *The tree-view of HTML UI MIB Browser displays only one MIB at any time. To view the objects of another MIB file, you need to select the respective MIB file from the list box which gets overwritten in the tree-view.*

To unload the loaded MIB, select the node from the MIB Tree and then choose the **Unload** option from the MIB Toolbar. This removes the MIB and its reference from the tree.

7.8.3 MIB Browser Settings

The third icon in the toolbar at the top of the frame is the **Parameters** icon. This option allows configuration of various options needed for SNMP operations.

You can modify the default values as per your requirements. The following table shows the options, description, its default values, and other options available.

TABLE 7-18 MIB Browser Settings

Options fir MIB Browser	Description	Default Values	Other Options
Snmp Version	The version of the SNMP used.	SNMP_Version1	SNMP_Version2c
Snmp Port	The port where the SNMP agent listens.	161	any user-defined port
Time out (Sec)	The duration for the SNMP request to wait for the response from any device.	5	any user-defined value

TABLE 7-18   (Continued)MIB Browser Settings

Retries	The number of times the SNMP manager should make the request to the SNMP agent.	0	any user-defined value
Max. repetitions (For GetBulk)	The number of Object instances to be returned for a given single request. (Applicable only to SNMP_Version2c)	50	any user-defined value
Non Repeaters	The number of pairs in the VarBindList array for which a single instance should be returned (only for SNMPv2c)		any user-defined value

7.8.4 SNMP Operations

The MIB Browser allows you to do typical SNMP operations, such as GET, GET NEXT, GET BULK, and SET. To do the GET operation, you have to load the MIB file, select the desired node, and click the **Get** button in the MIB toolbar, provided at the top of the frame. To fully specify an object to an SNMP agent, both the Object ID (which defines the type of object) and the instance (the specific object of the given type) need to be provided. From the MIB, you can get the Object ID, to which an instance needs to be added to completely identify the object of interest.

For non-tabular objects or scalar objects, this is simply an instance of 0 (e.g., sysDescr.0, this need not be specified the MIB Browser adds it to the selected node). For tabular objects, the instance is defined by the MIB and is a sequence of one or more variables (for example, ifInOctets.2 or tcp-ConnState.179.74.15.126.1192.225.226.126.197.80).

7.8.5 SNMP Table

To view the SNMP table, click the **Table** button in the MIB Toolbar provided at the top of the frame. This displays the SNMP Table if the selected OID is a table.

7.9 Admin (User and Network)

The Admin tab brings up the Administration screen. The options and what they mean are included in the screens.

Refer to the following figure.

FIGURE 7-28 Admin Screen (html)

7.9.1 Security Administration

From the Security admin screen, the user chooses User Configuration, and can then add a user, modify the user profile, or remove a user.

7.9.1.1 User Configuration

The Add User form is shown in the following figure. Table 7-19 lists the options.

FIGURE 7-29 Add User Screen (html)

TABLE 7-19 Options for Add User

Field	Meaning
User Name	Required, the name must be unique with up to NEED INFO characters.
Password	Required, the password must be unique with up to NEED INFO characters. The Re-type Password must match or there is an error message.
Available group names	The option to add the user to a group, so that the user inherits the privileges of the group.
Add this user to a new group	Checking the tic box activates the field, and a new group can be defined that includes the new user. NEED INFO - what privileges does the new user have? always admin?
Password expires in	Checking the tic box activates the field, how many days the password is valid.
Account expires in	Checking the tic box activates the field, how many days the user name is valid.

7.9.1.2 Modify User Profile

To modify the User Profile, select the Edit icon. The Modify User Profile form is shown in the following figure. Table 7-20 lists the fields.

Modify profile - keith

User Information: Cancel

User name keith

User Current Status enabled

Current Password

New password

Re-type password

Modify password expiration 0   days

Modify account expiration 0   days

Submit   Cancel

▶ **Associated Groups**

▶ **Permitted Operations**

FIGURE 7-30 Modify User Profile Screen (html)

TABLE 7-20 Options for Modify User Profile

Field	Meaning
Current and New Password	Checking the tic box activates the field, and a new password can be defined.
Groups	Which groups the user can belong in. The user must belong in at least one group. More than one group can be chosen using the right and left arrows.
Modify password expiration	Checking the tic box activates the field, how many days the password is valid.
Modify password expiration	Checking the tic box activates the field, how many days the user name is valid.

7.9.1.3 Group Configuration

To remove the user, select the user name and select the trash can icon.

7.9.1.4 Operation Configuration

7.9.1.5 Audit Trails

7.9.2 Network Admin

The options here allow the user to add a node, add a network, and refresh a node.

Note: *Adding nodes and networks is a network administrator task and is covered in the AlliedView NMS Administration Guide.*

The refresh node form is shown in the following figure.

FIGURE 7-31   **Refresh a Node (html)**

The name of the node is one of the node's managed object properties. The Netmask is one of the pull-down options, and the SNMP port has the 161 default.

The refresh button, when selected, starts the rediscovery process **immediately** and updates the system with the most current node information.

Note: *Refer to the AlliedView NMS Administration Guide for information on rediscovery.*

7.9.3 Other Administrative Tasks

The following tables take each of the administrative areas shown in the other panels of the Admin Complete View and explain what they provide and when they would be used.

Note: *Some of these tasks (such as Shutdown Server) are destructive and should only be done by authorized personnel.*

TABLE 7-21   **Admin Operations**

Task	Description	Notes
Shutdown Server	Shuts down the server the client is connected with (FE or FE/BE).	**Perform this only if you are authorized to do so.**
NE Resync	Discards all the traps that are being processed by the server. Deletes the events and alerts from the database. Clears all the managed objects and updates the status by doing status poll.	

TABLE 7-22   **Admin Configurations**

Task	Description	Notes
Discovery Parameter	Controls Discovery Configuration Settings	Details on the fields in this from are in the NMS Administration Guide, Security Administration. Perform this only if you are authorized to do so.

TABLE 7-22   (Continued)Admin Configurations

Discovery Criteria	Specifies the Managed Object properties based on which discovery can be enabled / disabled	Perform this only if you are authorized to do so.
Trap Parser	Creates and refines the information received from a trap (a specific unsolicited report by a device). The trap configuration can be imported using information the MIB or a file where the configuration is defined.	Details on the fields in this from are in the NMS Administration Guide, Fault Management. Trap parsers are critical to alarm correlation and should only be changed under the supervision of Allied Telesis Technical Support personnel.
Re-Discovery Scheduler	Set the schedule for re-discovery	Can be at regular interval (recurring) or on user-created schedule.
Notification Pro-files		
Trap Parser	Controls Trap Parser Configuration list	
Event Parser	Controls Event Parser Configuration list	
Event Filters	Controls Event filters	These are loaded from and saved to `conf/` `event.filters`
Alert FIlters	Controls Alert Filter Configuration list	These are loaded from and saved to `conf/` `alert.filters`

TABLE 7-23   Server Details

Task	Description	Notes
Backend Details	Provides basic configuration information for BE server	This information is useful if reporting a Allied-View NMS error to Allied Telesis personnel.
Scheduler Details	Status of the main software tasks	
Frontend Details	Provides basic configuration information for FE server	Includes server mode as PRIMARY or SEC-ONDARY, useful when in a distributed server configuration.
Client Details	Provides basic configuration information for client currently being used.	
Server Logs	Provides a list of NMS server logs; the user can click on each one and see the logging data	This information is useful if reporting a Allied-View NMS error to Allied Telesis personnel.
Logging	Controls how NMS logs will be written to log files	**Perform this only if you are authorized to do so.**

TABLE 7-24   Module Details

Task	Description	Notes
Discovery Status	Provides overall status of Discovery history for modules and networks	
Fault Status	Provides the status of the Fault Management system (events, alerts and traps processing), not faults on the devices	If not set at 0, server is still processing faults and so may not have the latest fault snapshot
Performance Status	Provides the performance status of a Node, using the node name to access User is also prompted for time period.	
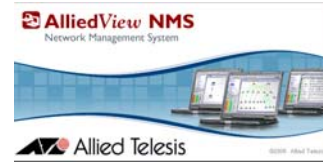
8. Object Properties to Define Objects and Custom Views

8.1 Overview

8.1.1 Main Tasks

With object properties, the user can perform these tasks:

- Define a specific object - The properties of an individual object are viewed and defined using the Managed Object properties form. Several of these properties are critical, since certain object properties allow the object to be discovered and therefore managed by the AlliedView NMS.

- Define a custom map view - When creating a custom map view, the user can define properties that filter the view according to a property criteria. Moreover, certain properties are specifically used to define a filter. For example, to create a map view that shows only Telesyn MAP devices, the user could use a number of criteria that would result in displaying the Telesyn set. Instead, the user only has to include the property **category** with the value *Telesyn* to the custom view to select only those devices.

- Define a custom table view - For objects that are listed in the table format, the user can define which properties will appear as columns and which criteria for properties will filter the view.

Caution: The user can delete as well as add Custom Views. This provides flexibility, but users should not delete any views unless they are sure that is what they wish, since some views require the combination of many properties.

8.2 Defining Custom Map Views

8.2.1 Adding a Custom Map - Map Properties Forms

When creating a map, you have these options:

- Create a custom map (only those objects that meet a specific criteria can be included).

- Modify the map appearance for existing default maps or custom maps

To create a custom map, select *CustomViews > Add New Map* from the Panel-Specific Menu Bar, which brings up the following figure.

FIGURE 8-1 Add/Modify Map Properties Form

In the form, specify the set of map-related information before adding the map. The following table describes the various fields that you need to fill in the form.

TABLE 8-1 Map Properties

Map Property	Description of Map Properties	Example
name	To Be Supplied	property?
label	The name that will be displayed in the panel and tree.	iMAP_only
topology	The permission layouts of the map. You can use comma separated values.	
imageName	The image file to appear as the background of the map. These are stored in <NMS Home>/Images	world.png
autoPlacement	A boolean that specifies whether the symbols on the map are placed automatically. The default is True.	

TABLE 8-1 **Map Properties (Continued)**

Map Property	Description of Map Properties	Example

menuName	The panel-specific menu file for this map. The menu files are in the
	
	    `<NMS Home>/mapdata/`
	    `menus`
	
	directory.
		To be Supplied

mapSymbolRenderer	The renderer that paints the map symbols in the map canvas. By default, there are three map symbols renderers included with the product.	To Be Supplied
mapLinkRenderer	The renderer that paints the links in the map canvas. By default there are two map link renderers included with the product.	To Be Supplied
anchored	A boolean that specifies whether the anchor property of the map is True or False. If True, the map becomes non-editable (cannot add mapclient components). If False, the map is a normal editable map. The default is False.	
treeIconFileName	The name of the icon file that appears in the client tree against the map node.	To Be Supplied
currentTopology	The layout to apply to default of this map. If you do not specify one, the first entry of the topology field is the default. If you do not specify anything in the topology field, then NMS uses the flow layout by default.	
ParentNode	The name of the of the parent node in the tree. For example, if you specify the parent node as "Fault" then the map is added under the Fault Node in the tree.	

Once you have filled in the map properties, click **More,** and the UI shown in the following figure will pop up. In this UI, you can specify a Managed Object and the criteria that will filter what will appear in the map. Note that the match criteria can only be the properties of the managed object.

Caution: The property name on the left is case-sensitive. Property names usually have medial capitalization ("camel-case"), for example ipAddress. If you enter the case incorrectly, no criteria will be used, and the new map will contain all managed objects in your network. For the correct property name to use, refer to the tables in Section 8.4.

Note: The property value on the right may contain the wildcard character "", and may contain comma separated values, for example "10.1.1.*, 10.1.2.*". For more information, refer to Section 8.3.3.*
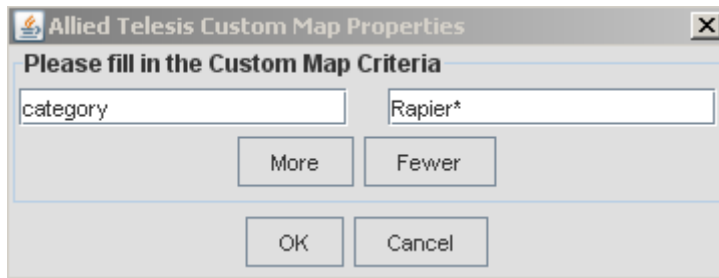
FIGURE 8-2 Adding Managed Object Criteria to Map View

Click the **Add Map** button to add the map. The new map will appear in the tree.

Note: The properties for an object type can be applied for both the Map and Table Custom Views; for example, the properties/criteria for routers can be applied for both routers as a map node and routers in the network inventory. Therefore, to see which properties apply for a map node object, refer to the table for the same object for a table view.

To change the map properties for an **existing** map, the user can double-click in a blank area. This brings up the **Map Properties** form, as shown in the following figure.

Note: If you double-click a blank area for the Physical Network, the Layer 2 links form appears. If you wish to change the appearance of a map with physical devices, select View -> Details with no devices selected.

Note: The tic box Save changes on server makes the change so that all users will see the same changes.

FIGURE 8-3 Map Properties Form

8.2.2 Example - Change a Background Map

An example for Map Properties is to change the background map for the Physical Network node. Following are the steps:

1. Go to the Physical Network node and select *View -> Details*. The **Map Properties** form appears.

2. Images are stored in `<NMS home>/Images`. (You can add other images to this directory.) Click on the ImageName book icon in the **Map Properties** form and select an image file, as shown in the following figure.
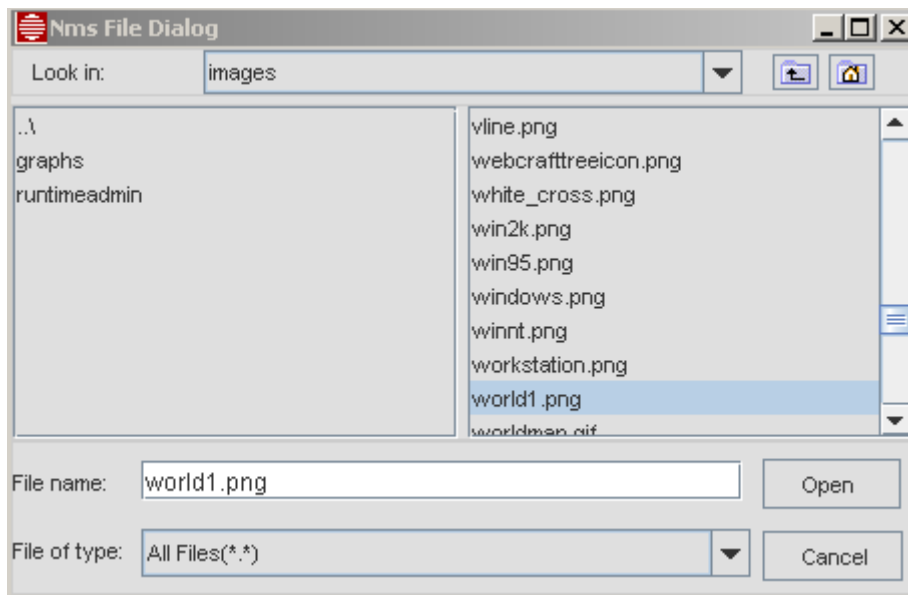
FIGURE 8-4 Selecting a Background Image for a Map

3. Click on **Open**, and then **Modify** on the Map Properties form. The image becomes the background image for the map.

8.2.3 Example Custom Map for iMAP Devices Only

Following are the steps to create a custom map of Allied Telesis devices.

1. From the Physical Network Map choose *Custom Views -> Add New Map*. The View/Modify Properties Form (See Figure 8-1) appears.

2. In the form, fill in a name (such as *iMAP_only*) and label (also *iMAP_only*).

3. Click on **More** to bring up additional Map criteria.

4. Enter the property **category** with the pre-defined value *Telesyn*.

5. Click **OK**, and on the Properties form click **Add Map**.

6. There is now a Custom Map that shows only Allied Telesis iMAP-type devices. Refer to Figure 8-5.
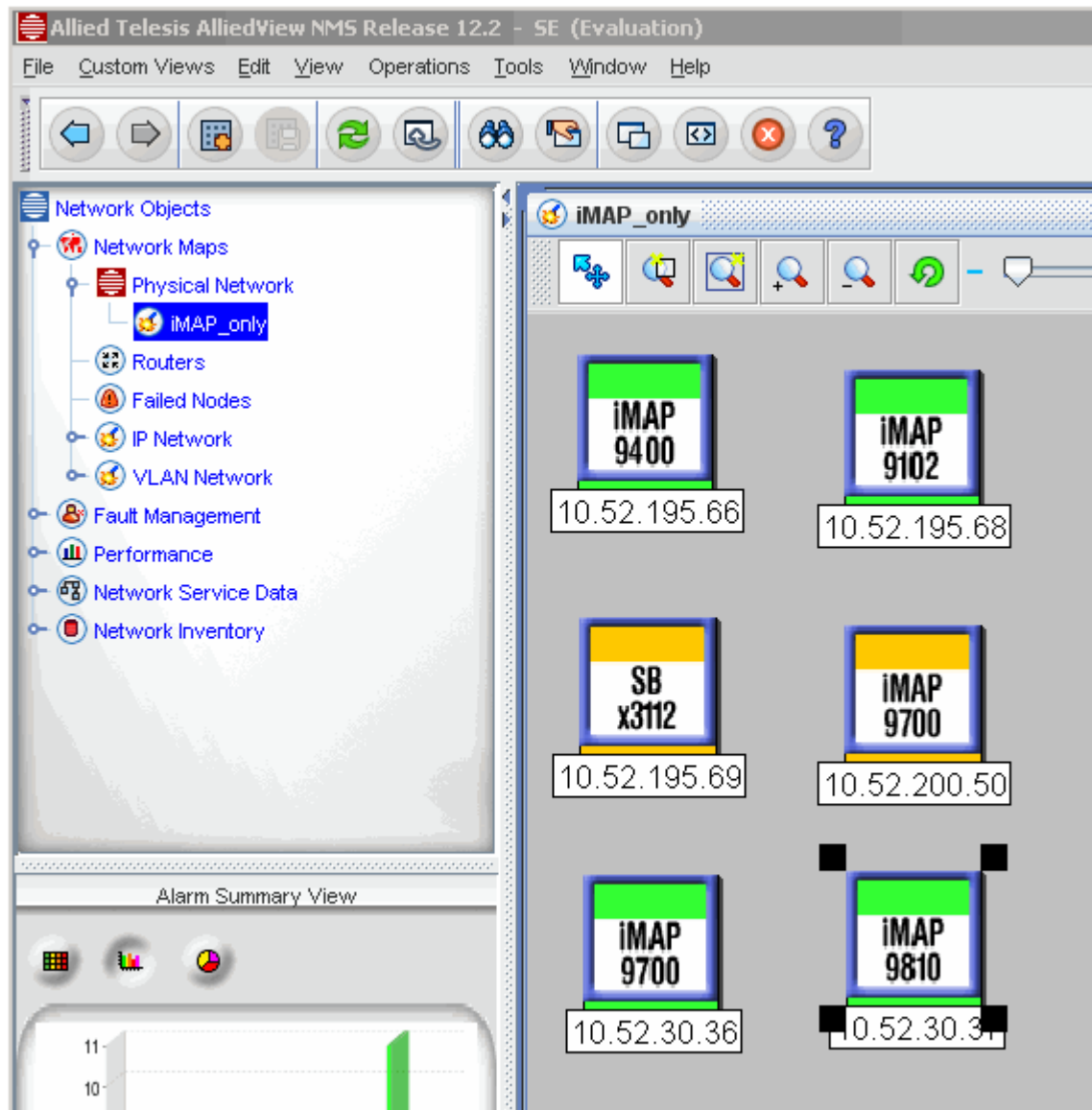
FIGURE 8-5 Example Custom Map for Telesyn devices

8.3 Using Object Properties

8.3.1 Overview

A custom table view is an option to view a subset of data that meets a certain criteria from the larger collection, such as Events or Alarms. You can use custom views to narrow the range of items, which allows an easier search.

Custom views have the following special features:

- A view can be created to match a specific criteria.
- Views are updated dynamically.
- The same custom view can be used at different levels.
- The column (properties to view) can be customized
- Column order and sorting of data can be saved these in the custom view.

- Custom views can be modified and renamed.

To create a custom view, you first define the criteria for the view, and then specify how to view the filtered data. The options for custom views are as follows:

- Add/Modify the Custom View

  When creating a custom view, the user fills out a Specify Event Filter Criteria form, which contains Properties and Tree Node Properties. Once created, the view can be seen in the node tree on the left. The user can then select the view and modify the criteria if need.

- Remove Custom View

  The user can select the view in the NMS Tree and choose **Remove Custom View** from the either the Panel-Specific Menu Bar or from the pop-up menu accessed by a right clicking the view in the tree. This option will remove the view form the tree.

- Save Custom View Data

  After sorting and selecting a range of items, the user can save that specified list by selecting **Save Custom View State** from the either the Panel-Specific Menu Bar or from the pop-up menu accessed by a right clicking the view in the tree.

8.3.2 Objects for Table Views

This section lists the property details of the objects that make up the AlliedView NMS. The following table lists the objects that have properties and which subsection describes these properties.

Note: To filter on iMG/RGs, refer to the AlliedView NMS Administration Guide.

.

TABLE 8-2 **Tree Node Properties - Reference Table**

Object	Reference
Network	8.4.2
Device (Node)	8.4.3
Customer Port	8.4.4
IP Interface (IP)	8.4.5
Profile	8.4.6
Vlan Interface (VIF)	8.4.7
Physical Links	8.4.8
PMs	8.4.9
Events	8.4.10
Alerts	8.4.11
Links	8.5.1

8.3.3 Matching Criteria

Points to consider in regards to using properties are as follows:

- Most of the Properties listed while adding a custom view are string based. Additionally, if there is a Boolean, the properties form indicates a choice box, containing three items: all, true, and false. Selecting all will amount to the property not being taken into consideration. Selecting true or false will have the expected behavior.

- For string-based properties, the string value is absolutely matched. For example, the string "Router" matches the exact word only.

- The wildcard '*' (asterisk) is supported to replace one or more characters. For example, if you want to view objects whose names start with 'sa', then you have to specify it as 'sa*'. Similarly, if you want to view objects whose names end with 'com', then you have to specify as '*com'.

- Wildcard, '?' is not supported and is treated just as an ordinary character.

- For specifying multiple criteria for the same property, separate them with a comma. For example, if you want to view objects named nms-server1, nms-server2 and nms-server3 then specify as nms-server1, nms-server2, nms-server3.

- Status, Severity, etc. are also treated as strings. Therefore, for a filter of Alarms, with severity critical, specify 'crit*''.

- To exclude certain items, as part of the filtering criteria, append a '!' before it. The exclamation mark should be used to ignore those values. For example, if you want to view objects, which do not start with 's'', then specify the property as '!sa*' or if you want to see all Alarms, except those with severity other than warning and clear, then any of the following will work:

  - !war*, !cle*

  - !warning, !clear

  - cr*, maj*, mino*

  - critical, major, minor

- In the Alarms and Events panel, filtering based on time can be done by specifying the starting time and the ending time. The formats in which the time is to be specified are as follows:

  - MON DD,YYYY HH:MM:SS AM/PM (For JavaUI) for example, Oct 27,2002 12:24:12AM and

  - MONTH DD,YYYY HH:MM:SS AM/PM (For JavaUI) for example, Oct 27,2002 12:24:12 AM. (The incompatibility is due to different JVM versions on Client and Server sides).

- In the Network Inventory view, the properties form initially contains only properties common to all Managed Objects. But the properties form changes to display properties specific to the particular object on double-clicking the desired property. That is, after viewing the properties of an interface, on double-clicking that, the properties specific to the interface are displayed (IfIndex, IfSpeed, etc.) which are part of the properties form.

- It is advisable to leave the fields blank that are not necessary but are part of the filtering criteria.

- Once the filtering criterion is specified, you can optionally give the filter a name and then select the ApplyFilter option. The client then sends a request to the server to filter the objects while it adds the name of the filter to the tree in the main panel.

- The time to filter may vary, depending on the total number of objects, the complexity of the filter criteria, and the mode of storage.

- Custom Views, once created, continue to be updated and navigable for additions/deletions till the client is closed or the custom view is removed using Remove Custom Views option.

Note: Use the Custom Views with caution and remove the unnecessary ones. This allows quicker updates and clearing of resources associated with each Custom View, both on the client and server side.

Note: If all the above parameters (except filter view name) are left blank, then the default value all is assigned. For Date/Time properties by default will show the current date and time, requires data in the order of month, date, year, hour, minute, second and AM / PM which can be chosen by using the up and down arrows.

In the properties form, you can also click **Select Props to View**, which opens a window with the default properties to be shown in the selected table (as shown in the following figure).
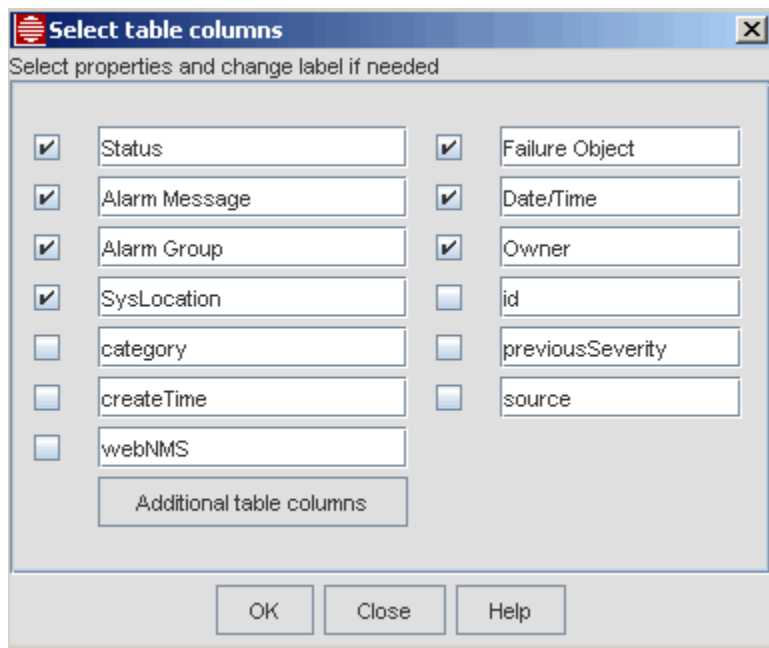
FIGURE 8-6 Selecting Properties to View in a Custom View

Clicking the **Additional table columns** button in this **Select Table Columns** form brings up the **User defined table columns** form. In this form the user can enter the user properties that were defined in the Event Parser and what the displayed table column will be.

Note: *If additional user properties have been added, they can be included here by using the **More**
              button and entering them in the Property Name field. The More button can also be used to add
              any properties that are expected to be added in the future.*

Figure 8-7 shows the User defined table columns with the property sysLocation filled in.The column display will be Physical Location.

Note: *The Location Names are defined as part of provisioning device information. Refer to the
              Telesyn Administration Guide, section 5.3.5.*
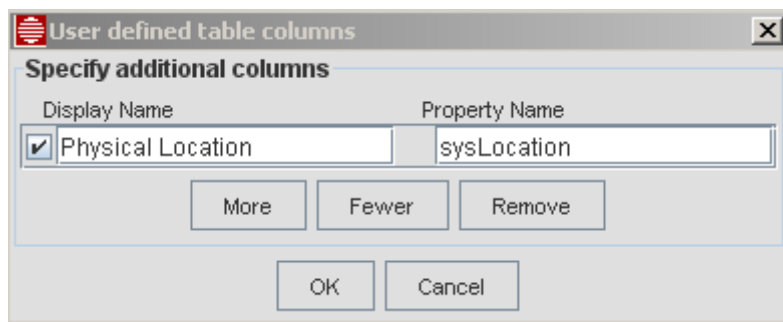
FIGURE 8-7 Adding Properties to a Network Custom View

Clicking the **Additional Criteria** button in the **Show objects with these Properties** form brings up the **Criteria dialog** form. In this form additional criteria can be specified for both the NMS properties and any user properties (including sysLocation).

Click **Apply Filter** to see the resulting view. To save, right-click on the node icon in the NMS Tree, and then select *Custom Views->Save Custom View State* from the pop-up menu.

8.3.4 Default User Properties Added by the NMS and Custom Views

To view information for the devices, user properties have been added to the tree node tables that show relevant information. When the NMS is first configured, they are grouped as follows:

- Alarms – sysLocation

- Network – discover

- Nodes - SerialNumber

- Ports – customerID, ethIfIndex, portType, deviceID, adslIfIndex, slotID, portID

- VLAN Interface – parentkey, vlanparentnetwork, valnuntaggedports, vlantype, vlaninterfacevid, vlantagged-ports

- Physical Links – Snode, DNode, DPort, SPort

These properties show up by default when the NMS is first configured, and the user can change the displayed column name if desired, in either the default view or a Custom view.

Caution: Although in the default View or Custom View these properties can be made not to display, the user should not do this since these properties were created to provide relevant information about a component. For example, for Physical links, the DPort property (Destination Port) would need to be shown to understand the configuration. These properties are therefore useful when creating custom views. However, even if a property is not displayed, a criteria can be set for the view based on that property.

8.3.5 Tree Node Properties Tab

The Tree Node Properties form determines the way the subset of data is presented for a View. This is done by selecting the Tree Node Properties tab of the Show objects with these Properties form, as shown in the following figure.

FIGURE 8-8 Tree Node Properties Form for Events

The following table lists the properties.

TABLE 8-3 Tree Node Properties - To be Supplied

MO Form Property (Label)	Description for Tree Node Properties
Frame Title	The information to be displayed on the title bar of the Custom View's internal frame is specified here.
Menu File Name	The panel-specific menu's file name is given here. If you have not specified this then the default menu is displayed.
Icon File	The icon to indicate the custom view is taken from this property. This icon is visible in the tree as well as in the title bar of the internal frame.
Table Popup Menu	The menu filename for displaying a contextual menu for the objects displayed in the table of the newly added custom view.

TABLE 8-3 Tree Node Properties (Continued)- To be Supplied

MO Form Property (Label)	Description for Tree Node Properties
Tree Popup Menu	The menu filename for displaying a contextual menu for the newly added custom view node in the client tree.
Node Index	The position of the this new custom view in the node tree when this view is added as a child to an existing view that already has one or more child nodes. If the value is not entered, then the custom view is appended.

8.4 Managed Object Properties and Custom Views

8.4.1 Overview

The following tables list the properties for the various objects controlled by the AlliedView NMS. The columns of the table are as follows:

- **Form Property** - This is the property as shown on the Managed Objects Form. If an object is usually not changed by the user, **(Internal only)** is included.

- **Description** - This describes the property in detail.

- **Custom View Property** - If the property is used for a custom view, it is included here. Note that the spelling can be different. This is the **exact** spelling you must use when adding a property.

- **Examples for Custom View** - When setting a criteria for a property in a custom view, the example gives a typical value and explains how that value filters the custom view.

*Note: An object may have many properties, but only a few that are commonly used for creating custom views; moreover, many properties are for internal reference and should not be changed. Therefore, these tables only include form properties that are useful for network administrators. These properties may be those included with the form or those that can be added with the **More** button.*

8.4.2 Networks

8.4.2.1 Properties

The following table lists the properties for a network node. All the properties can be viewed by using the **Next** and **Back** button at the bottom of the form.

TABLE 8-4 Properties for Network Objects

MO Form Property	Description for Network Objects	Custom View Property (use this exact text)	Examples for Custom Views
Name	The device name, which is a unique name that is used as the key in the database. **This name cannot be changed.**	name	172.16.33.0 **Note: The name for a device should not include an '&' or Rediscovery will fail.**
DisplayName	The name by which the device is identified on the Graphical User Interface (GUI).This is intended to be more intuitive regarding the identification of the network, whereas the name can be any string with the only constraint being that it is unique.	displayName	Site_A (This would assume the network was contained in Site_A)

TABLE 8-4 Properties for Network Objects (Continued)

MO Form Property	Description for Network Objects	Custom View Property (use this exact text)	Examples for Custom Views
Type	The type of the object, such as whether it is a network, node, or an interface object, or something user specified, like router, switch, etc.	type	Network (In a network view, this would be the default, in other views this would set the criteria as showing only networks)
Managed	A checkbox that indicates whether the managed object is managed by the NMS. When checked, the object is being managed by the NMS. Otherwise, it is not.	managed	true (rather than a checkbox)
IpAddress	The IP address assigned to the object.	ipAddress	172.16.33.0 (This would be for the network)
InterfaceList	The interfaces contained within the network. In the Properties form this is a drop down list.	InterfaceList	172.16.33.20 172.16.33.21 The value **all** would select all nodes.
NodeList	The devices contained within the network. In the Properties form this is a drop down list.	NodeList	172.16.33.20 172.16.33.21 The value **all** would select all nodes. The DNS name can also be used.
DiscoveryStatus	The current status of the discovery process. The possible values are as follows: 1 = YET_TO_BEGIN - Discovery of network yet to begin. 2 = IN_PROGRESS - Discovery if network is in progress. 3 = FINISHED - Discovery of the network is finished. 4 = DISCOVERY_DISABLED - Takes this value if either discover is 'false' or managed is 'false' for this network.	DiscoveryStatus	2
DiscoveryStatus	A boolean that indicates whether the object status polling has been enabled for the object. It is set to true if status polling is enabled for the object, false otherwise.	DiscoveryStatus	
DiscoveryStatus	The type of testing to run when checking the status of the device. Refer to the *AlliedView NMS Administration Guide*, section 9.8.	DiscoveryStatus	
(More...)		subNets	172.16.33.20 172.16.33.21 (The value **all** would select all nodes.)
(More...)		stringstatus	Critical Major Minor Clear (separated by comma when choose more than one)

8.4.2.2 Custom View for Networks Example

If there are a large number of networks being managed, the user can create a view that shows networks in a Critical or Major state. In the Custom View form, the user would:

1. Select the Network node in the Inventory view and right-click *Custom View -> Add Custom View*.

2. In the **Filter View Name** field, type Network_Alarm

3. Click **Next** to access the **Additional Criteria**, and type in *status* and *Critical,Major*, as follows.
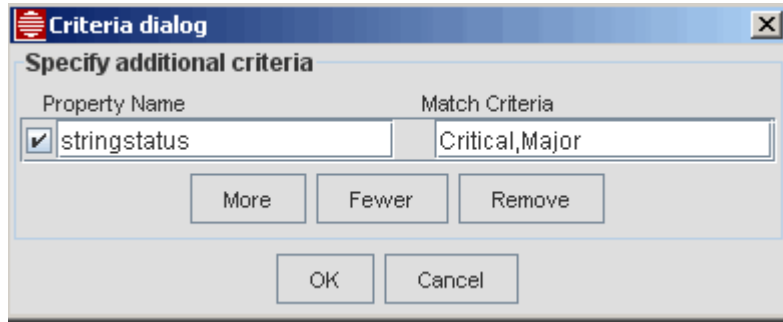
4. Click on **OK**, and a network_alarm view is formed that shows only networks with a critical or major alarm. Refer to the following figure.
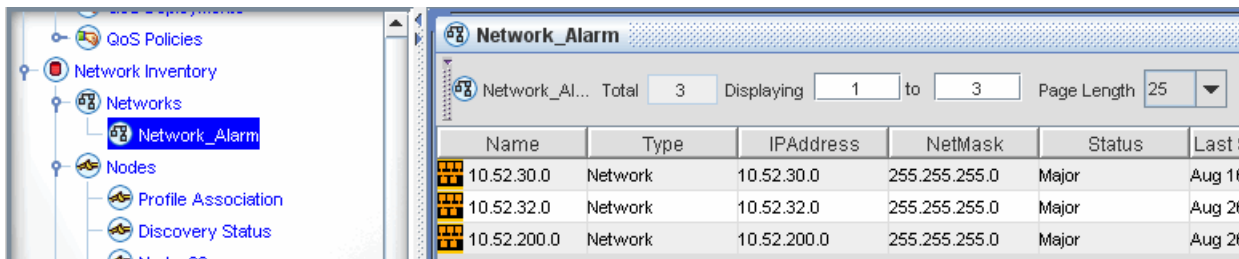
FIGURE 8-9   **Customer View for Networks**

8.4.3 Devices (Nodes and Routers)

8.4.3.1 Properties

The following table lists the managed object properties for Node devices. All the properties can be viewed by using the **Next** and **Back** button at the bottom of the form.

Note: *The classname for Nodes is !RgMO (not RG devices) and this should not be changed.*

.

TABLE 8-5 **Managed Object Properties for Nodes**

MO Form Property	Description for Nodes	Custom Map View Property (use this exact text)	Example
Filter View Name	The name given to the panel		nodes_alarms
Name	The device name, which is a unique name that is used as the key in the database. **This name cannot be changed.**	name	172.16.33.11
DisplayName	The name by which the device is identified on the GUI.This is intended to be more intuitive regarding the identification of the device, whereas the name can be any string with the only constraint being that it is unique.	displayName	Building_A (This would assume the device was contained in Building_A)

TABLE 8-5 Managed Object Properties for Nodes (Continued)

MO Form Property	Description for Nodes	Custom Map View Property (use this exact text)	Example
Type	The type of the object, such as whether it is a network, node, or an interface object, or something user specified, like router, switch, etc.	type	9700 9400 Rapier* (all Rapier devices) RG* (all RG devices)
managed	A pull-down that indicates whether the managed object is managed by the NMS. When True, the object is being managed by the NMS. When False, it is not. When all, it includes all devices.	managed	true (would not include devices that were discovered and unmanaged)
IpAddress	The unique address assigned to each and every object.	ipAddress	172.16.33.11
netmask	The netmask that is specified for this managed object. Network masking is a methodology by which the elements in a network can be meaningfully categorized.	netmask	255.255.255.0
ParentNet	The ID of the network that contains this node or a list of network numbers if this is a router connecting two or more networks.	parentNet	172.16.33.0
InterfaceList	A non modifiable drop-down list of all interfaces on this device.	InterfaceList	172.16.33.20 172.16.33.21 (The value **all** would select all nodes.)
Tester	The type of testing to run when checking the status of the device. Refer to the AlliedView NMS Administration Guide, section 9.8.		
Community	The community string of the corresponding SNMP agent associated with the link	community	
SysName (Internal)	The system name as reported by the SNMP agent		
SysDescr	The value of the system description associated with the type of managed object to be filtered.	sysDesc	Telesyn 9700 all
SysOID	The system object identifier of the device as reported by the SNMP agent of the device.	sysOID	.1.3.6.1.4.1.207.1.15.3
Login	The CLI username to use when NMS executes CLI commands on the device. It is defaulted but it should be changed.	login	officer
Password	The password to use when NMS logs in with the CLI username.	password	To Be Supplied
SysLocation	A string value to identify where the device is located	sysLocation	Building_A (This would assume the device was located in Building_A)

TABLE 8-5   Managed Object Properties for Nodes (Continued)

MO Form Property	Description for Nodes	Custom Map View Property (use this exact text)	Example
Category	The family of the device	category	Telesyn (includes all MAP devices) Rapier* (all Rapier devices) RG* (all RG devices)
Release	The release ID of the device software.	release	
SysContact	A string to identify the owner of the device	sysContact	Company_A
ConfigChanged	The time that a change to the device's configuration has been detected by the Device Backup operation. Config changes will be detected automatically when recurring backups are scheduled. This property is included in the Nodes custom view under the Network Inventory by default.	configChanged	To Be Supplied
LastBackupTime	The time of the last backup performed for this device via the Device Backup/Restore MDTI Operation.	lastBackupTime	Wed Aug18 2010*
status (pull-down)		stringstatus	Critical,Major,Minor, Clear (separated by comma when choose more than one)

8.4.3.2 Custom View for Device Example

If there are a large number of nodes being managed, the user can create a view that shows only iMAP devices. In the Custom View form, the user would:

1. Select the Nodes in the Inventory view and right-click *Custom View -> Add Custom View*.

2. In the **Filter View Name** field, type *iMAP_devices.*

3. Click **Next** to access the Additional Criteria, and type in *category* and *Telesyn*, as follows.
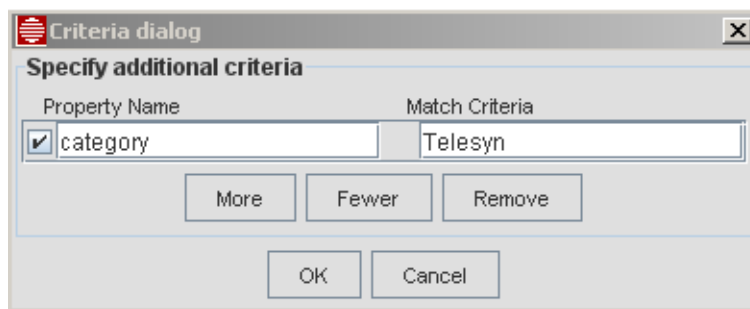
4. Click on **OK**, and a iMAP_devices view is formed that shows only Allied Telesis Map devices, as follows.
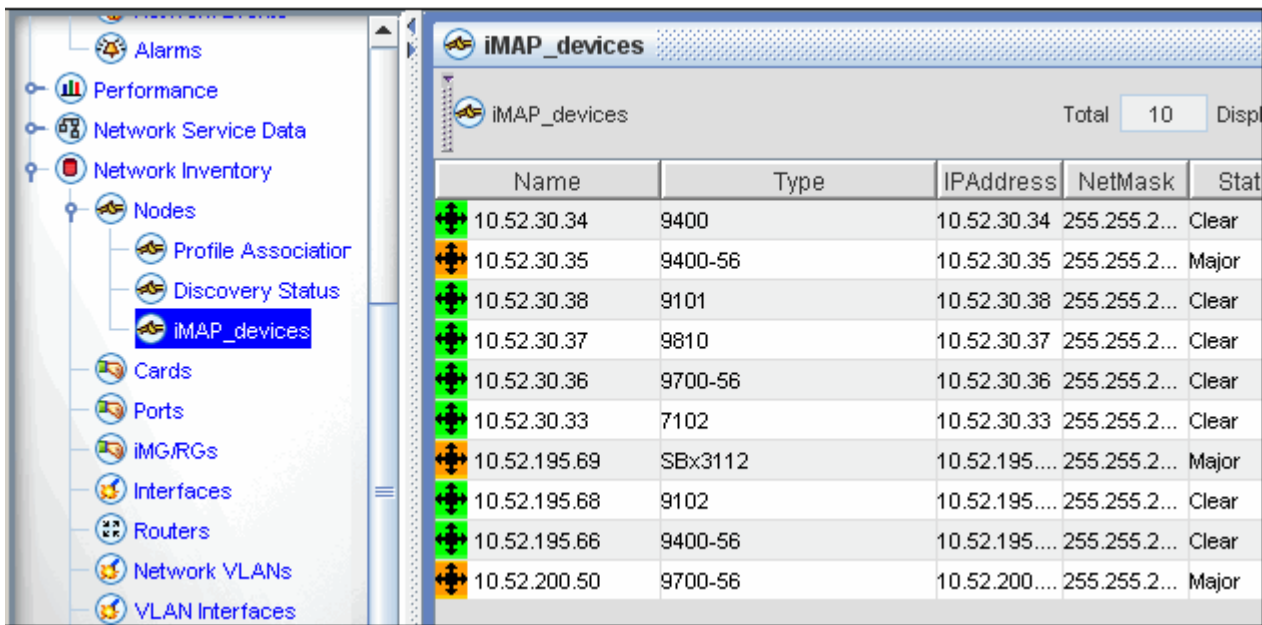
8.4.4 Customer Ports

8.4.4.1 Properties

The following table lists the properties for customer ports. All the properties can be viewed by using the **Next** and **Back** button at the bottom of the form.

TABLE 8-6 Managed Object Properties for Customer Ports

MO Form Property	Description for Interfaces	Custom Map View Property (use this exact text)	Example
Name	The port name, which is a unique name that is used as the key in the database.	name	172.16.33.11_17.4 (This follows the device_card.port format)
DisplayName	The name by which the device is identified on the GUI.This is intended to be more intuitive regarding the identification of the device, whereas the name can be any string with the only constraint being that it is unique.	displayName	172.16.33.11_17.4
Type	The type of the object, such as whether it is a network, node, or an interface object, or something user specified, like router, switch, etc.	type	CustPort
CustomerID	The description from the "Show Port" CLI command.	customerID	x908_mgmt (or telephone number, a convenient way to identify the customer)
DeviceID	The device to which the port belongs	deviceID	172.16.33.11
Slot	The slot ID of the customer port.	To Be Supplied	
PortType		portType	ADSL

TABLE 8-6 **Managed Object Properties for Customer Ports (Continued)**

MO Form Property	Description for Interfaces	Custom Map View Property (use this exact text)	Example
EthIfIndex	An index number assigned by the NMS to identify the port and its type	ethIfIndex	112
GroupNames	Blank since customer ports cannot be defined in groups.		
PortProfileMOName		portProfileMOName	
PortProfileName		portProfileName	*ADSL*
IsGroup	A boolean that indicates whether the object is a group. It is false since this is a port.		
AdslIfInadex	To Be Supplied		
PortID	To Be Supplied		

8.4.4.2 Custom View for Ports Example

If there are a large number of ports being managed, the user can create a view that shows only ADSL ports. In the Custom View form, the user would:

1. Select the Nodes in the Inventory view and right-click *Custom View -> Add Custom View*.

2. In the **Filter View Name** field, type *Ports_adsl.*

3. Click **Next** to access the Additional Criteria, and type in *portType* and *adsl*, as follows.

4. Click on **OK**, and a Ports_adsl view is formed that shows only adsl ports, as follows.
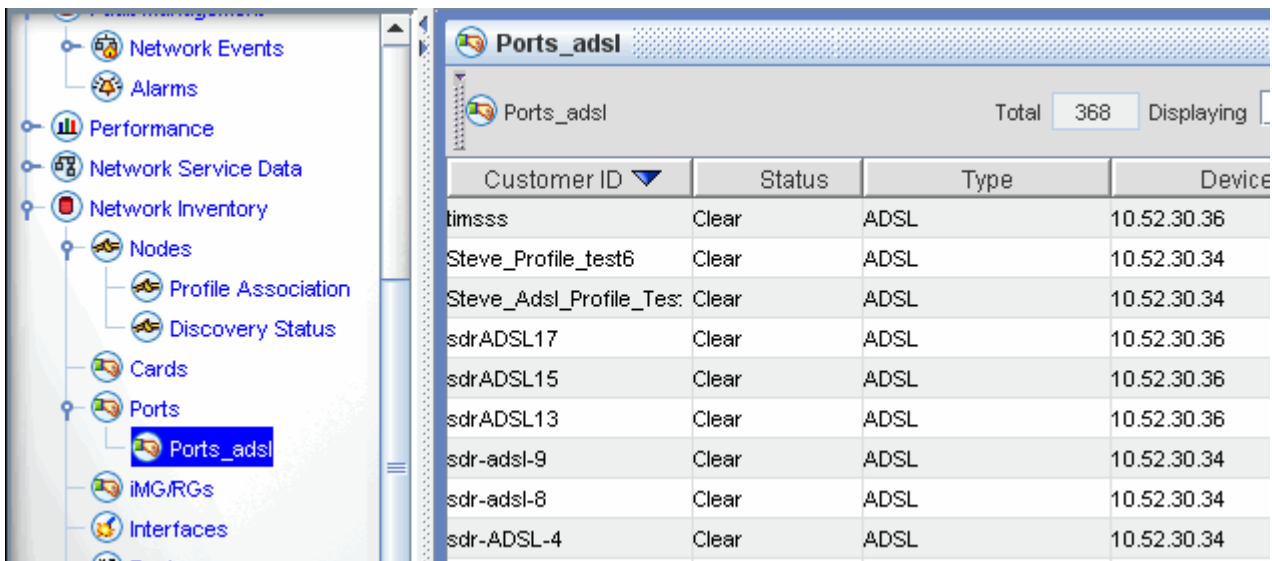
8.4.5 Interfaces (IP)

8.4.5.1 Properties

The following table lists the properties for interfaces. All the properties can be viewed by using the **Next** and **Back** button at the bottom of the form.

TABLE 8-7 Properties for Interfaces

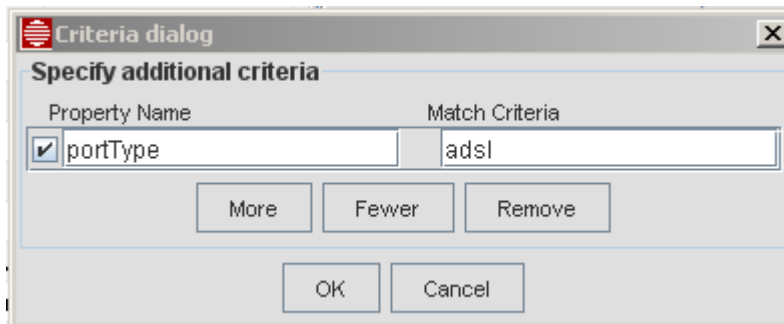| MO Form Property	Description for Interfaces	Custom Map View Property (use this exact text)	Example
Name	The device name, which is a unique name that is used as the key in the database.	name	IF-172.16.33.11
DisplayName	The name by which the device is identified on the GUI.This is intended to be more intuitive regarding the identification of the device, whereas the name can be any string with the only constraint being that it is unique.	displayName	IF-172.16.33.11
Type	The type of the object, such as whether it is a network, node, or an interface object, or something user specified, like router, switch, network.	type	Always interface
IpAddress	The unique address assigned to each and every object.	ipAddress	172.16.33.11
Netmask	The netmask that is specified for this managed object. Network masking is a methodology by which the elements in a network can be meaningfully categorized.	netmask	255.255.255.128
ParentNet	The ID of the network that contains this interface.	parentNet	172.16.33.0
Community	The community string of the corresponding agent associated with the link		
WriteCommunity	The SNMP community string for write access to agent used to reach this interface.	writeCommunity	private (for all SNMP communities for write access, all

TABLE 8-7 Properties for Interfaces (Continued)

MO Form Property	Description for Interfaces	Custom Map View Property (use this exact text)	Example
SysOID	The system object identifier of the device as reported by the SNMP agent of the device.	sysOID	.1.3.6.1.4.1.207.1.15.3
PhysMedia	The topology of the network this interface is attached to.	To Be Supplied	
IsNode	A pull-down that indicates whether the object is a node.	isNode	
ParentNode	The ID of the node on which the interface resides.	parentNode	172.16.33.11
PhysAddr	The physical (MAC) address of this interface		
Version	The version of the SNMP agent, such as v1, v2, or v3.	version	v2
IfDescr	The SNMP IfDescr value for this interface	ifDescr	MGMT:ETH:0
IsNetwork	A pull-down that indicates whether the object is a network. It is false since this is an interface.		
(More...)		stringstatus	Critical Major Minor Clear (separated by comma when choose more than one)
(More...)		hostNetmask	255.255.255.0

8.4.5.2 Custom View for Interfaces Example

The user can create a view that shows only interfaces for the 7700 devices. In the Custom View form, the user would:

1. Select the Interfaces in the Inventory view and right-click *Custom View -> Add Custom View*.
2. In the **Filter View Name** field, type *Interfaces_255_255_255_0*.
3. Click **Next** to access the Additional Criteria, and type in *netmask* and *255.255.255.0*, as follows.
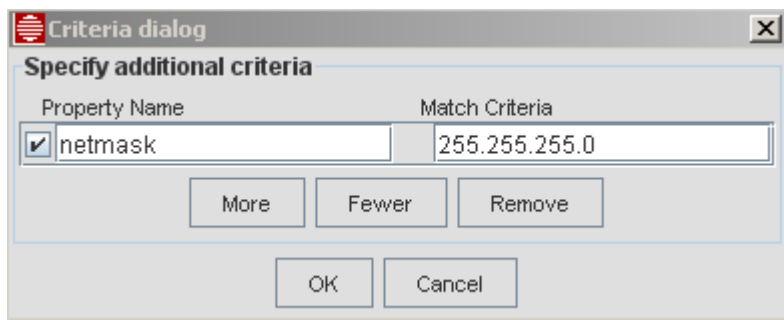
4. Click on **OK**, and an Interfaces_255_255_255_0 view is formed that shows only interfaces with the 255.155.155.0 mask, as follows.

FIGURE 8-10 Interface Filter

8.4.6 Profiles

8.4.6.1 Properties

The following table lists the properties for profiles. All the properties can be viewed by using the **Next** and **Back** button at the bottom of the form.

TABLE 8-8 Managed Object Properties for Profiles

MO Form Property	Description for Profiles	Custom Map View Property (use this exact text)	Example
ParentName	The name of the corresponding panel under which this custom view is added is given by default. On clicking the combo button, all the current tree nodes available are shown.	ParentName	
name	The name for each type of profile is a default and the name given by the user. Default names are: To Be Supplied Profile_POTS Profile_Etherlike_Port Profile_ADSL Profile_Rapier_Device Profile_Telesyn_Device Profile_SwitchBlade_Device	name	Profile_POTS_test
displayName	The name by which the device is identified on the GUI.This is intended to be more intuitive regarding the identification of the device, whereas the name can be any string with the only constraint being that it is unique.	displayName	
type	type of object. This is always Profile.	type	Profile
community	The community string of the corresponding SNMP agent associated with the profile	community	
(More...)		profileName	Test_Profile
(More...)		profileType	Profile

8.4.7 VLAN Interfaces

8.4.7.1 Properties

The following table lists the properties for VLAN interfaces. All the properties can be viewed by using the **Next** and **Back** button at the bottom of the form.

TABLE 8-9 Managed Object Properties for VLAN Interfaces

MO Form Property	Description for Interfaces	Custom Map View Property (use this exact text)	Example
classname	The class name, but not the fully qualified name. This property is used when restoring the device subclass when it is stored in a relational database. For example, for node objects, this property will have the value node.	classname	
community	The community string of the corresponding agent associated with the VLAN interface	community	
contextName	The SNMPv3 ContextName, if the SNMP version is v3.	contextName	
DisplayName	The name by which the device is identified on the GUI.This is intended to be more intuitive regarding the identification of the device, whereas the name can be any string with the only constraint being that it is unique.	displayName	Default_VLAN
Name	The VIF name, which is a unique name that is used as the key in the database.	name	
parentKey	Database key of the parent object--the device that contains the vlan interface.	parentKey	
pollInterval	The polling interval in seconds, which is the time gap between two successive status pollings of managed objects.	pollInterval	
stringstatus	The status of the VLAN interface	stringstatus	Critical Major Minor Warning Clear Unknown (separated by comma when choose more than one)
type	The type of the object, such as whether it is a network, node, or an interface object, or something user specified, like router, switch, etc.	type	VlanInterface (Default)
vlanepsrtype		vlanepsrtype	Master Transit Data (All others)
vlangrouplist	The domain name for the vlan group, usually associated with an EPSR configuration	vlangrouplist	dom1,dom2
vlaninterfacevid	The VLAN ID associated with a Vlan interface. It is always set. The range: 1-4096.	vlaninterfacevid	500

TABLE 8-9 Managed Object Properties for VLAN Interfaces (Continued)

MO Form Property	Description for Interfaces	Custom Map View Property (use this exact text)	Example
vlantaggedports	A compact list of tagged ports on a VlanInterface. The list will be empty if none exist. The format is card.port delimited by commas.	vlantaggedports	11.1-9,12.1 - To Be Supplied None (no ports are tagged)
Vlan Type	The type of VLAN (VLAN or HVLAN)	vlantype	VLAN HVLAN
UnTagged Ports	A compact list of untagged ports on a VLAN interface. The list will be empty if none exist.	vlanuntaggedports	11.1-9,12.1 - To Be Supplied None (no ports are tagged)
UCP Mode	To Be Supplied		
Forwarding Mode	To Be Supplied		

8.4.7.2 Custom View for VLAN Interface Example

The user can create a view that shows only VLAN Interfaces for the VID 500. In the Custom View form, the user would:

1. Select the VLAN Interfaces in the Inventory view and right-click *Custom View -> Add Custom View*.

2. In the **Filter View Name** field, type VLAN_*500*.

3. Click Next to access the Additional Criteria, and type in *vlaninterfacevid* and *500*, as follows.
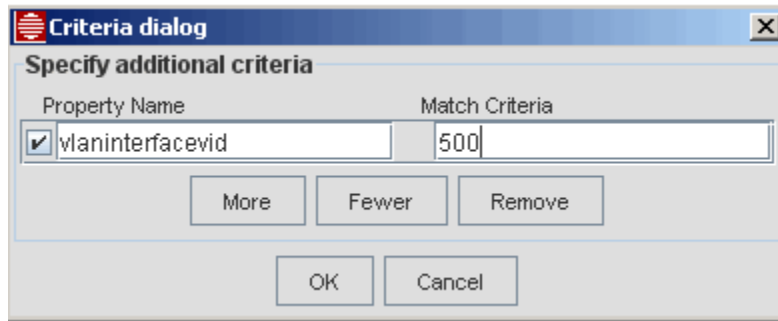
4. Click on **OK**, and a VLAN_500 view is formed that shows only interfaces with the 255.155.155.0 mask, as follows.
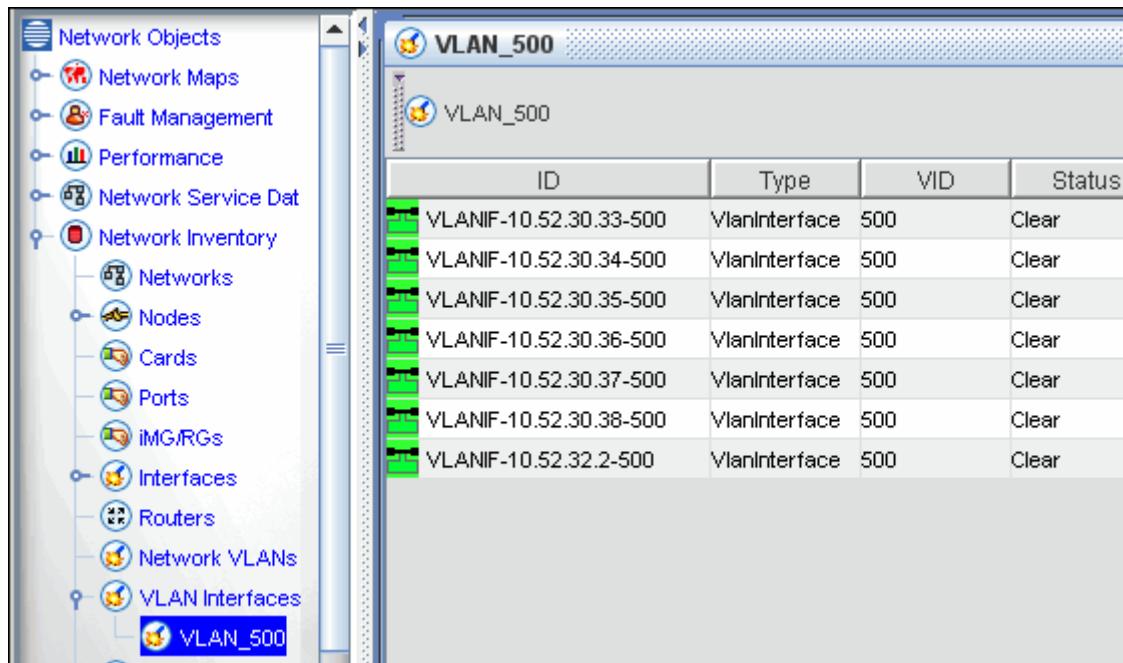
FIGURE 8-11 VLAN Filter

8.4.8 Physical Links

8.4.8.1 Properties

The following table lists the properties for physical links. All the properties can be viewed by using the **Next** and **Back** button at the bottom of the form.

TABLE 8-10 **Managed Object Properties for Physical Links**

| MO Form Property	Description for Interfaces	Custom Map View Property (use this exact text)	Example
Name	The device name, which is a unique name that is used as the key in the database.	name	LINK-172.16.33.14-9--172.16.33.10-5 (This follows the format of device-link--device-link)
DisplayName	The name by which the device is identified on the GUI.This is intended to be more intuitive regarding the identification of the device, whereas the name can be any string with the only constraint being that it is unique.	displayName	
Link Type	The type of the object, such as whether it is a network, node, or an interface object, or something user specified, like router, switch, etc.	type	L2LinkMO
SNode	The source node of a physical link.	SNode	17.16.33.10
LinkStatus	This field has been deprecated.	linkStatus	
Destination port	The destination port of a physical link.	DPort	1.1

TABLE 8-10 Managed Object Properties for Physical Links (Continued)

MO Form Property	Description for Interfaces	Custom Map View Property (use this exact text)	Example
Dest. Device	The destination device of a physical link.	DNode	
Source port	The source port of a physical link.	SPort	1.1
(More...)		stringstatus	Critical Major Minor Warning Clear (separated by comma when choose more than one)

8.4.8.2 Custom View for Physical Links Example

The user can create a view that shows only VLAN Interfaces for the VID 500. In the Custom View form, the user would:

1. Select the VLAN Interfaces in the Inventory view and right-click *Custom View -> Add Custom View*.
2. In the name field, type Links_172_16_33_1.
3. Click Next to access the Additional Criteria, and type in SNode and 172.16.33.1, as follows.
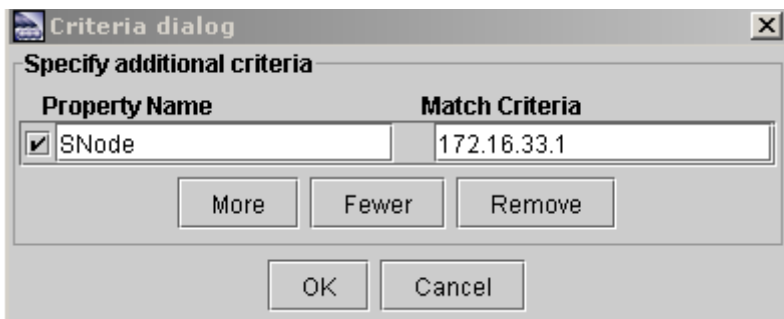
4. Click on **OK**, and a Links_172_16_33_1 view is formed that shows only interfaces with the 255.155.155.0 mask, as follows.

**FIGURE 8-12 Mask Filter**

8.4.9 Performance Monitoring

8.4.9.1 Properties

A complete list of the object properties for a polling object is in the AlliedView NMS Administration Guide. The following table lists the properties that are used when creating a custom map view.

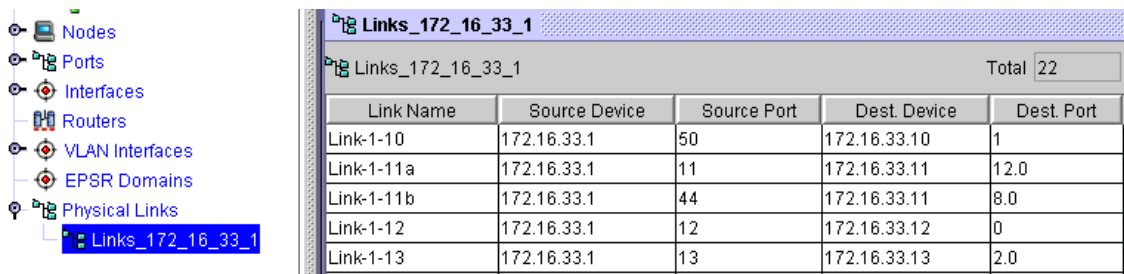**TABLE 8-11   Properties for Statistics**

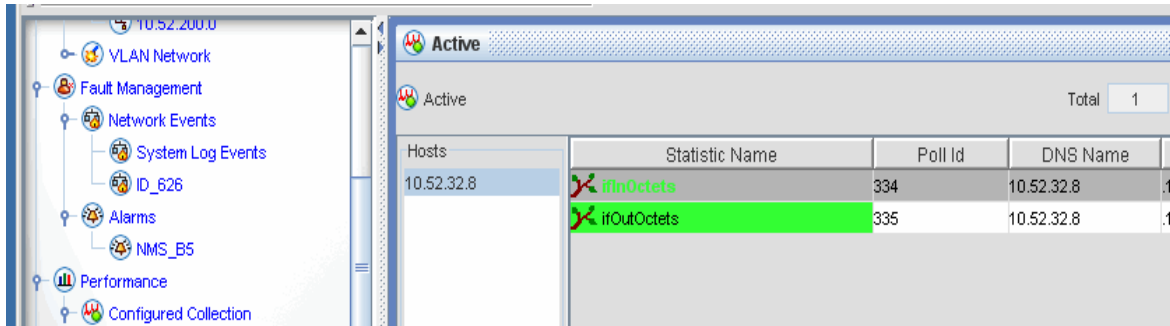| MO Form Property	Description	Custom Map View Property (use this exact text)	Example
Name	Any meaningful string for the Data Identifier.	name	etherStatsPkts
SnmpVersion	One of the three SNMP versions - VI, V2 or V3. **Required**.	snmpVersion	v2
Read Community	Enter the string with which the devices are identified in a network. Most of the equipment vendors set the Community value as **public** for their devices, so it is usually used here. Otherwise you have to check the string used for the particular device. *Note: The community specified must be enabled on the device.*	community	public
OID	A unique Object Identifier string that represents a MIB entry. Data is collected for this identifier. An SNMP specific Data identifier is called an **OID**. For example, 2.2.1.16.1 refers to IfInOctects interface instance 1. **Required**.	oid	.1.3.6.1.2.1.16.1.1.1.5
Agent	Normally a device will have one agent in it to collect device data, and the device name and agent name will be the same. **Required**.	agent	172.16.33.11
DNS Name	Name of the device from which data have to be collected.	dnsName	172.16.33.11
Active	A checkbox, when checked, means the data collection will be started for this OID. (The statistic row once created will be green.) Default value: False (unchecked).	active	false
Period	The time interval for periodic data collection. For example, if set to 2, for all the Data identifiers, data will be collected once in every 2 seconds. Default value: 300 seconds.	period	300 (the default value)
Threshold	Checking means the Threshold will be applied on this Data identifier. Unchecked means no Threshold will be applied. Default value: False (unchecked).	threshold	false
ThresholdList	Name of the Thresholds in comma separated format, thus associating them to this Data identifier for monitoring data collection.	thresholdList	?
failureThreshold	Threshold at which a failure is declared.	failureThreshold	1
Multiple	Checking means the data identifier is of type multiple.	isMultiplePolledData	true
Policy Name	The name of the polling policy.	policyName	

TABLE 8-11 Properties for Statistics

MO Form Property	Description	Custom Map View Property (use this exact text)	Example
saveAbsolutes	This option is applicable only for Counter type OIDs. By default, data collected for Counter type OIDs is not stored as it is. The difference between the previous data and latest data is collected and stored. If the exact value (absolute value) of collected data has to be stored for Counter type OIDs, then this check box should be checked. Data collected for OIDs of other data types are saved as absolute values. Default value: False (Unchecked).	saveAbsolutes	false
SaveOn Threshold	Possible values are true and false. If true the collected data is saved only when it exceeds the threshold. Default value: false	saveOnThreshold	false
Time Average	Checking means the Time Average will be calculated as follows: (<Latest collected value> + <Previous collected value>) / <Difference in data collection Time value> This is mostly calculated for counter type and gauge type OIDs where the data collected will be an incremental value and at one point will reach the final value and reset to zero. As this reset may happen soon and very often, it is preferred that a delta value is derived from two consecutive polls. Default value: false.	timeAvg	false
Last Counter Value	The counter value last read.	lastCounterValue	0
Last Time Value	The time the counter was last read.	lastTimeValue	0
Next Time Value	The next time the counter will be read.		
Log Directly	Checking means to store the collected data in flat files rather than storing them in database. Default value: false (unchecked).	log Directly	false
Log File	The log file name with a full path (the location on the hard disk as where the log file has to be stored).	logFile	
parentObj	Name of the Managed Object which acts as the parent for this Data Identifier.		
Poll ID	A unique number associated with each Statistic to identify the Statistic. Poll ID is automatically generated so no two Statistics will have the same Poll ID.	id	334
Advanced	Allows the optional values to be modified.		

8.4.9.2 Custom View for Statistics Example

The user can create a view that shows which statistics match a DNS Name. In the Custom View form, the user would:

1. Select the Configured Collection in the Performance view and right-click *Custom View -> Add Custom View*.

2. In the Filter View Name, type *Active*.

3. In the Active pulldown, select *True*.

4. Click on **OK**, and a view is formed that shows only devices with activated statistics, as follows. (Click on each device to see the active statistics.)

FIGURE 8-13 Statistics Filter

8.4.10 Events

8.4.10.1 Properties

You can set the match criteria by using the Specify Event Filter Criteria form. This form can be accessed by selecting *Custom Views -> Add Custom Views* from the Panel-Specific Menu Bar. Refer to the following figure.

FIGURE 8-14 Matching Properties Form for Events

The following table lists the properties in detail.

TABLE 8-12 Custom View Criteria for Events

| MO Form Property	Description for Match Properties	Custom View Property Name (use this exact text)	Example
Severity	The severity of the object. Severity is a property in the event object that indicates the criticality of the event. The severity of the event to be filtered can be assigned using the combo box. Multiple severities can also be assigned by separating them using a comma.	severity	Major (if multiple, separate with commas)
Message	Any important additional information regarding the event. If you want to view the event with a particular message then you can fill the message in this field whereby the events with the corresponding message is displayed.	text	Unavailable seconds - line 15 all To Be Supplied

TABLE 8-12 Custom View Criteria for Events

MO Form Property	Description for Match Properties	Custom View Property Name (use this exact text)	Example
Category	A value that can help in useful categorization of the alarm. Note that the default is !SYSLOG-*, since the SYSLOG events are listed in the System Log Events leaf node.	category	Port (Port has been affected)
Domain	Any domain-specific information, based on physical location, or functional categorization, or logical categorization of the source of the event. The domain name of the event can be specified, which is to be matched by this custom view.	domain	
Network	Information on the network to which the source of the event belongs. The network of the particular event in which you are interested is specified here.	network	
Node	Any additional information about the source, or the source itself, of the event. The name of the node to be filtered can be given in this field.	node	
Failed Object	Information about the specific entity within the source of the event, which is primarily responsible for the occurrence of this alarm. The name of the failure object to be filtered can be given in this field.	entity	ADSL_172.16.33.19;adslAtucUASL_Port0.15 (Separated with semicolons, these are objects affected by the alarm)
Source	Information about the source of the alarm. The source, based on which alarms are to be filtered, can be given in this field.	source	
From Date/Time	The events, after the time specified in this field, are displayed in the custom view.		
To Date/Time	The events, before the time specified in this field, are displayed in the custom view.		
Event Age	Criterion that is used to filter events based on the age of the event. Age of an event denotes the time lapsed since the last modification of the event in the NMS system. Event age property can be age in min, age in hrs, age in days, today, yesterday and any for all these together.		
customerID	The Customer ID assigned when provisioning for triple-play	customerID	746*
(More...)		notes	Unavailable seconds - line 15 all
(More...)		stringSeverity	
(More...)		groupName	

8.4.10.2 Custom View for Events Example

The user can create a view that shows which events are associated with a specific subscriber. In the Custom View form, the user would:

1. Select the Network Events in the Fault Managements view and right-click *Custom View -> Add Custom View*.

2. In the name field, type *ID_626*.

3. Click Next to access the Additional Criteria, and type in *626**, as follows.
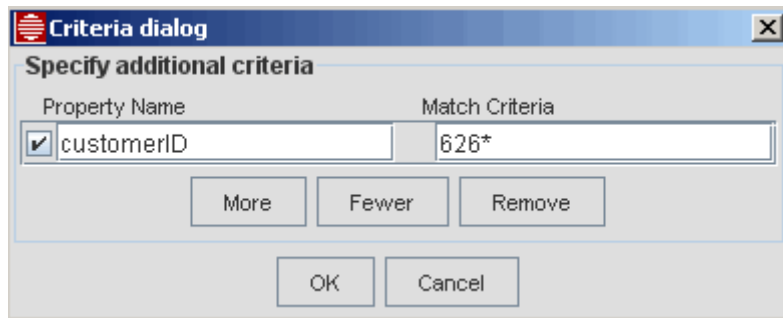
4. Click on **OK**, and a view is formed that shows only events associated with customer IDs that include 626, as follows. (Click on each event for details.)

FIGURE 8-15 Customer ID Filter

8.4.11 Alarms

8.4.11.1 Properties

The following table lists the properties for Alarms and the ones used for setting up criteria for custom alarm views.

TABLE 8-13 Properties for Alarm Criteria

MO Form Property	Description for Criteria - Alarms	Property for Custom View (use this exact text)	Example
Filter View Name	A name for the particular custom view. If nothing is provided, the corresponding custom view is named as Fault Management Network Events0, Fault Management.Alarms Alarms1, etc.		
Severity	The level of the alarm. The severity of the alarm to be filtered can be assigned using the combo box. Multiple severities can also be assigned by separating them using a comma.	severity	Critical Major Minor Warning Clear (separated by comma when choose more than one)
Previous severity	The match criteria based on the previous severity of the alarm.	previousSeverity	Critical Major Minor Warning Clear (separated by comma when choose more than one
Owner	The name of the owner of the alarm.	owner	Paul
Category	The category for the alarm.	category	Telesyn (for MAP devices)
Group	A group value on which alarms are grouped in the client.		
Message	Any additional information. To use, fill the message in and alarms with the corresponding message are displayed.	message	Unavailable seconds-line 15-minute threshold
Failure object	Information about the specific entity, within the source of the alarm, which is primarily responsible for the alarm. When filled in, it provides a filter.	entity	ADSL_172.16.33.19;adsl AtucUASL_Port0.15 (Separated with semicolons, these are objects affected by the alarm)
Source	Information about the source of the alarm. When filled in, it provides a filter.	source	172.16.33.19
From Date/Time (modified)	The date and time after which alarms that are modified are displayed. Format is *month, date, year, hour, minute, second and AM / PM*	Form has GUI	
To Date/Time (modified)	The date and time before which alarms that are modified are displayed. Format is *month, date, year, hour, minute, second and AM / PM*	Form has GUI	

TABLE 8-13 Properties for Alarm Criteria (Continued)

MO Form Property	Description for Criteria - Alarms	Property for Custom View (use this exact text)	Example
From Date/Time (Created)	The date and time after which alarms that are generated are displayed. Format is *month, date, year, hour, minute, second and AM / PM*	Form has GUI	
To Date/Time (created)	The date and time before which alarms that are generated are displayed. Format is *month, date, year, hour, minute, second and AM / PM*	Form has GUI	
Alarm Age (modified time)	The age of the alarm for filtering purposes. The age of an alarm is the time lapsed since the last modification of the alarm in the NMS system. The alarm age property can be age in min, age in hrs, age in days, today, yesterday and so on.	Form has GUI	
id	The id number given to the alarm	id	41931
(More...)		notes	Unavailable seconds-line 15-minute threshold
(More...)		priority	0
(More...)		sysLocation	see 8.4.11.2.

8.4.11.2 Example of Custom Alarm Filter (Alarms by Location)

In this example, custom alarm views are created in which each view contains alarms from a specific location.

1. In the Object tree, select the Alarms node icon and right click *Custom Views -> Add Custom Views* (selecting the Alarms node is not necessary, but helps set the location of the custom view, as shown below).

2. In the **Specify Alarm Filter Criteria** window, change the name of the view to *NMS_B5*.

3. Click on Additional Criteria, then input the Property Name and match criteria. The property name we are using is sysLocation, and the criteria we are using is the string *Raleigh*, which we configured when providing device information. Figure 8-16 shows the example.
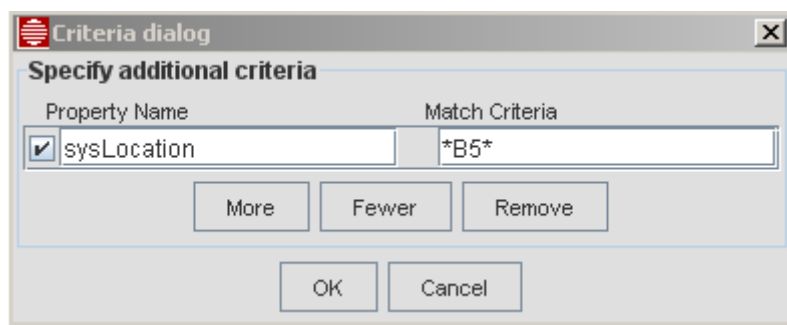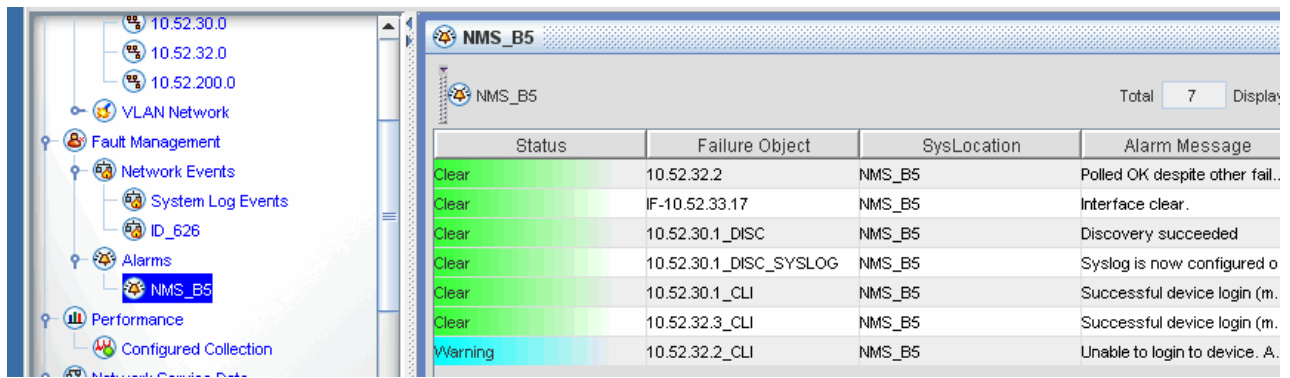

FIGURE 8-16 Setting Criteria for Custom Alarm View (sysLocation)

4. Select the tic box, OK, and then **Apply Filter**. Now when the NMS_B5 custom view is shown, only those devices with the sysLocation of B5 are listed in the view, as shown in Figure 8-17.

FIGURE 8-17 Example of Showing Alarms for Specific Location

8.5 Custom Physical Maps with Links

Links can be added to the custom Physical Maps. However, certain criteria must be used to create a custom map that will allow link symbols to be placed on it. These are described below.

8.5.1 Adding Links to Existing Custom Physical Map

To add links to an existing map (provided it's criteria are suitable) refer to the following figure, which shows the system Physical Map and links between 9000-type devices.
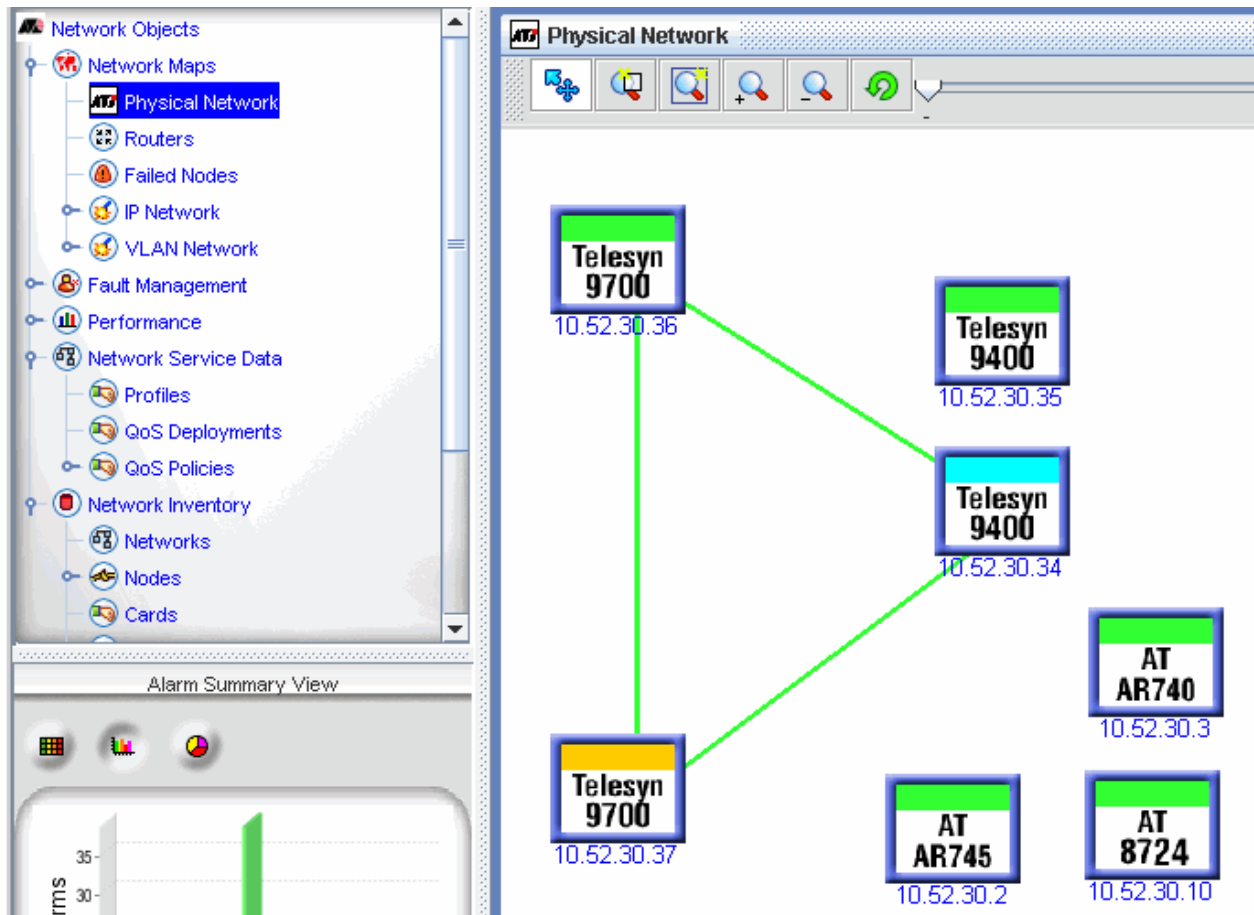

FIGURE 8-18 Physical Map with Links

For links to be added to a custom map, the map's criteria can only include the following parameters:

- "name"
- "classname"
- "type"

Use one or more of these parameters to specify a set of iMAP devices, then the ***Add Links To Map*** operation will automatically create link lines for the Links that are defined in the NMS and have end ports on iMAPs existing on the custom map.

For example, if you are using DNS names and they are assigned so that the initial/final characters of each device's name identifies the custom map that you would like it to be on, then a "name" criteria could be used to collect those devices onto a single Custom Map. Specifically, if the devices RAL1, RAL2, …, RAL30 are to be put on a single Custom Map, then use the criteria "name=RAL*" for that map.

If not using DNS, then the names will look like IP addresses, and a subnet map can be matched by a pattern like "name=172.16.33.*".

You can also use "type" to separate-off by device type (e.g., 9700, 9400, 9*, …).

The classname should be CLISNMPNodeMO to pick up iMAP devices only; otherwise many Port objects can appear on the custom map.

To create a custom map that looks like the Physical Map and also has links, do the following:

1. *Custom Views-> Add New Map*

2. Set topology to "grid(isActualIconSize=true;gapX=20;gapY=20;cellWidth=100;cellHeight=100;scroll=vertical),star,ring,flow"

3. Set mapSymbolRenderer="com.adventnet.nms.mapui.ATIMapSymbolRendererImpl_3"

4. Add criteria by selecting "more" at the bottom of the window.

   - Only use the following criteria names if Links are to be added later:

     - name   (e.g. name = 172.16.33.*)

     - classname   (e.g. classname = CLISNMPNodeMO)

     - type   (e.g. type = 9700)

Note: These can be updated to also include linksets, which is what the Add Links operation will do.

   - The map will be created looking like the Physical Map but the background is gray (instead of white) and no links will show. (To update the background, double-click the background and in the Map Properties tab add an ImageName.)

5. While the custom map is active, select the *View -> Add Links to Map* and the map will now have link lines drawn.

6. Refer to the following figures.

Note: The system Physical Map and custom Physical Map have the same features and interact; When new links are created or old links deleted on the system Physical Map they will now be automatically updated on the Custom map, and vise versa.
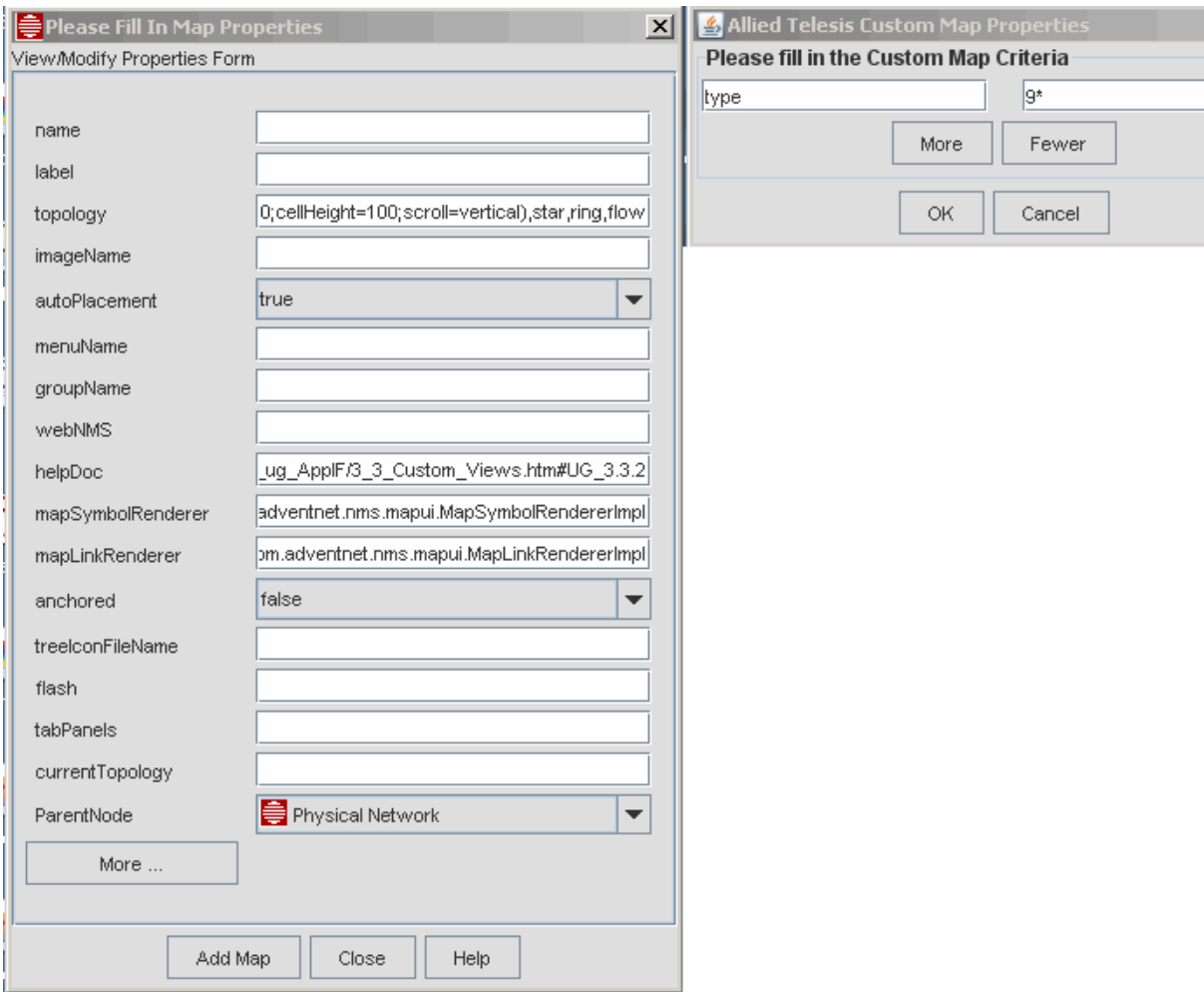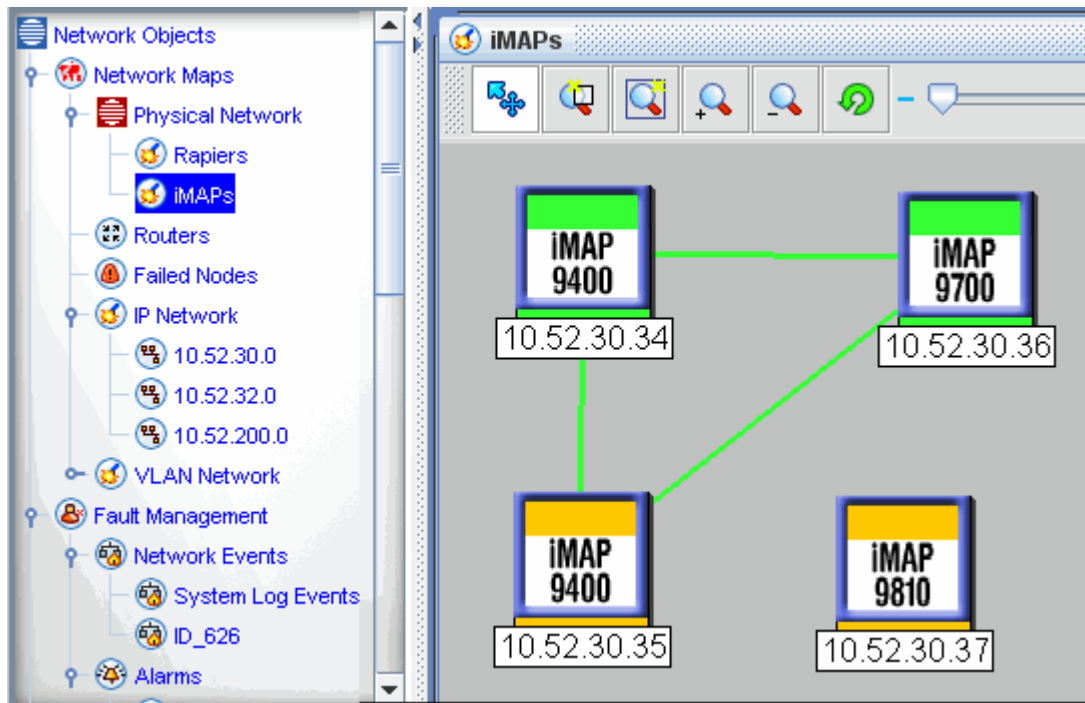
FIGURE 8-19 Setting Custom Physical Map Criteria

FIGURE 8-20 Adding the Links to the Custom Physical Map