ForeSight 6300
Network Management System

Getting Started Guide

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About this guide

The Patton *ForeSight 6300 NMS Getting Started Guide* helps you to understand and work with the FS6300 Network Management System (NMS). For more detailed information about configuring advanced features, see the *ForeSight 6300 NMS Administrator's Reference Guide*.

Audience

This guide is intended for the following users:

- Operators
- Installers

Structure

This guide contains the following chapters and appendices:

- Chapter 1 on page 14 provides basic information on NMS features and functions
- Chapter 2 on page 21 provides information on discovering your network
- Chapter 3 on page 28 provides information on configuring alarms and clocking
- Chapter 4 on page 37 provides information on configuring and managing individual devices
- Chapter 5 on page 43 provides basic information on configuring the 2616RC card
- Chapter 6 on page 56 provides basic information on configuring the 3096RC card
- Chapter 7 on page 76 provides basic information on configuring the 6511RC card
- Chapter 8 on page 91 provides information on configuring a chassis
- Chapter 9 on page 97 provides information on monitoring managed objects
- Chapter 10 on page 103 provides information on managing network events
- Chapter 11 on page 109 provides information on monitoring performance in the network
- Chapter 12 on page 115 provides information on contacting Patton technical support for assistance

For best results, read the contents of this guide *before* you install the NMS.

Chapter 1 Introduction

Chapter contents

Overview

This chapter introduces you to the features and benefits of the FS6300 NMS. It also includes basic information about logging in and out of the system, and working with the main toolbars and menus.

FS6300 NMS Features

- Integrated FCAPS
- Scalable NMS
- Configuration Management
- Alarm Management
- Security Management
- Administration Management
- Performance Management

Common User Tasks

The following are user tasks you will encounter when working with the FS6300 NMS:

- Discover the network
- Configure alarms and clocking
- Configure and manage individual devices in the network
- Manage network events
- Monitor performance data

Bringing up the NMS Server from Linux

To start the server, from the */opt/FS6300* directory, double-click on the **WebNMSLauncher.sh** file to open the launcher. To start and stop the server, in the splash screen window, right-click on the **Start 6300 NMS Server** icon. To initialize the database, right-click on the **Reintialize 6300 NMS** icon and select **Run**, then acknowledge the confirmation request in the pop-up window.

Bringing up the NMS Application Client from Windows XP

The NMS Application Client is the primary client for the FS6300 NMS. It is recommended that you use the Application Client. You can launch the Application Client by double-clicking on the **WebNMSLauncher.bat** icon on the desktop. In the resulting splash screen window, right-click on Application Client icon and select **Run**. Then, enter authentication information in the FS6300 NMS Authentication dialog box.

Logging into the Application Client

The FS6300 NMS Authentication box is displayed to provide an authenticated access to the FS6300 NMS. Enter a valid user name and password to access the Application Client.

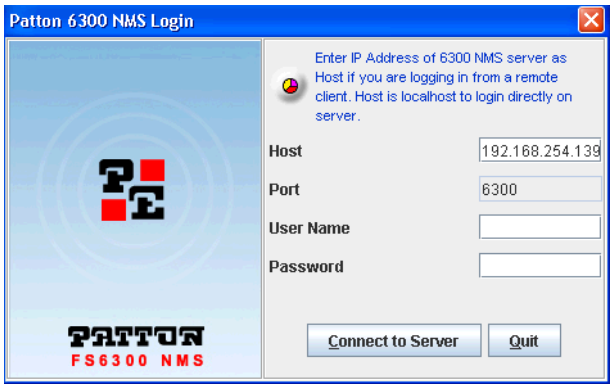


Figure 1. Logging in to the application client

1. In the **Host** field, enter **192.168.254.1** for the server address.
2. In the **Port** field, enter **6300**.
3. Enter the **User ID** assigned to you in the User ID field. If you do not have a User ID, contact your system administrator. For unconfigured systems, the default User ID is **superuser.**
4. Enter the password assigned to you in the **Password** field. To learn how to configure your password, see "Configuring Your Password" on page 17. For unconfigured systems, the default password is **superuser.**
5. Click **Connect**.

The Application Client console is displayed (if you had opted for it). The splash screen with a progress bar is shown before the Application Client is completely opened.

Configuring Your Password

Configuring your password before connecting to the client

When you log on to the Application Client for the first time, a Password Confirmation dialog box is displayed(only if this has been enabled by your administrator). If you do not see this dialog box, then ignore this section and perform the steps explained in the next section, "Configuring your password from the client" on page 17 .

To configure your password before connecting to the client:

1. In the Password Confirmation dialog box, click **Reuse** to continue using the same password for the same period as previously configured. To enter a new password, click **Configure** and perform further steps.
2. Enter the new password in the **Type new password** field.
3. Re-enter the same password in the **Confirm new password** field.
4. Enter the number of days you want your password to be valid in **Password expiry duration.** If no value or zero is entered in this field, then the password never expires.
5. Click **Connect**.

The new password is assigned to you and you are connected to the Application Client. You need to use this new password from the subsequent login.

Configuring your password from the client

1. After logging into the client, select **Security Administration** from the Tools menu. Select the user from the users list, and click **Edit** in the Menu bar. Select **Change Password**. The Password Configurator window is displayed.
2. Enter the new password in the **New Password** field.
3. Re-enter the same password in the **Confirm Password** field.
4. Click **OK**. The new password is assigned to the user.

Troubleshooting

Table 1 lists the messages that are displayed in certain situations during the login process.

Table 1. Troubleshooting messages

Message	Why am I getting this?	What do I do?
You are logged in for the first time; would you like to reuse the existing password or configure a new password? (See "Configuring your password before connecting to the client" on page 17).	This pop-up message is displayed when you log on to the Application Client for the first time (only if this has been enabled by your administrator).	Refer to "Configuring your password before connecting to the client" on page 17 for the procedure.
Your password has expired. Would you like to reuse the old password or configure a New password?	Your password has expired.	• You can either set a new password or retain the old password. • Click Reuse to keep the same password and for the same expiration period configured before. • Click Configure to enter a new password. Refer to "Configuring your password before connecting to the client" on page 17 for the procedure. • If you do not have the permission to set your password, contact your system administrator.
This User account has Expired. Please contact the Administrator for further details	Your user account has expired. The user account is created by your system administrator.	Contact your system administrator to renew your user account.
This User account is Disabled. Please contact the Administrator for further details	• Your user account has been disabled by your system administrator. • Also, if your consecutive login attempts fail for a certain number of retries (number is configured by the administrator), the user account is automatically disabled.	Contact your system administrator to enable your user account.

Table 1. Troubleshooting messages

Message	Why am I getting this?	What do I do?
Connection lost to the FS6300 NMS server at <host>. Do you want to shutdown the client?	This message is displayed if the connection between the client and server is lost due to network problems or if the server is shut down abruptly.	• Click Yes to shut down the client or No to continue working. • If you decide not to close the client even after the connection is lost, the screens, views, and data of the client remain the same, but you cannot perform any further operations in the client and no updates occur. You need to reopen the client and reconnect to the FS6300 NMS Server.
[Lock Screen dialog box] Please enter your password to unlock the client	This dialog box is displayed when the Application Client is idle for more than a specific period, that is, when there is no interaction between the user and the Application Client (no mouse or keyboard events).	• Enter a valid password in the Password field and click Unlock to resume working on the Application Client. • To disable this prompt every time the Application Client is idle (only for that session), select Don't show this dialog for the current session any more • Only specific number of unsuccessful logins are allowed. When exceeded, the session with Application Client is forcefully terminated and you need to reopen the Application Client.
FS6300 NMS Application Client has been terminated	• This message is displayed when the Application Client is idle for more than a specified period, that is, when there is no interaction between the user and the Application Client. • The Application Client is terminated.	Bring up/reopen the client again.

Using the NMS Menus and Toolbars

The following toolbars are always available at the top of the main window of the NMS:

- **SetUp(F)**
- **Tools**
- **DS0 Mapping**
- **Help**
- **Reports**

Additionally, some options in the menu tree have other toolbars at the top related to their function in the network:

- **Fault Management - Network Events**
- **Fault Management - Alarms**
- **Performance - Configured Collection**
- **Administration Tools - Policies**

Also, **right-clicking** on a device in the main window will display a menu of options available for that specific device.

Logging out of the Application Client

To log out, perform any of the following procedures:

- From the **SetUp(F)** menu at the top of the screen, choose **Exit**.
- Press **Alt+F4**.

A Confirmation Message dialog box is displayed. Click **Yes** to quit the client.

Chapter 2 Discovering Your Network

Chapter contents

Introduction

The first task that you should perform with the FS6300 NMS is discovering your network. This chapter describes how to start the Discovery process and how to configure subnet properties.

Starting the Discovery Process

Before starting the Discovery process, at least one node must be deployed, powered up, and connected to the network. To start Discovery:

1. From the **Tools** menu at the top of the screen, select **Discovery Administration**.
   The Discovery Window displays.

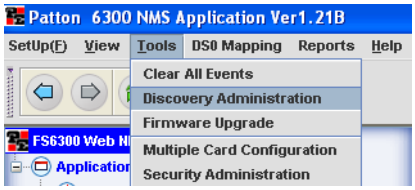


Figure 2. Tools > Discovery Administration

2. Click on **Discover Patton Devices** in the tree on the left side of the screen.
3. A window will display with the message, "AutoDiscovery currently DISABLED". Click **OK**.
4. Click on the **Auto-Discovery** checkbox.

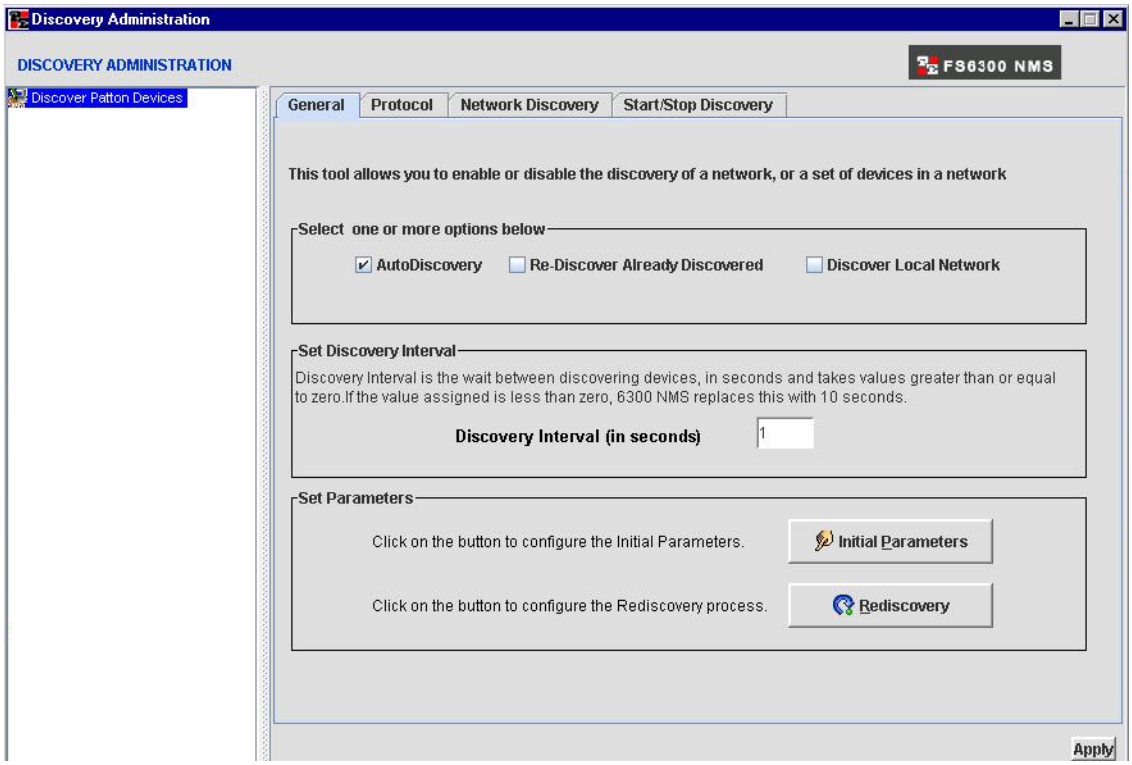


Figure 3. Discovery Window

5. Click on the **Network Discovery** tab at the top of the Discovery Administration window.

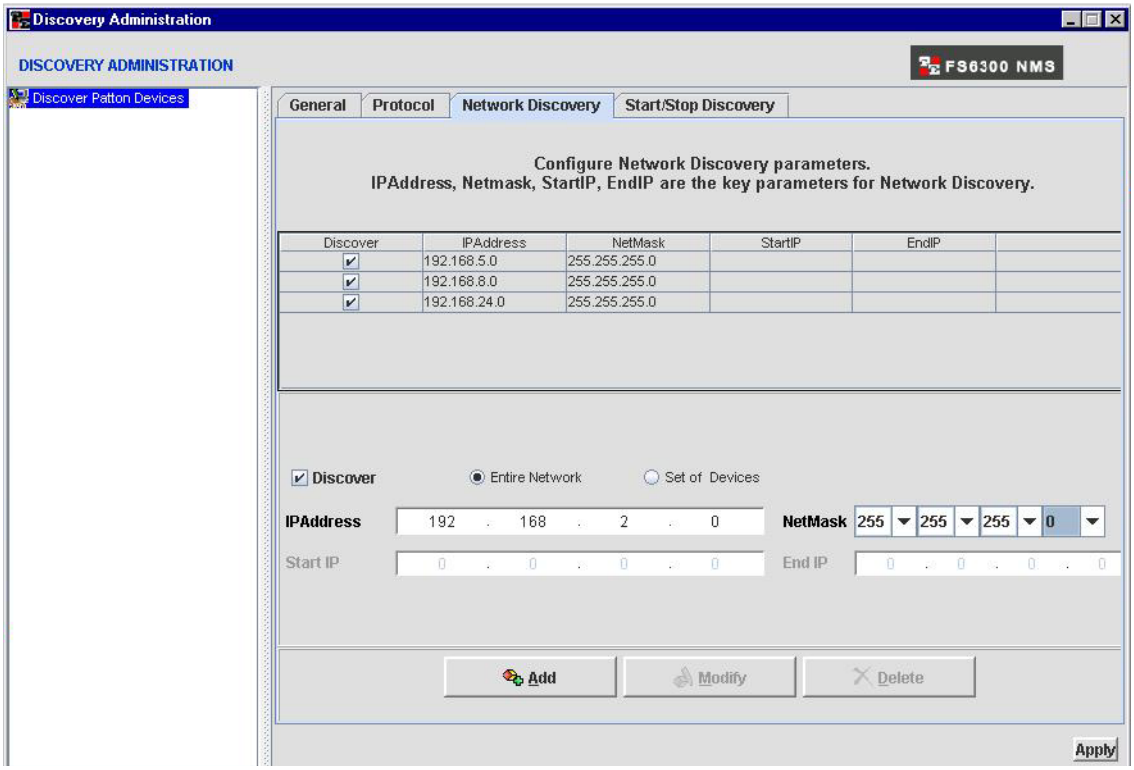


Figure 4. Network Discovery tab

6. Enter the **IP Address of the Subnet** to be discovered by the FS6300 NMS. Click **Add**.
7. Click **Apply** to begin the Discovery process.
8. Returning to the main window, click on **Networks** (under *Network Database*) in the menu tree to see if the IP subnet has already been entered into the Networks table for discovery.

Note The discovery process may take some time, depending on how many nodes there are to discover on your network. During the Discovery process, a blue icon with an actively spinning wheel will be in the upper right-hand corner of the main window.

IMPORTANT

It is very important that you do not attempt to configure any parameter during the Discovery process. Attempting to do so could corrupt the data being collected during Discovery.

When the NMS has collected enough information to identify the node, the node will be listed in the Nodes table (under Network Database). As more information is collected through the Discovery process, entries will appear in the **FS6300 Geographical Areas** section (under *Network Maps*).

When the Discovery process is complete, the spinning wheel icon is replaced with a blue box containing a white checkmark. Once Discovery is complete, a new subnet can be entered into the Network Discovery window (Tools > Discovery Administration).

Viewing Node Information After Discovery

If the discovered nodes weren't individually configured prior to starting the Discovery process, they may be missing information such as Node ID, Node POP, Network Area, Chassis Type, Geographical Area, and Chassis ID. For the nodes that are missing information, the FS6300 NMS will assign values for Geographical Area, Node, and Chassis ID.

Clicking on a Chassis in the menu tree on the left side of the screen will display all of the discovered cards for that Chassis in the main window. Clicking on the "+" box in the menu tree expands to show all of the slots for that chassis. The main window also displays all of the cards for that chassis, including a quick look of which slot each card is in and if there are currently any alarms for that slot. Hover the mouse over the card in the main window to view a card's IP address.

The next step after Discovery is to configure the Alarm Trap IP Address so that the NMS can receive and show alarm indications for cards in the network. See Chapter 3, "Configuring Alarms and Clocking" on page 28 for more information. For more information about viewing and configuring details for an individual device, see Chapter 4, "Configuring and Managing Devices" on page 37.

Configuring Multiple Cards

If you have separate subnets that are supposed to be in the same Geographical Area but in a specifically named Node and Chassis, you will want to update the subnet information so that is displayed as it actually is located in the network.

Updating the Configuration

To configure multiple cards:

1. Select **Tools** from the menu at the top of the screen, then **Multiple Card Configuration**. The Multiple Card Configuration window appears.

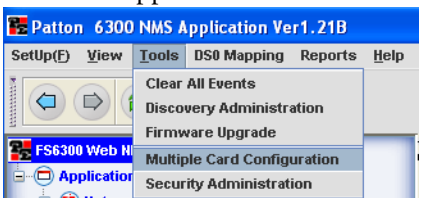


Figure 5. Tools > Multiple Card Configuration

2. Click on **Card Parameters** in the menu tree on the left side of the screen.

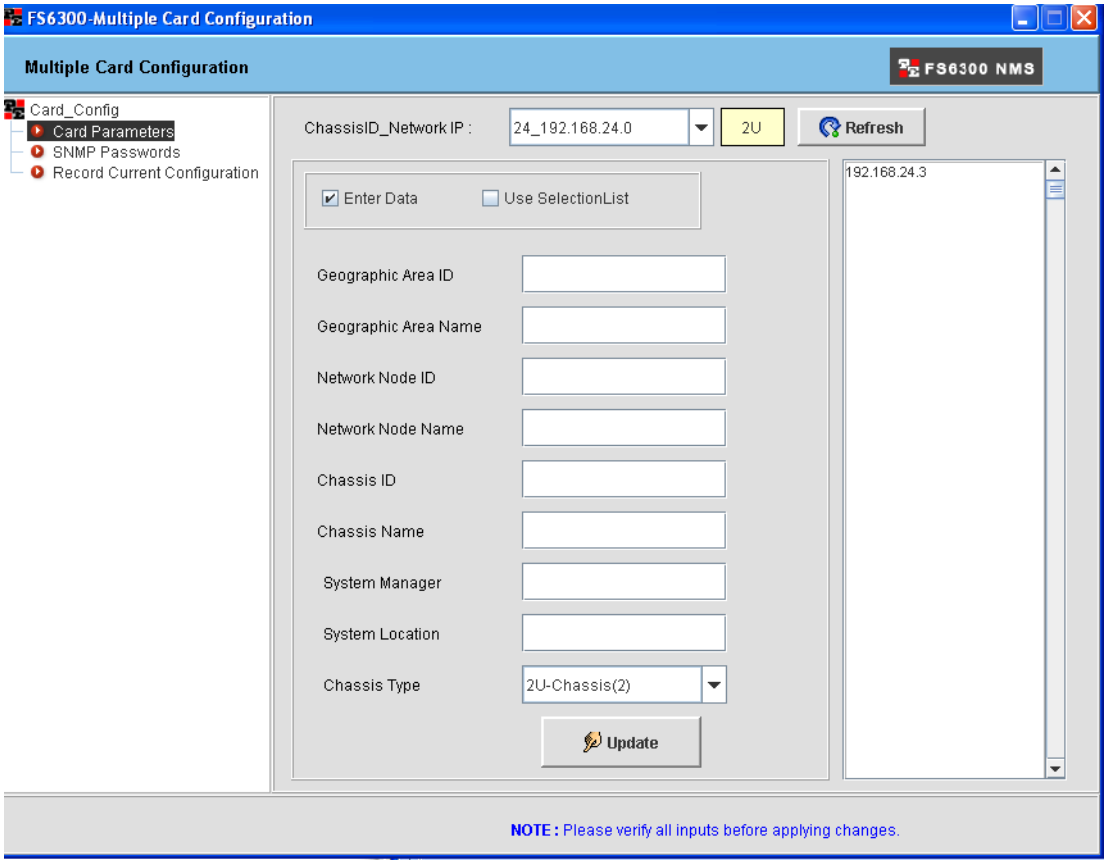


Figure 6. Multiple Card Configuration > Card Parameters

3. Select the subnet you would like to update from the **Network IP** drop-down menu. The list on the right side of the screen shows the IP addresses of all the devices discovered on that specific subnet.
4. Enter the information you would like to update on the subnet for the following fields:
   - Geographical Area ID (Integer that identies the geographical area)
   - Geographical Area Name (Descriptive name of the geographical area)
   - Network Node ID (Integer used to identify the node on the network)
   - Network Node Name (Descriptive name of the node)
   - Chassis ID (Integer used to identify the chassis on the network)
   - Chassis Name (Descriptive label for the chassis)
   - System Manager (Name of the person managing this subnet on the network)
   - System Location (Description of where the system is located)
   - Chassis Type (Choose a chassis type from the drop-down menu)
5. Click **Update** to save the information for all of the cards on that subnet.

Note After clicking Update, it is very important to save this information in the cards' non-volatile memory so that the values will not be lost in case of a power failure or card reboot.

Saving the Configuration

To save the information to non-volatile memory:

1. Click on **Record Current Configuration** in the menu tree on the left side of the screen. This will save all current configurations in non-volatile memory for the devices listed in the panel on the right side of the screen.

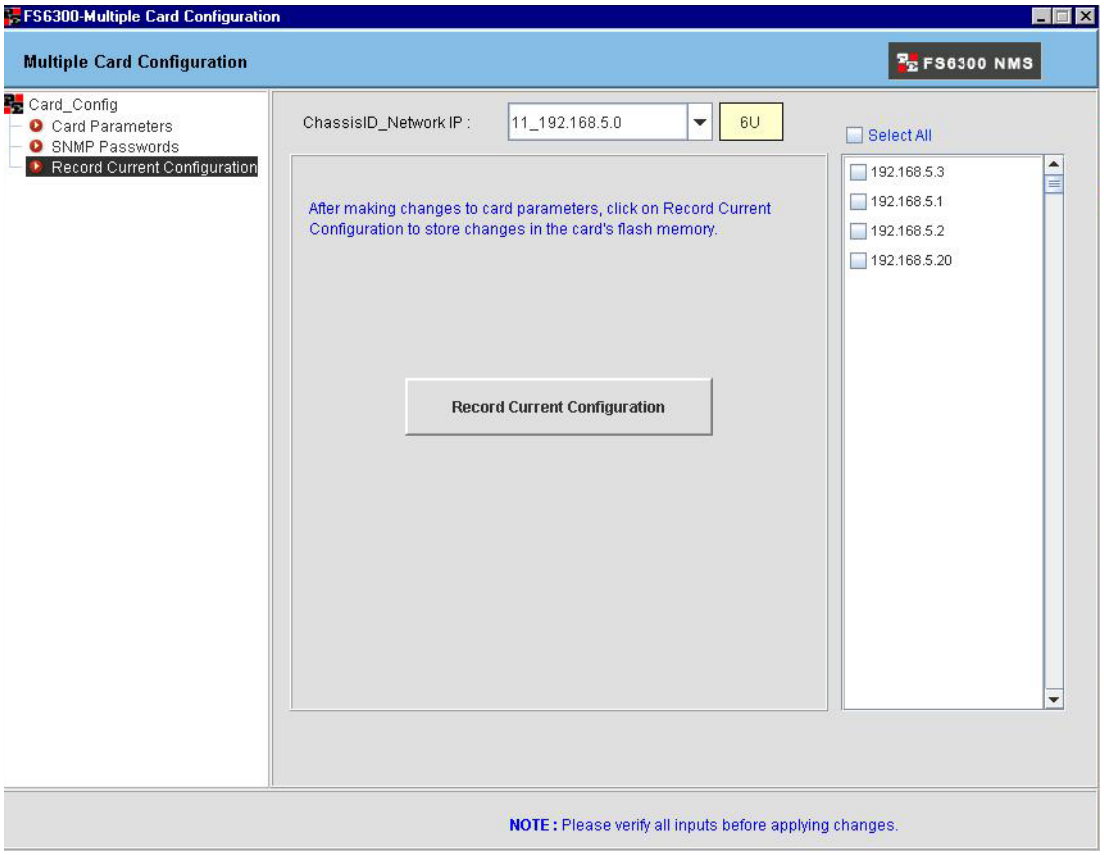


Figure 7. Multiple Card Configuration > Record Current Configuration

Forcing Discovery for Selected Cards

Though the cards have the updated information saved, the NMS will not display the changes until the cards have been re-discovered. To re-discover specific cards and not the entire subnet, see "Re-Discovering Cards" on page 27.

Re-Discovering Cards

You should re-discover cards after changing a card's configuration, or if you have added a new chassis or devices to the network.

To re-discover cards:

1. Right-click on the device icon. You can do this in the Geographical Area, Network Node, Chassis, or Card sections of Network Maps.
2. Select **Re-Discover Cards** from the pull-down menu.A window displays with information about the card(s), including IP address, netmask, and SNMP Agent port.
3. Click **Re-Discover**. A message displays at the bottom of the box: "This action will take a few minutes. Please watch the status message. Status: Re-discovering..."

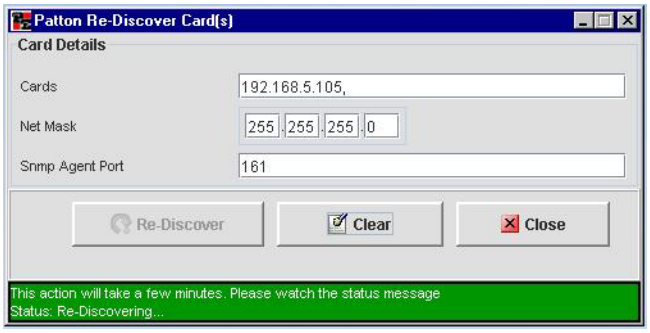


Figure 8. Re-Discover Cards

Chapter 3 Configuring Alarms and Clocking

Chapter contents

Introduction

Before you can receive alarm indications, you must first configure the alarms and clocking for the NMS. When you discover your network for the first time, there will be alarms because the synchronization clocking has not been fully configured yet.

Configuring the Alarm Trap Manager

In order to configure alarms, you need to configure the IP address of the NMS server which traps the alarm reports from each of the cards in the network. By default, the Alarm Trap IP address is 0.0.0.0, so no alarms are detected by the NMS.

You can configure the Alarm Trap Manager in two different ways, by right-clicking on a network node in the Geographical Areas section, or by right-clicking on a card in the Chassis section.

Configuring Alarms through the Network Node

To configure the IP address for the Alarm Trap field for each card:

1. From the menu tree on the left side of the screen, select the **Geographical Area** for the node that you want to configure.
2. In the main window, right-click on the **Network Node**, then select **Alarm Trap Manager.**
   The **Configure Alarm Trap Manager** window dispalys. You may configure the Alarm Trap Manager for any particular card in the chassis' subnet or you can configure all of the cards in the subnet at once.

Figure 9. Alarm Trap Manager

3. Select the card that you would like to configure from the **Select Card** drop-down menu. If you would like to configure all of the cards at the same time, select the **Configure All Cards** checkbox at the bottom of the screen.

4. Enter the IP address of the NMS server in the **Alarm Trap Manager 1** field.
5. Click the **Modify** button.
6. If the configuration was successful, a "Configuration Result" window displays. Click **OK**.

Configuring Alarms through a Card in the Chassis

To configure the IP address for the Alarm Trap field for each card:

1. From the menu tree on the left side of the screen, select the **Chassis** for the card that you want to configure.
2. In the main window, right-click on the **Card**, then select **Alarm Parameter Configuration.** The **FS6300 Alarm Details** window appears. Click on the **Alarm System Overview** to view information about the alarms.

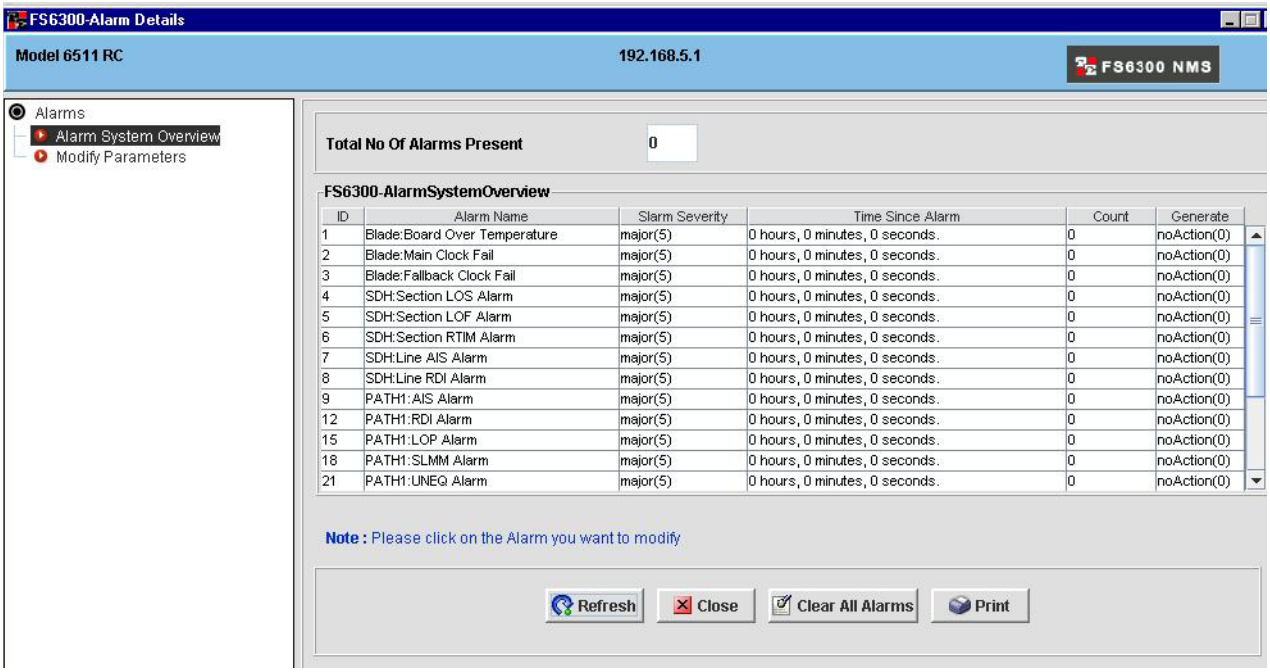


Figure 10. View Alarm Details

Alarm System Overview: The Alarm System Overview window shows the entire alarm system, including the following information for each alarm:

– Alarm Name

– Alarm Severity

– Time Since Alarm

– Count– the number of times this alarm has occurred since being cleared

3. Click on **Modify Parameters** to configure the alarms.

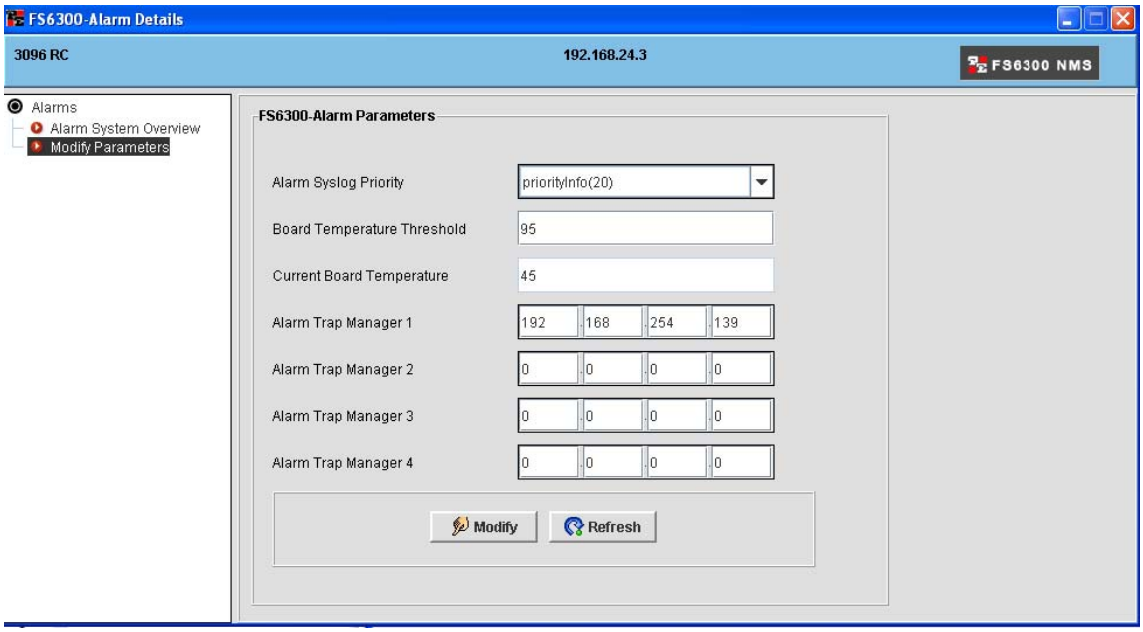


Figure 11. Modify Alarm Details

Modify Parameters: Configure the FS6300 Alarm Parameters through the Modify Parameters window.

– Alarm Syslog Priority

– Board Temperature Threshold

– Current Board Temperature

– Alarm Trap Managers 1-4

4. Click **Modify** to save your configuration in the card's volatile memory.
5. Return to the **Alarm Systems Overview** screen. Before the most severe active alarm is propagated to the icons in the NMS, you must first do Steps 6-7.
6. Click on the **Clear All Alarms** button. You should receive a "Configuration Result" window indicating success.
7. Click on the **Refresh** button.
8. Close the Alarm Details window.
9. Repeat Steps 2-8 for each card in the chassis. After this is completed, return to the view of the chassis in the main NMS window.

Alarm Indications

The following are symbols that appear on a card or node icon when the NMS receives an alarm:

- **Critical:** Red circle with a white "X"
- **Major:** Yellow circle with two black exclamation points
- **Minor:** Light yellow circle with a single black exclamation point
- **No Alarm/Informational:** Green circle with black checkmark

Alarms are propagated up to the next level throughout the **Network Maps** section in the menu tree.The **Chassis** icon indicates an alarm alert if one or more of the cards have an alarm. On the **Geographical Aera** level, a network node will also display alarm alerts if a card in a chassis has an alarm.

Viewing a Summary of Alarms

To view a summary of all systems with an alarm, click on **Failed Systems** (under Network Maps) in the menu tree on the left side of the screen. The Failed Systems map shows all the cards that have alarm alerts.

The **Alarm Summary View** window always appears in the bottom left corner of the screen under the main menu tree. It offers a quick glance at the status of alarms that are currently occurring in the system. You can change how the Alarm Summary View is displayed by clicking on the icons in the Alarm Summary View window. There are three different view options:

- Tabular View
- Graphical View
- Pie Chart View

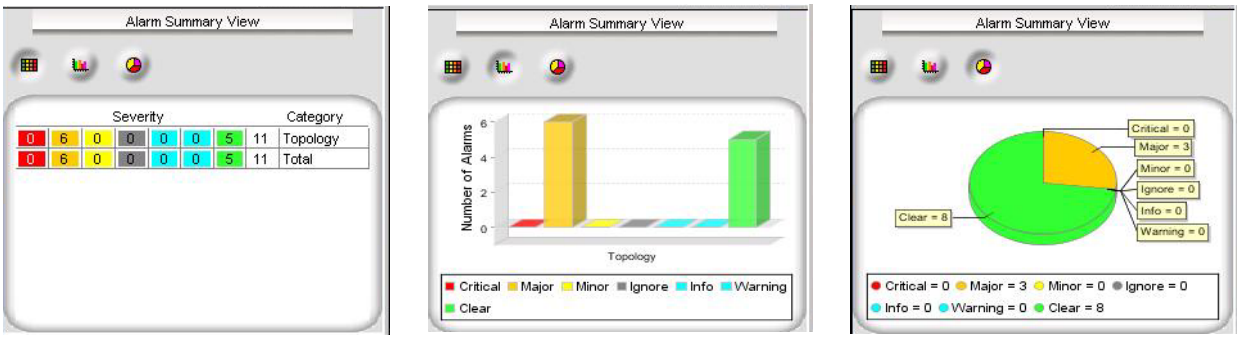


Figure 12. Alarm Summary View options (Tabular, Graphical, and Pie Chart)

Configuring Clocking Synchronization

To configure clocking synchronization for a chassis:

1. From the menu tree on the left side of the screen, select **Node** (under Geographical Area).
2. In the main window, right-click on the chassis that you want to configure clocking for.
3. Select **Chassis Clocking Synchronization** from the pull-down menu.

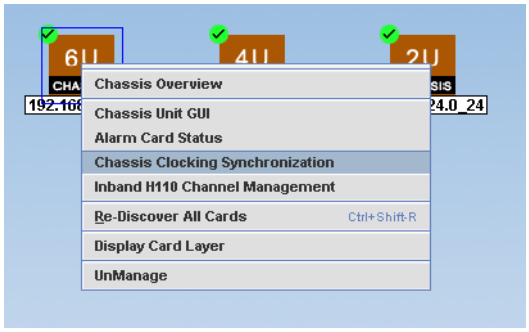


Figure 13. Chassis Menu > Chassis Clocking Sync

The **Chassis Clocking Synchronization** window displays.

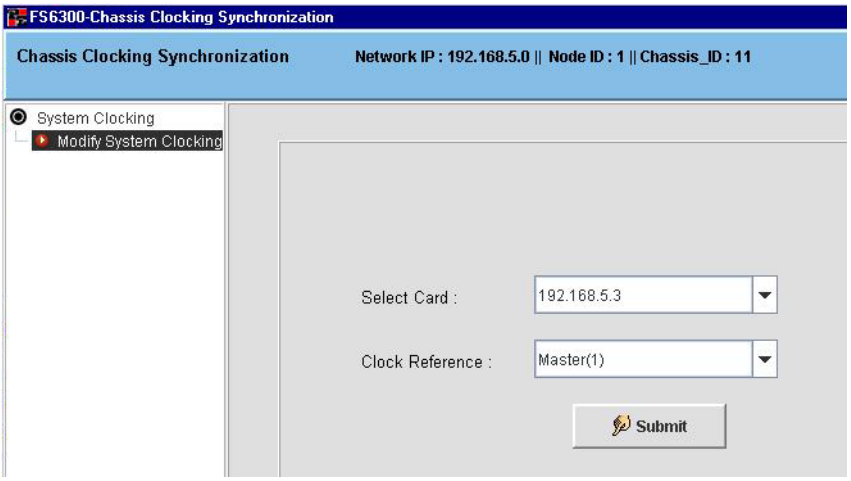


Figure 14. Modify System Clocking

4. Select **Modify System Clocking** from the menu tree on the left side of the screen.
5. Select a card from the **Select Card** drop-down menu, and select a clock from the **Clock Reference** drop-down menu. The Clock Reference can be **Master**(1), **Secondary**(2), or **Slave**(3). Click **Submit**.
6. Repeat Step 5 for each card in the chassis.

Note A chassis can have only one master and one secondary, so if you accidentally select another master in the same chassis, the NMS will not allow you to save the clock for that card as the Master.

Refreshing the alarms after configuring clocking

After you have configured clocking for the chassis, you can refresh the alarms that occurred before clocking was configured. To refresh the alarms for a card:

1. Right-click on the card icon and select **Alarm Parameter Configuration**.
   The **FS6300 Alarm Details** window displays (see Figure 10 on page 30).
2. Click on **Alarm System Overview** in the menu tree on the left side of the screen.
3. Click the **Clear All Alarms** button.
4. Click the **Refresh** button.

All of the alarms that were related to clocking should be cleared. (Other alarms not related to clocking may still be present). The next step after configuring clocking synchronization is to configure clocking options for the card system, including Clock Fallback and Clock Auto Recover.

Configuring Card System Clocking

In addition to setting a clock to Master, Secondary, or Slave, you must also select the source for clocking and determine whether to enable or disable Clock Fallback and Clock Auto Recover. To configure card system clocking:

1. Right-click on the card icon and select **Card System Clocking**.

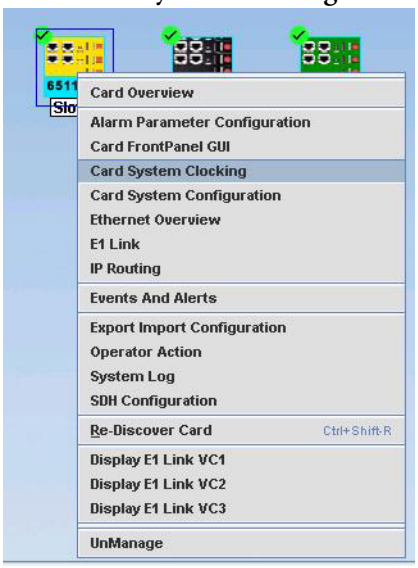


Figure 15. Card Menu > Card System Clocking

The **System Clocking** window displays.

2. Click on **View System Clocking** in the menu tree on the left side of the screen. From this window, you can view and verify the configuration settings for the card's entire clocking system, including whether any failures have occurred and if any clock-related alarms are active.

Figure 16. View System Clocking

3. To change any of the card's clocking paramters, click on **Modify System Clocking** in the menu tree on the left side of the screen.

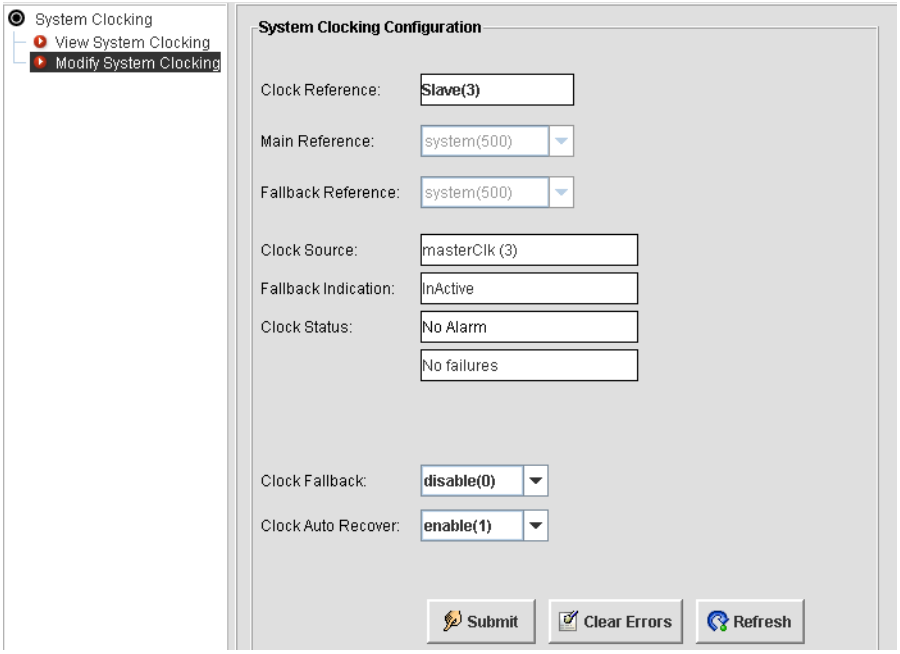


Figure 17. Modify System Clocking

The configurable parameters are:

- Main Reference
- Fallback Reference
- Clock Fallback
- Clock Auto Recover

Note Refer to the *FS6300 Administrator's Reference Guide* for details on the function and significance of these parameters.

4. Click **Submit** to save your changes.

Chapter 4 Configuring and Managing Devices

Chapter contents

Introduction

Devices can be individually configured and monitored through the FS6300 NMS. The NMS organizes devices by geographical area in the **Network Maps** section of the menu tree, where device-specific menus can be viewed by right-clicking on a device. Devices can also be monitored through the **Network Database** section of the menu tree.

This chapter describes what information you can find and configure about specific devices through the Network Maps and Network Database sections of the FS6300 NMS.

Adding Devices

To add individual devices to the FS6300 NMS:

1. Click **Setup(F)** at the top of the screen, then click **Add Device(o)**.
   OR, press **Ctrl+O**. The **Add SNMP Device** window appears.

Figure 18. Add SNMP Device window

2. Enter the **IP address** and **Netmask** of the device you want to add.
3. If desired, you may modify the **SNMP Password** and **SNMP Agent Port**.
4. If you don't want to monitor the status of your request to add this device to the system, select the checkbox for **Process Add SNMP Device request in the background**.
5. Click **Add Device**.

Working with Network Maps

The **Network Maps** section of the NMS shows a map of the devices located on the network at various levels.

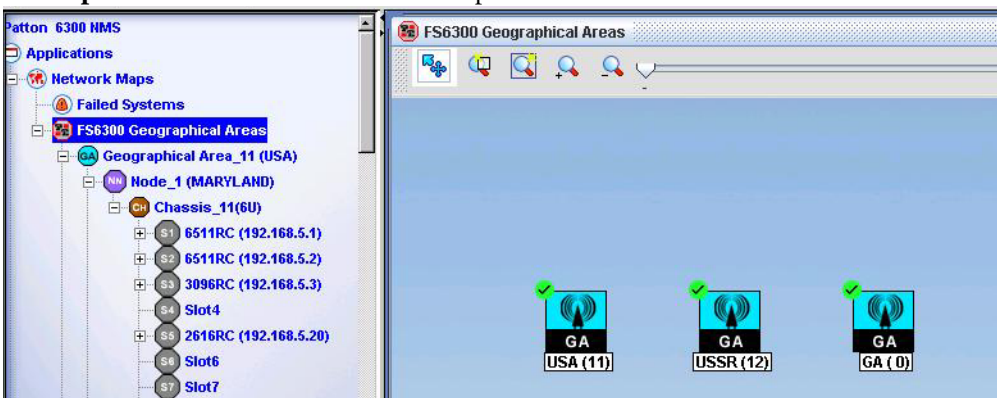


Figure 19. Network Maps

Geographical Areas

Click on a **Geographical Area** in the main menu tree to view a map of **Network Nodes** in the NMS.

Right-click on the icon of a **Network Node** in the main window to view a pull-down menu of options.

Nodes

Click on a **Network Node** in the main menu tree to view a map of **Chassis** in that node.

Right-click on the icon of a **Chassis** in the main window to view a pull-down menu of options..

Chassis

Click on a **Chassis** in the main menu tree to view a map of **Devices** in that chassis.

Right-click on the icon of a **Device** in the main window to view a pull-down menu of options..

Slots/Devices

Click on a **Device** in the main menu tree to view a map of **Ports** in that device.

Right-click on the icon of a **Port** in the main window to view a pull-down menu of options.

Ports/Interfaces

Right-click on a port to configure its link or set it to be managed or unmanaged.

Managing Operator Actions

Operators may want to reboot a device or save the current configuration to memory, in case problems arise in the system. To reach the Operator Actions menu, right-click on the Device icon and select **Operator Actions**.

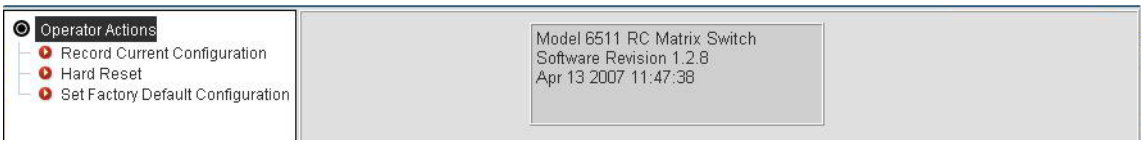


Figure 20. Operator Actions > Reset Options window

Record the current configuration

To save the current configuration of a device to memory:

1. In the main menu tree under **Network Maps**, navigate to the **Chassis** or **Card/Slot.**
2. Right-click on the card's icon in the main window and select **Operator Action**. The **Reset Options** window appears. It shows the card model, IP address, and software revision of the card.

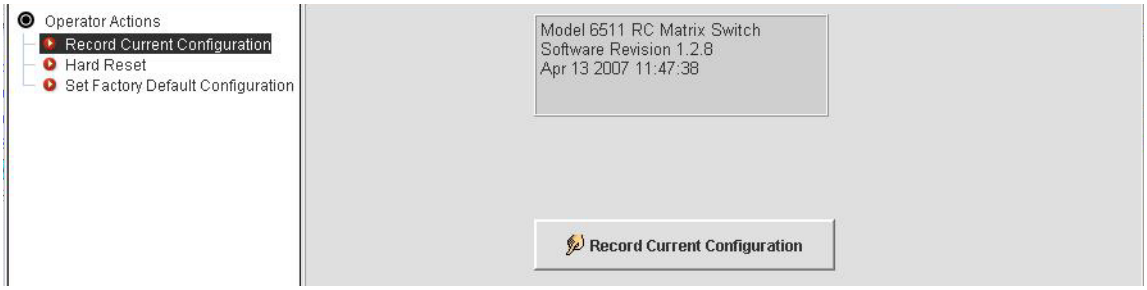


Figure 21. Record Current Configuration

3. Select **Record Current Configuration** from the menu tree in the Reset Options window.
4. Click the **Record Current Configuration** button.

Reboot the device

To reboot a chassis or card:

1. In the main menu tree under **Network Maps**, navigate to the **Chassis** *or* **Card/Slot.**
2. Right-click on the card's icon in the main window and select **Operator Action**. The **Reset Options** window appears. It shows the card model, IP address, and software revision of the card.

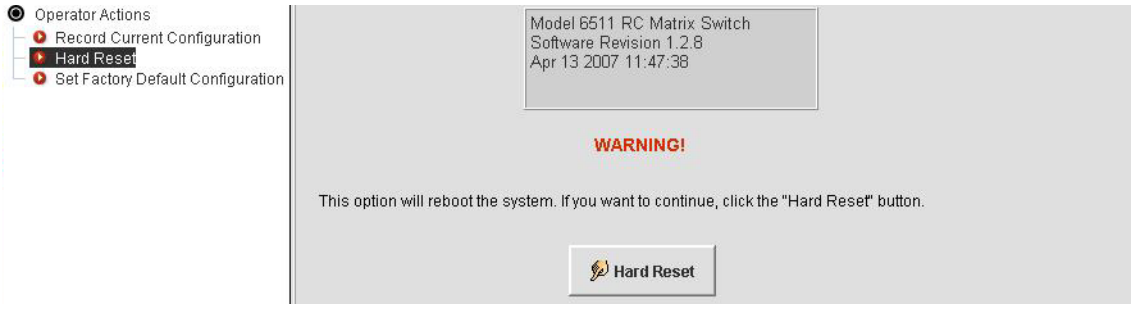


Figure 22. Hard Reset

3. Select **Hard Reset** from the menu tree in the Reset Options window.
4. Click the **Hard Reset** button.

Set the factory default configuration

To set the factory default configuration for a device:

1. In the main menu tree under **Network Maps**, navigate to the **Chassis** *or* **Card/Slot.**
2. Right-click on the card's icon in the main window and select **Operator Action**. The **Reset Options** window appears. It shows the card model, IP address, and software revision of the card.

Figure 23. Set Factory Default Configuration

3. Select **Set Factory Default Configuration** from the menu tree in the Reset Options window.
4. Click the **Set Factory Default Configuration** button.
5. Click the **Hard Reset** button.

IMPORTANT

The **Hard Reset** process will reset ALL of the system's values to the original factory settings. After resetting these values, the system will continue to function the same until the system is rebooted.

Configuring Cards

See the following chapters for information on configuring specific cards:

- **2616RC** – Chapter 5, "Configuring the 2616RC Card" on page 43
- **3096RC** – Chapter 6, "Configuring the 3096RC Card" on page 56
- **6511RC** – Chapter 7, "Configuring the 6511RC Card" on page 76

Viewing LEDs

To view the real-time LEDs of a chassis or card:

1. Navigate to **Network Maps** in the menu tree, then right-click on the card or chassis icon in the main window.
2. Click on **Chassis Unit GUI** or **Card Front Panel GUI.**
3. A graphic of the front panel displays. The LEDs are shown in real-time.

Chapter 5 Configuring the 2616RC Card

Chapter contents

Introduction

The Patton Model 2616RC is a digital cross-connect with 16 T1/E1 ports. There are several ways to reach the configuration menu for the 2616RC card:

- Click on **Network Maps** in the main menu tree, then click on **Chassis.** Right-click on the 2616RC icon.
- Select the **2616RC** card from the main menu tree, then right-click on the card icon in the main window.
- Navigate to **Network Database** > **Managed Objects** > **Cards** in the main menu tree, then right-click on the IP address of the card in the table in the main window.

The best way to reach the configuration menu for a card is to select the card in the main menu tree, then right-click on the card's icon in the main window.

2616RC Configuration Menu

The following options are available in the pull-down menu for the 2616RC card:

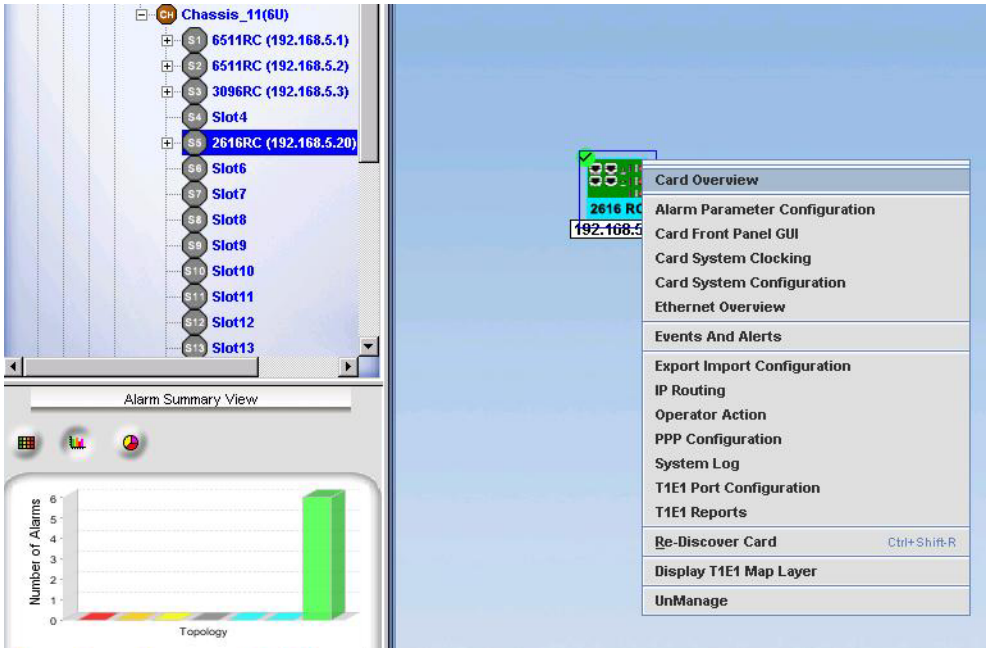


Figure 24. 2616RC Configuration Menu

- Card Overview – Shows information for Box Status, Card Info, and Alarm Info
- Alarm Parameter Configuration – See "Configuring the Alarm Trap Manager" on page 29 in Chapter 3
- Card Front Panel GUI – See "Viewing the Front Panel" on page 45
- Card System Clocking – See "Configuring Card System Clocking" on page 34 in Chapter 3
- Card System Configuration – See "Configuring the Card System" on page 45
- Ethernet Overview – See "Configuring Ethernet Settings" on page 47

- Events and Alerts – See "Viewing Events and Alerts" on page 48
- Export Import Configuration – See "Exporting/Importing the Configuration" on page 48
- IP Routing – See "Configuring IP Routing" on page 50
- Operator Action – See "Managing Operator Actions" on page 40 in Chapter 4
- PPP Configuration – See "Configuring PPP" on page 53
- System Log – See "Viewing the System Log" on page 51
- T1E1 Port Configuration – See "Configuring the T1/E1 Ports" on page 52
- T1E1 Reports – See "Viewing T1/E1 Reports" on page 55
- Re-Discover Card – See "Re-Discovering Cards" on page 27 in Chapter 2
- Display T1E1 Map Layer – See "Viewing the T1/E1 Map Layer" on page 55
- UnManage – See Chapter 9, "Monitoring Managed Objects" on page 97

Viewing the Front Panel

Click on **Card Front Panel GUI** to view the front panel of the card in real-time.

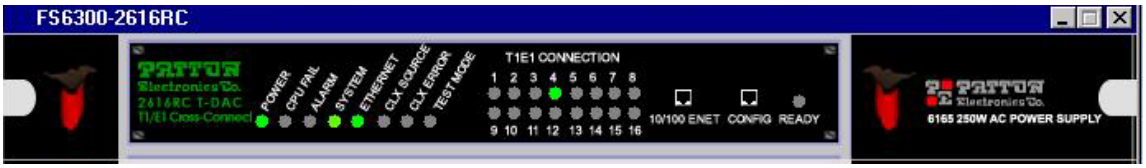


Figure 25. 2616RC Front Panel LEDs

Configuring the Card System

Click on **Card System Configuration** to configure system parameters. You can also view the system status, ethernet status, system parameters, SNMP/HTTP parameters, and system status details.

Modify System Parameters

If you only want to view the system parameters, click on **View System Parameters** in the Card System Configuration window.

To configure the card system, click on **Modify System Parameters** in the menu tree in the Card System Configuration window (see Figure 24 on page 44).

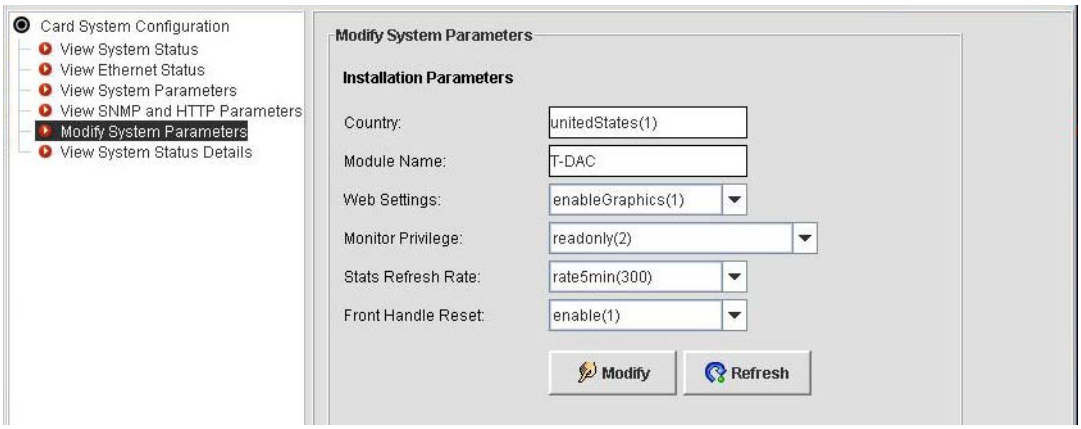


Figure 26. Modify 2616RC Card System Parameters

1. Enter the country where the card is located in the **Country** text field.
2. Enter a description for the card in the **Module Name** text field.
3. Select to enable or disable graphics from the **Web Settings** drop-down menu.
4. Select a privilege option from the **Monitor Privilege** drop-down menu.
5. Select how often you would like to refresh statistics information from the **Stats Refresh Rate** drop-down menu.
6. Select to enable or disable front handle information from the **Front Handle Reset** drop-down menu.
7. Click **Modify** to save your changes. Click **Refresh**.

View System Status

Click on **View System Status** in the Card System Configuration window to see an overview of the physical status of the card and the system status. **View System Status** shows information about the handle switches, front/rear LEDs, alarm and clock LEDs, and the board temperature.

View System Status Details

Click on **View System Status Details** in the Card System Configuration window to see information on CPU statistics, Message Block statistics, Memory statistics, Manufacturer details, and the Enclosure System temperature.

View Ethernet Status

Click on **View Ethernet Status** in the Card System Configuration window to see the LEDs and speeds of the card's Ethernet ports.

View SNMP/HTTP Parameters

Click on **View SNMP/HTTP Parameters** in the Card System Configuration window to see the SNMP version and passwords.

Configuring Ethernet Settings

Click on **Ethernet Overview** to configure Ethernet settings. You can also view Ethernet statistics.

Modify Ethernet Parameters

If you only want to view the Ethernet parameters, click on **View Ethernet Parameters** in the Ethernet Overview window.

To configure the Ethernet settings, click on **Modify Ethernet Parameters** in the menu tree in the Ethernet Overview window (see Figure 27).

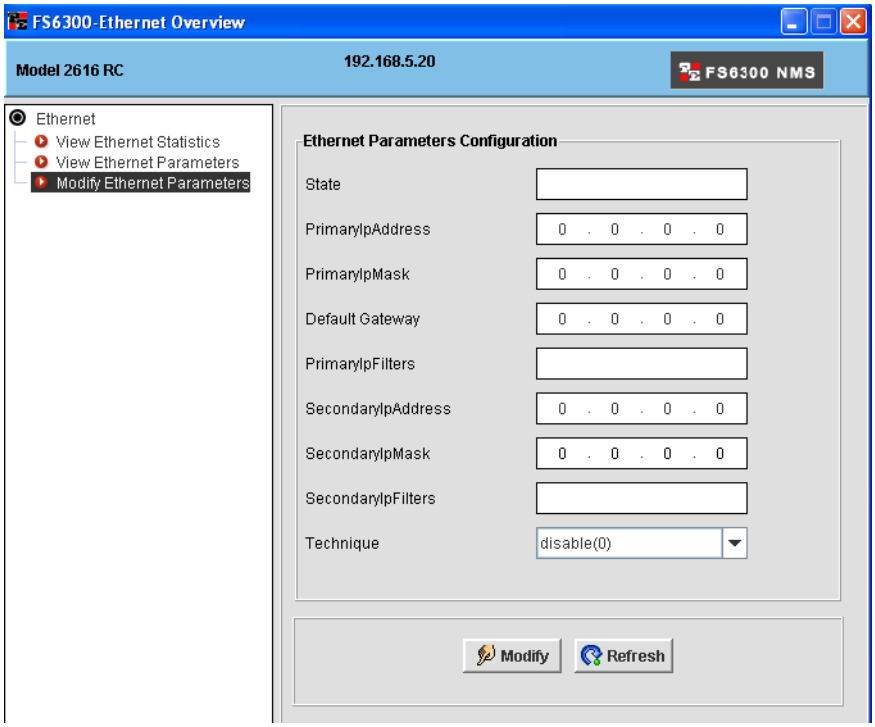


Figure 27. Modify 2616RC Ethernet Parameters

1. Enter the main address and mask for the card in the **Primary IP Address** and **IP Mask** fields.
2. If desired, enter a secondary address and mask in the **Secondary IP Address** and **IP Mask** fields.
3. Select static or disable the technique in the **Technique** drop-down menu.
4. Click **Modify** to save your changes. Click **Refresh**.

View Ethernet Statistics

Click on **View Ethernet Statistics** in the Ethernet Overview window to view statistics for the Ethernet ports on the device, such as errors and frame stats.

Viewing Events and Alerts

Click on **Events and Alerts** to view a color-coded chart that shows the amount of alarms and severity of alarms for the card.

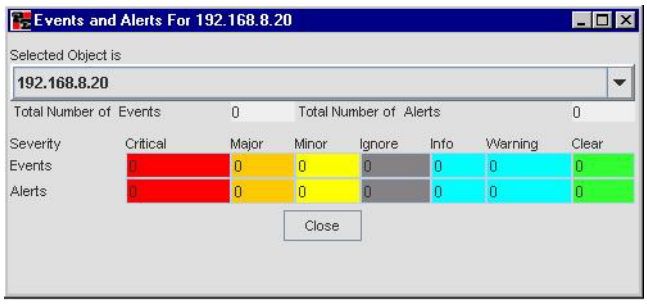


Figure 28. 2616RC Events and Alerts

Exporting/Importing the Configuration

Click on **Export/Import Configuration** to save or load a configuration file.

Exporting the Configuration

To save the current configuration, click on **Export Configuration** in the menu tree of the window, then click **Export** to save the current configuration to a file.

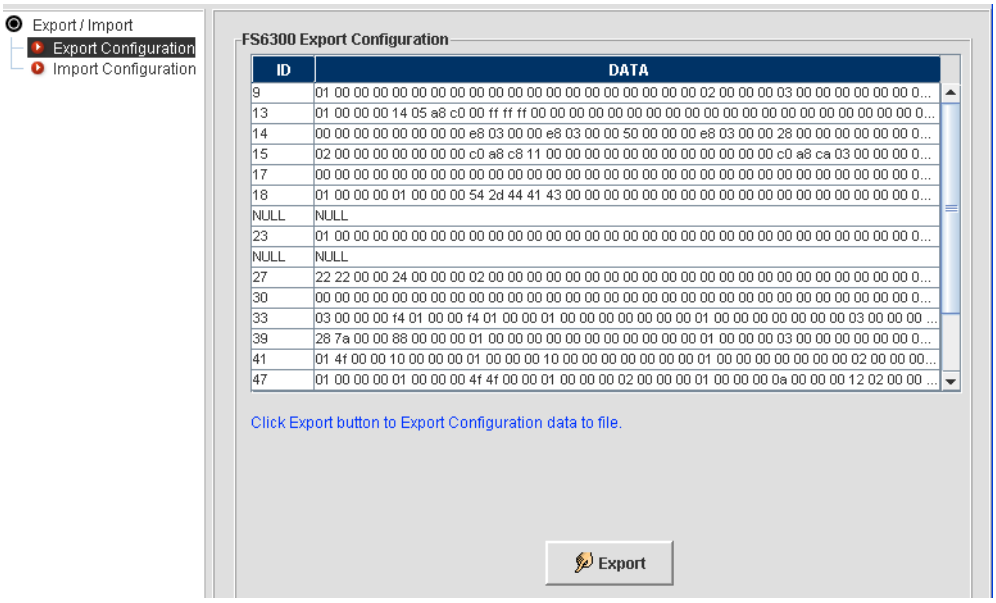


Figure 29. Export Configuration

Importing the Configuration

To load a configuration file, click on **Import Configuration** in the menu tree of the window, then click **Browse** to select the configuration file you want to load. Click **Import** to load the file.

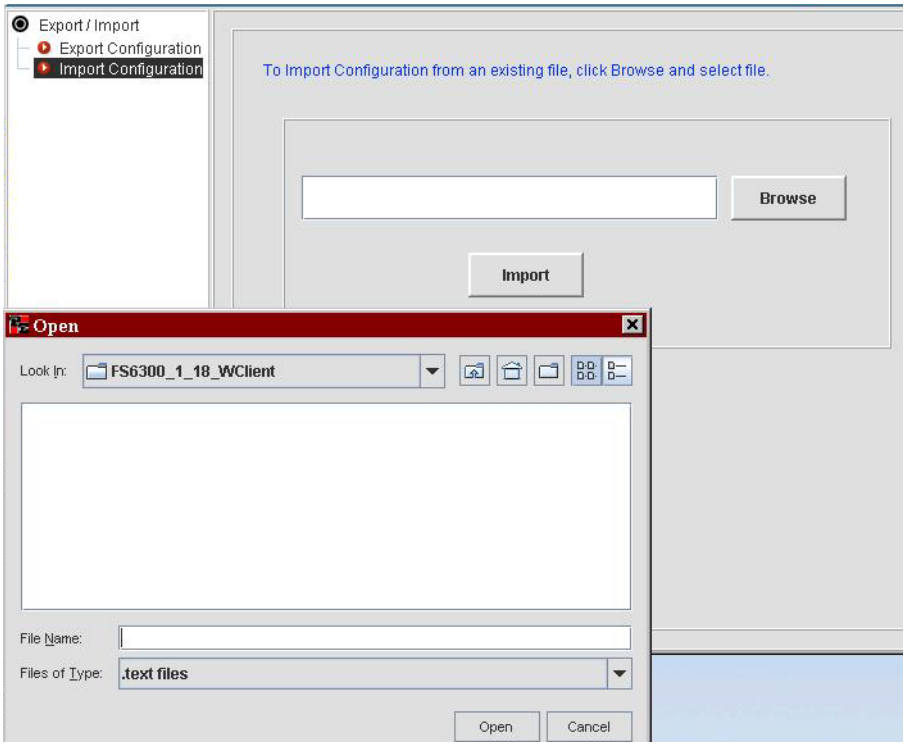


Figure 30. Import Configuration

Configuring IP Routing

Click on **IP Routing** to add routes and view routing information. The IP Overview window shows details for routing destinations, and includes information for gateway, cost, interface, protocol, and state of each route.

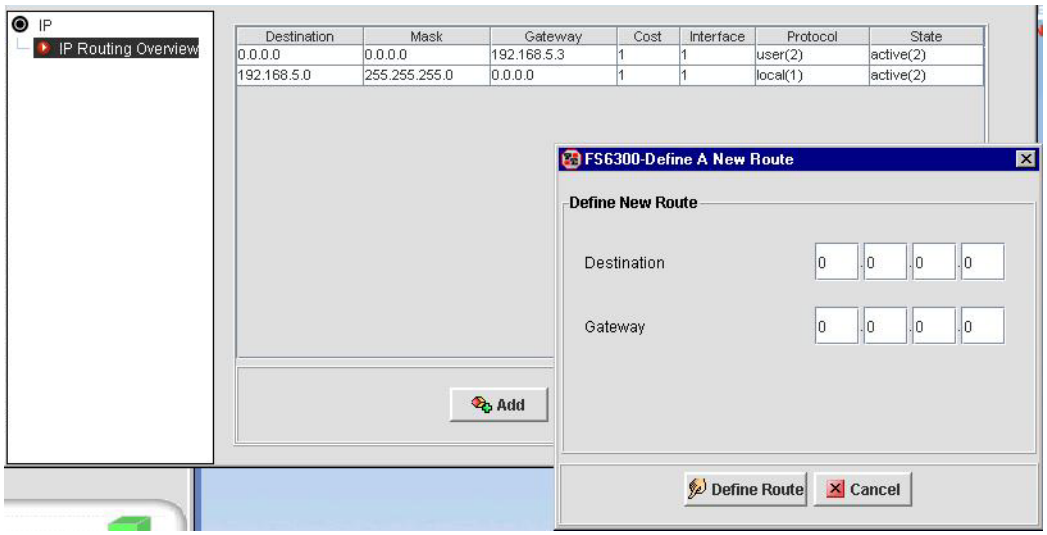


Figure 31. Add a New Route to 2616RC

Add Route

To add an IP route:

1. Click the **Add** button in the IP Overview window.
2. Enter a destination address for the new route.
3. Enter a gateway address for the new route.
4. Click **Define Route**.

Viewing the System Log

Click on **System Log** to view and modify syslog information.

Modify Syslog Configuration

If you only want to view the syslog configuration, click on **View SystemLog Configuration** in the System Log window. To configure the syslog information, click on **Modify SystemLog Configuration** in the menu tree in the Syslog window.

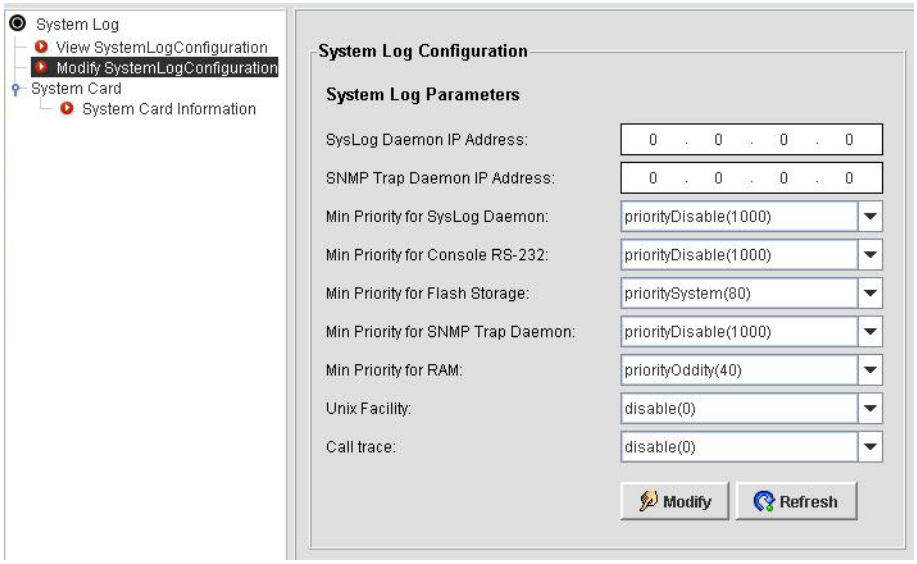


Figure 32. Modify System Log

Change Alarm Status

To change the alarm status of the 2616RC card:

1. Click on **System Card Information** in the System Log window.

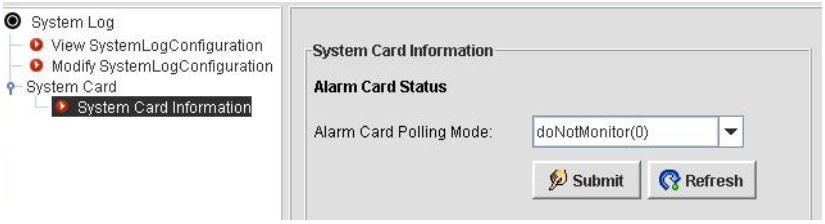


Figure 33. Set System Card Alarm Status

2. Select an option for the card from the **Alarm Card Polling Mode** drop-down menu.
3. Click **Submit**.

Configuring the T1/E1 Ports

Click on **T1E1 Port Configuration** to configure line interfaces, test settings, and channel assignments for T1/E1 ports.

View Configuration

In the T1/E1 Link Configuration window, click on **Configuration** > **View Configuration**. Select a link to view the line interface settings and test settings.

Modify Line Interface Settings

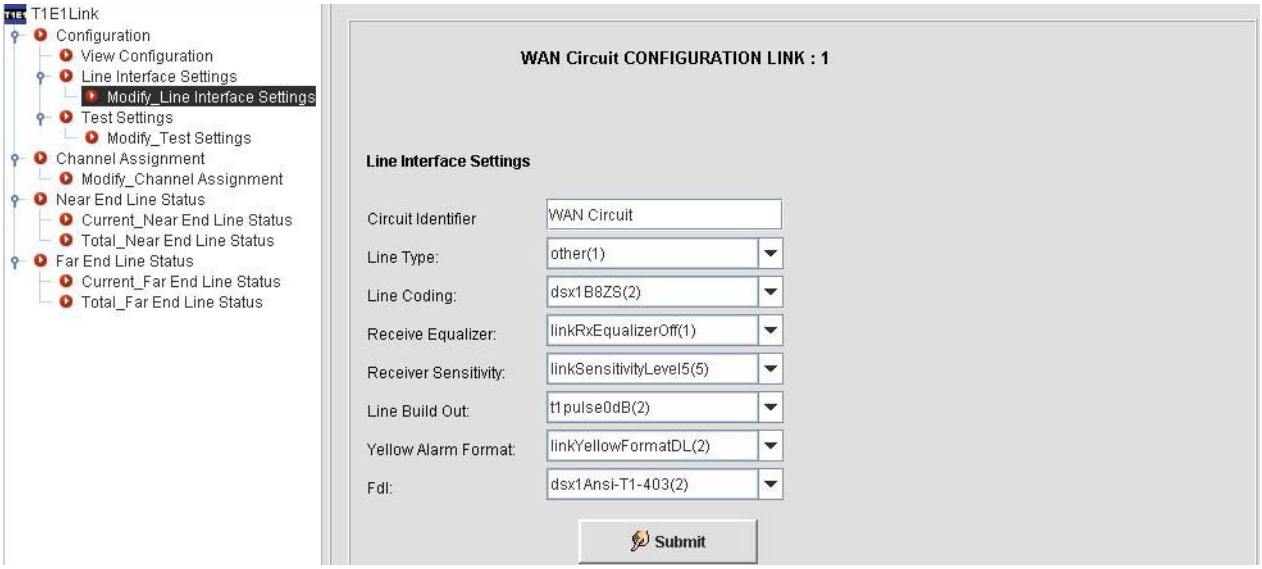


Figure 34. 2616RC T1/E1 Link Configuration window

1. In the T1/E1 Link Configuration window, click on **Configuration** > **Line Interface Settings** > **Modify Line Settings**.
2. Select a link from the drop-down menu at the top of the window.
3. Edit the desired options:
   - **Circuit Identifier**
   - **Line Type:** Other / ESF / D4 / E1 / E1-CRC / E1-MF / E1-CRC-MF / E1-Transparent
   - **Line Coding:** B8ZS / HDB3 / 2BTS1 / AM1 / Other
   - **Receive Equalizer:** Off / On
   - **Receiver Sensitivity:** Level 1-7
   - **Line Build Out:** triState / e1pulse / t1pulse0dB / t1pulse-7dB / t1pulse-15dB
   - **Yellow Alarm Format:** Bit2 / DL / Frame12FS
   - **Fdl:** Other / Ansi-T1-403 / Att-54016 / Fdl-name
4. Click **Submit** to save your changes.

Modify Test Settings

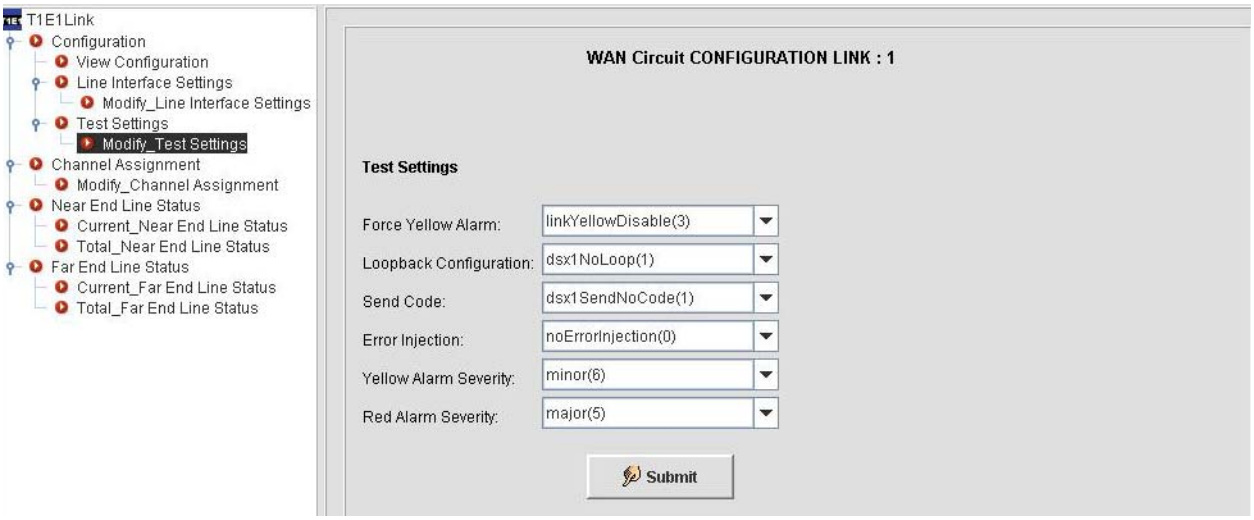


Figure 35. 2616RC T1/E1 Test Settings

1. In the T1/E1 Link Configuration window, click on **Configuration** > **Test Settings** > **Modify Test Settings**.
2. Select a link from the drop-down menu at the top of the window.
3. Edit the desired options:
   - **Force Yellow Alarm:** Auto / On / Disable
   - **Loopback Configuration:** No Loop / Payload Loop / Line Loop / Other Loop
   - **Send Code:** Send No Code / Send Line Code / Send Reset Code
   - **Error Injection:** No Error Injection / Inject CRC Error Burst / Inject Line Error Burst
   - **Yellow Alarm Severity:** Critical / Major / Minor / Info / Ignore
   - **Red Alarm Severity:** Critical / Major / Minor / Info / Ignore
4. Click **Submit** to save your changes.

Set Channel Assignments

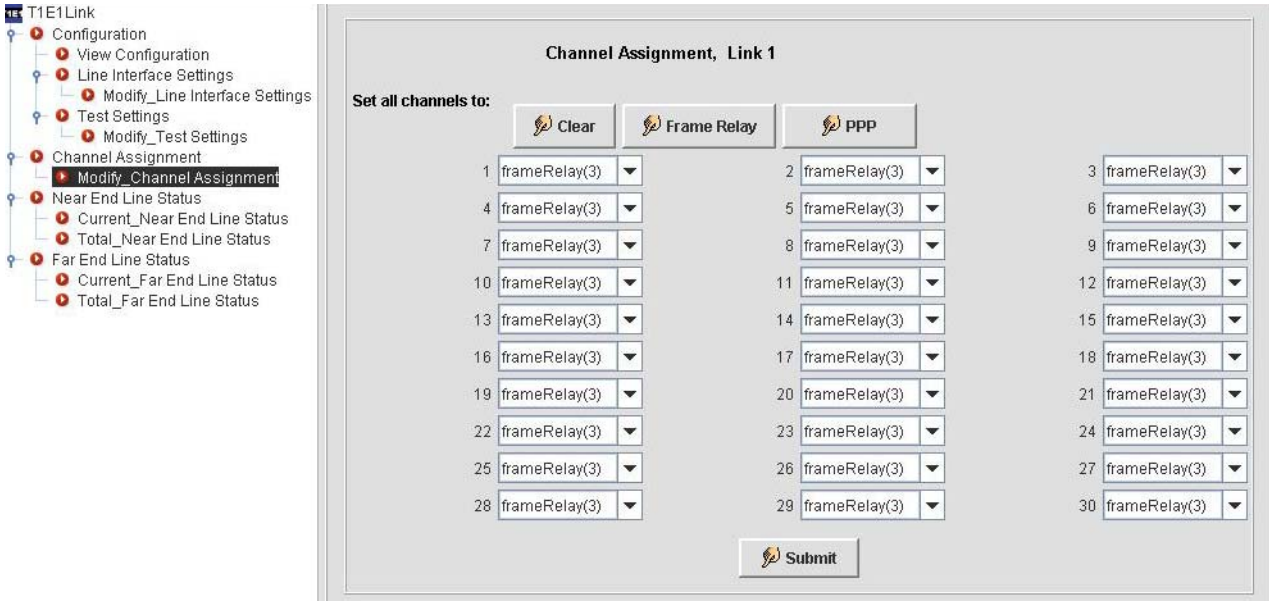


Figure 36. 2616RC T1/E1 Channel Assignment

In the **Channel Assignment** section of the T1/E1 Link Configuration window, you can set all or individual links to Frame Relay or PPP.

To set **all links** to Frame Relay or PPP:

1. Click the **Frame Relay** button to set all of the channels to Frame Relay.
2. Click the **PPP** button to set all of the channels to PPP.

You do not need to click Submit. The change will take effect immediately.

To set **individual links** to Frame Relay or PPP:

1. Select Frame Relay or PPP from the drop-down menu for that channel.
2. Repeat Step 1 for all of the individual channels you want to change.
3. Click **Submit**.

View Line Status

There are two types of line status statistics that you may view in the T1/E1 Link Configuration window – **Near End Line Status** and **Far End Line Status**.

- **Near End Line Status** – Click on **Current Near End Line Status** to view statistics for current near end performance. Click on **Total Near End Line Status** to view statistics totals for near end performance.
- **Far End Line Status** – Click on **Current Far End Line Status** to view statistics for current far end performance. Click on **Total Far End Line Status** to view statistics totals for far end performance.

Viewing T1/E1 Reports

Click on **T1E1 Reports** to view and print different reports about the activity, line interface settings, and test settings of T1/E1 links on the 2616RC card.

Click the **Print** button to send the report to a printer on your network.

Click the **Export to Excel** button to send the report to Microsoft Excel to save in a spreadsheet.

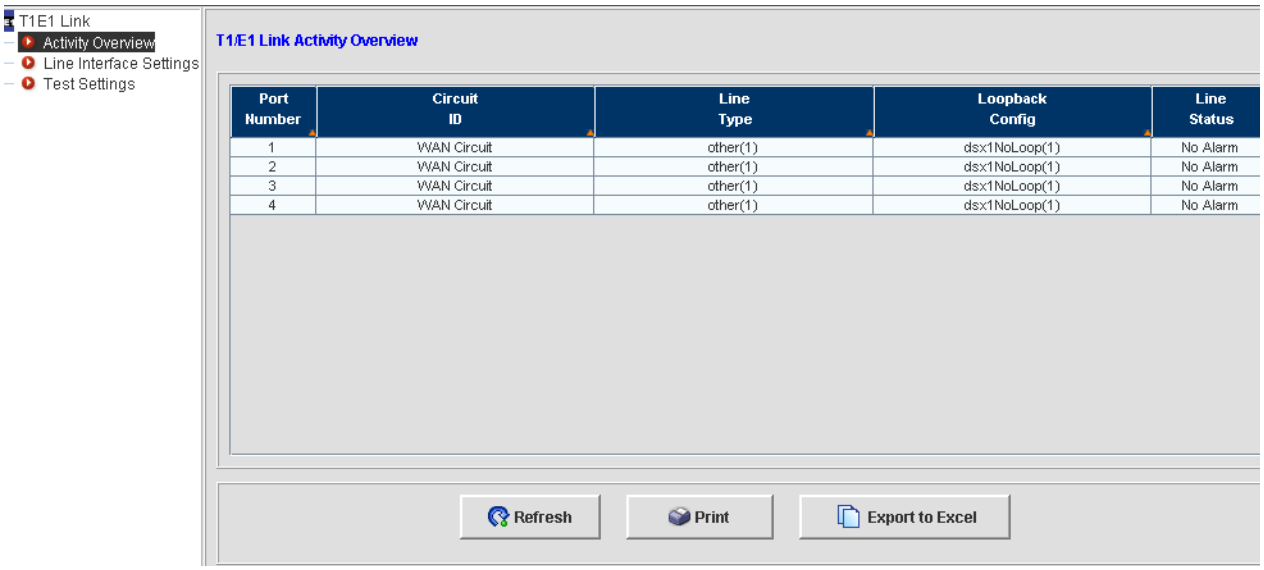


Figure 37. 2616RC T1/E1 Reports

Viewing the T1/E1 Map Layer

Click on **Display T1E1 Map Layer** to show a map of all the T1/E1 ports on the card. Right-click on a port in the map to configure its link.

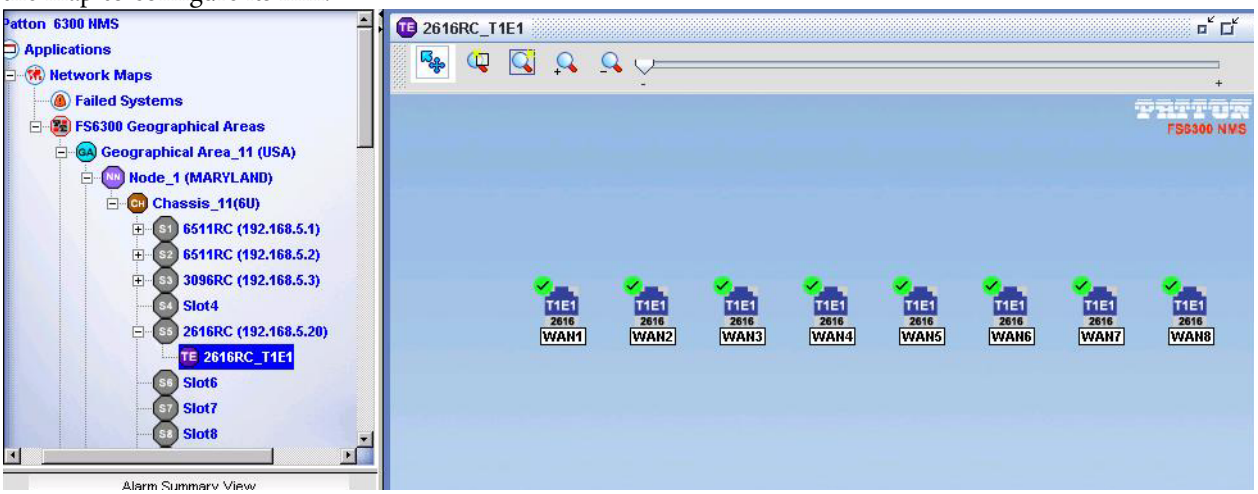


Figure 38. 2616RC T1/E1 Port Map

Chapter 6 Configuring the 3096RC Card

Chapter contents

Introduction

The Patton Model 3096RC is a G.SHDSL TDM Concentrator with 16 G.SHDSL ports. There are several ways to reach the configuration menu for the 3096RC card:

- Click on **Network Maps** in the main menu tree, then click on **Chassis.** Right-click on the 3096RC icon.
- Select the **3096RC** card from the main menu tree, then right-click on the card icon in the main window.
- Navigate to **Network Database** > **Managed Objects** > **Cards** in the main menu tree, then right-click on the IP address of the card in the table in the main window.

The best way to reach the configuration menu for a card is to select the card in the main menu tree, then right-click on the card's icon in the main window.

3096RC Configuration Menu

The following options are available in the pull-down menu for the 3096RC card:

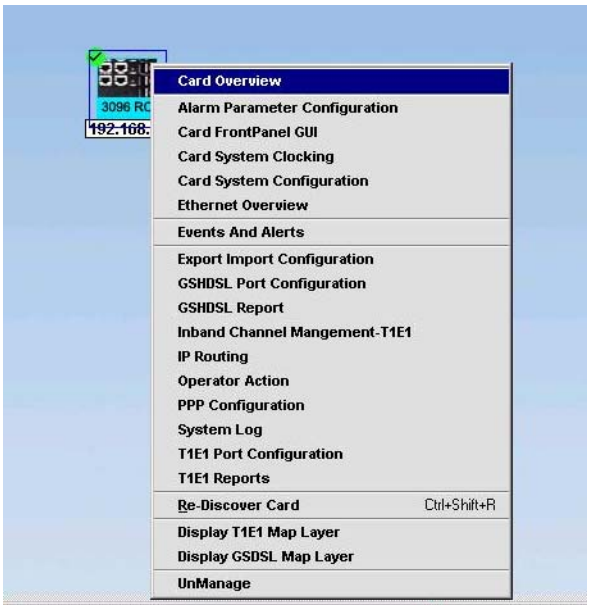


Figure 39. 3096RC Configuration Menu

- Card Overview – Shows information for Box Status, Card Info, and Alarm Info
- Alarm Parameter Configuration – See "Configuring the Alarm Trap Manager" on page 29 in Chapter 3
- Card Front Panel GUI – See "Viewing the Front Panel" on page 58
- Card System Clocking – See "Configuring Card System Clocking" on page 34 in Chapter 3
- Card System Configuration – See "Configuring the Card System" on page 58
- Ethernet Overview – See "Configuring Ethernet Settings" on page 60
- Events and Alerts – See "Viewing Events and Alerts" on page 61
- Export Import Configuration – See "Exporting/Importing the Configuration" on page 61

- G.SHDSL Port Configuration – See "Configuring G.SHDSL Ports" on page 63
- G.SHDSL Report – See "Viewing G.SHDSL Reports" on page 67
- Inband Channel Management-T1/E1 – See "Managing Inband T1/E1 Channels" on page 73
- IP Routing – See "Configuring IP Routing" on page 68
- Operator Action – See "Managing Operator Actions" on page 40 in Chapter 4
- PPP Configuration – See "Viewing the System Log" on page 69
- System Log – See "Viewing the System Log" on page 69
- T1E1 Port Configuration – See "Configuring the T1/E1 Ports" on page 70
- T1E1 Reports – See "Viewing T1/E1 Reports" on page 74
- Re-Discover Card – See "Re-Discovering Cards" on page 27 in Chapter 2
- Display T1E1 Map Layer – See "Viewing the T1/E1 Map Layer" on page 75
- Display G.SHDSL Map Layer – "Viewing the G.SHDSL Map Layer" on page 75
- UnManage – See Chapter 9, "Monitoring Managed Objects" on page 97

Viewing the Front Panel

Click on **Card Front Panel GUI** to view the front panel of the card in real-time.

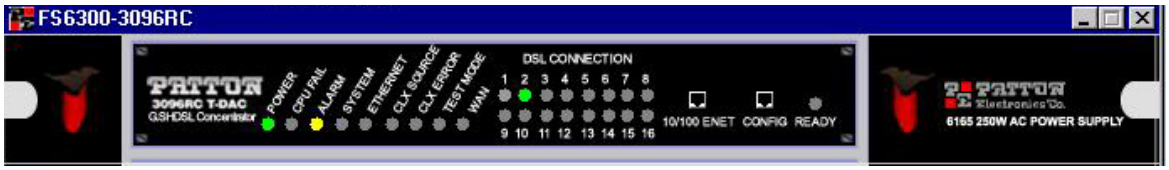


Figure 40. 3096RC Front Panel LEDs

Configuring the Card System

Click on **Card System Configuration** to configure system parameters. You can also view the system status, ethernet status, system parameters, SNMP/HTTP parameters, and system status details.

Modify System Parameters

If you only want to view the system parameters, click on **View System Parameters** in the Card System Configuration window.

To configure the card system, click on **Modify System Parameters** in the menu tree in the Card System Configuration window (see Figure 39 on page 57).

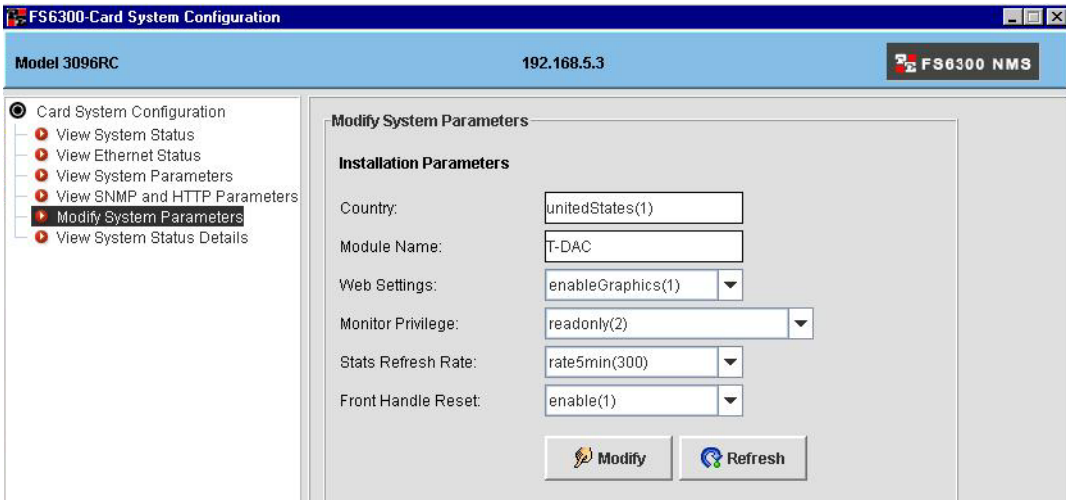


Figure 41. Modify 3096RC Card System Parameters

1. Enter the country where the card is located in the **Country** text field.
2. Enter a description for the card in the **Module Name** text field.
3. Select to enable or disable graphics from the **Web Settings** drop-down menu.
4. Select a privilege option from the **Monitor Privilege** drop-down menu.
5. Select how often you would like to refresh statistics information from the **Stats Refresh Rate** drop-down menu.
6. Select to enable or disable front handle information from the **Front Handle Reset** drop-down menu.
7. Click **Modify** to save your changes. Click **Refresh**.

View System Status

Click on **View System Status** in the Card System Configuration window to see an overview of the physical status of the card and the system status. **View System Status** shows information about the handle switches, front/rear LEDs, alarm and clock LEDs, and the board temperature.

View System Status Details

Click on **View System Status Details** in the Card System Configuration window to see information on CPU statistics, Message Block statistics, Memory statistics, Manufacturer details, and the Enclosure System temperature.

View Ethernet Status

Click on **View Ethernet Status** in the Card System Configuration window to see the LEDs and speeds of the card's Ethernet ports.

View SNMP/HTTP Parameters

Click on **View SNMP/HTTP Parameters** in the Card System Configuration window to see the SNMP version and passwords.

Configuring Ethernet Settings

Click on **Ethernet Overview** to configure Ethernet settings. You can also view Ethernet statistics.

Modify Ethernet Parameters

If you only want to view the Ethernet parameters, click on **View Ethernet Parameters** in the Ethernet Overview window.

To configure the Ethernet settings, click on **Modify Ethernet Parameters** in the menu tree in the Ethernet Overview window (see Figure 42).

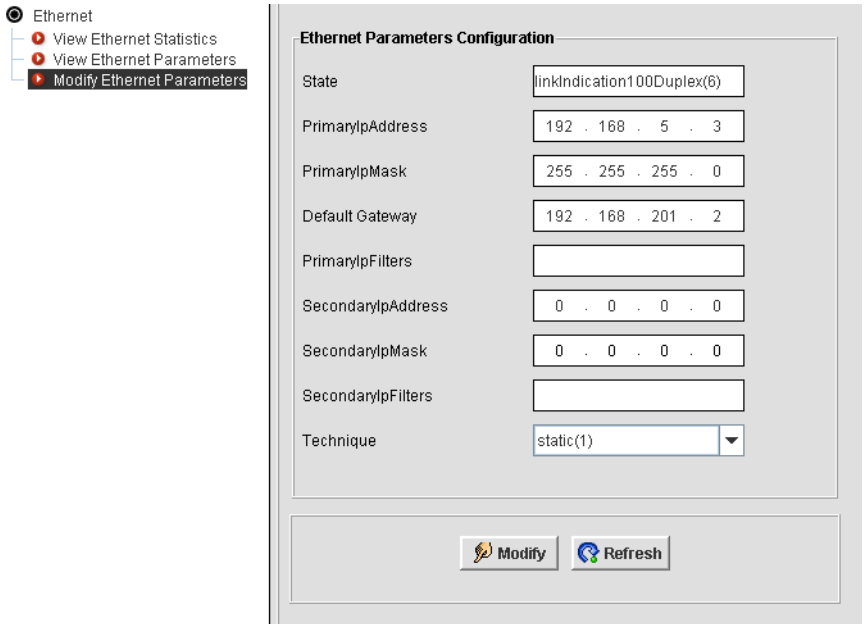


Figure 42. Modify 3096RC Ethernet Parameters

1. Enter the main address and mask for the card in the **Primary IP Address** and **IP Mask** fields.
2. If desired, enter a secondary address and mask in the **Secondary IP Address** and **IP Mask** fields.
3. Select static or disable the technique in the **Technique** drop-down menu.
4. Click **Modify** to save your changes. Click **Refresh**.

View Ethernet Statistics

Click on **View Ethernet Statistics** in the Ethernet Overview window to view statistics for the Ethernet ports on the device, such as errors and frame stats.

Viewing Events and Alerts

Click on **Events and Alerts** to view a color-coded chart that shows the amount of alarms and severity of alarms for the card.

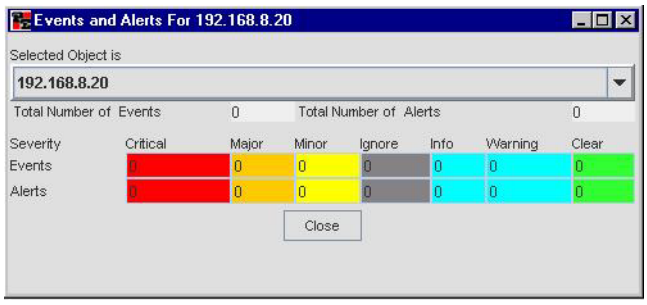


Figure 43. 3096C Events and Alerts

Exporting/Importing the Configuration

Click on **Export/Import Configuration** to save or load a configuration file.

Exporting the Configuration

To save the current configuration, click on **Export Configuration** in the menu tree of the window, then click **Export** to save the current configuration to a file.

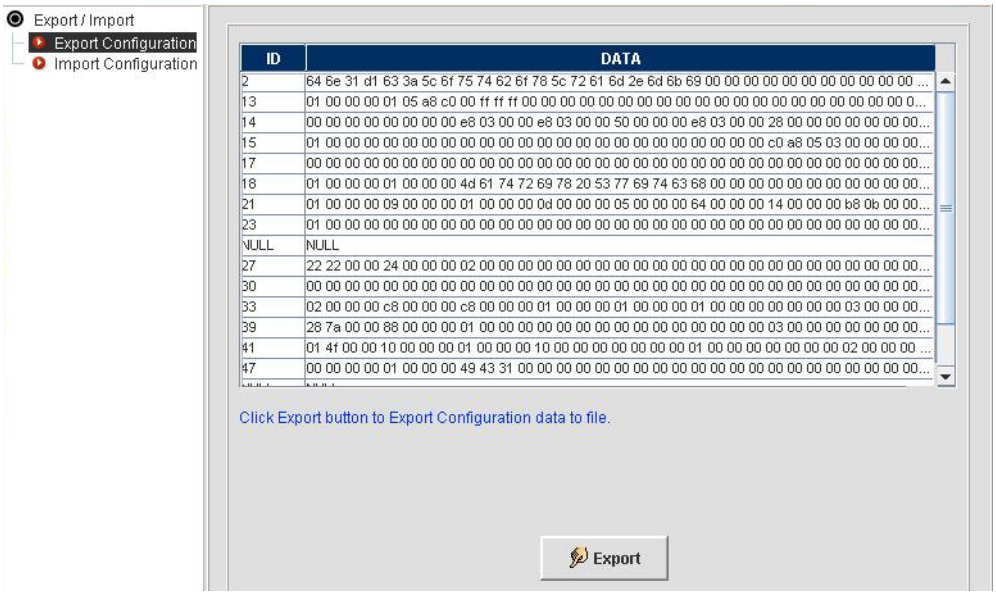


Figure 44. Export Configuration

Importing the Configuration

To load a configuration file, click on **Import Configuration** in the menu tree of the window, then click **Browse** to select the configuration file you want to load. Click **Import** to load the file.

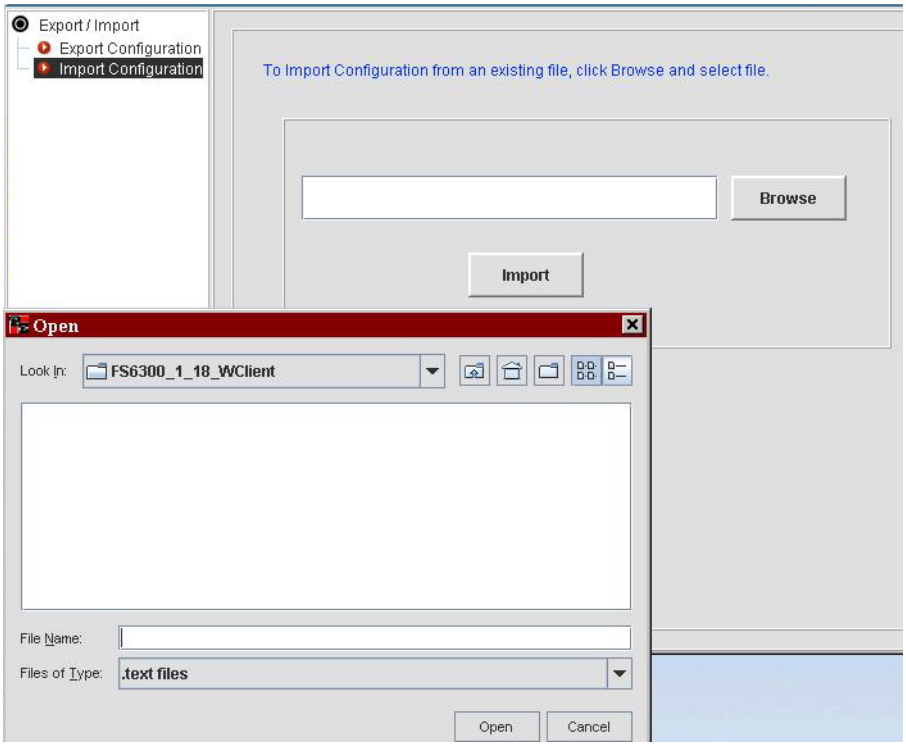
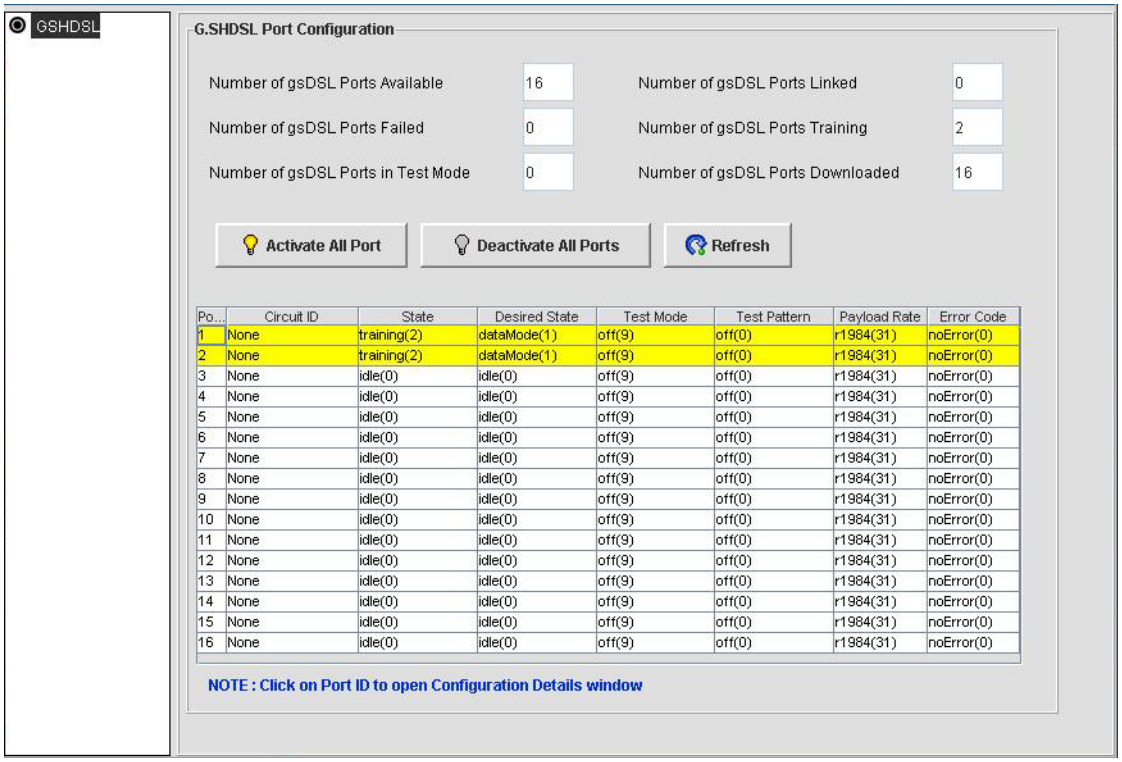


Figure 45. Import Configuration

Configuring G.SHDSL Ports

Click on **G.SHDSL Port Configuration** in the pull-down menu to bring up the **G.SHDSL** window. The G.SHDSL window shows the number of G.SHDSL ports available, linked ports, failed ports, training ports, ports in test mode, and ports downloaded.



Po...	Circuit ID	State	Desired State	Test Mode	Test Pattern	Payload Rate	Error Code
1	None	training(2)	dataMode(1)	off(9)	off(0)	r1984(31)	noError(0)
2	None	training(2)	dataMode(1)	off(9)	off(0)	r1984(31)	noError(0)
3	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
4	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
5	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
6	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
7	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
8	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
9	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
10	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
11	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
12	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
13	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
14	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
15	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)
16	None	idle(0)	idle(0)	off(9)	off(0)	r1984(31)	noError(0)

Figure 46. 3096RC G.SHDSL window

Activating/Deactivating All Ports

Click the **Activate All Ports** button to train all of the G.SHDSL ports on the card.

Click the **Deactivate All Ports** button to turn off all of the G.SHDSL ports on the card.

Configuring Individual Ports

To configure an individual port, click on the port in the table to bring up the **Port Configuration** window. From the port Configuration window, you can edit the port's configuration, view port information, edit CO/CPE options, and edit the line rate.

Edit Configuration

Click on **Edit Configuration** in the menu tree of the Port Configuration window. **Circuit ID**, **Desired State**, and **Test Mode** are configurable.

1. Enter the **Circuit ID** in the text field.
2. Select idle or dataMode from the **Desired State** drop-down menu.
3. Select a loop or "off" from the **Test Mode** drop-down menu.
4. Click **Modify** to save your changes.

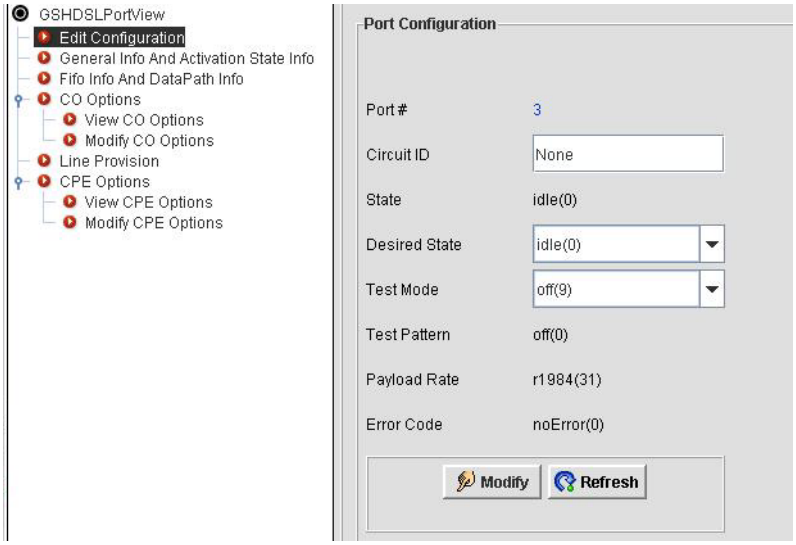


Figure 47. 3096RC Edit G.SHDSL Configuration

View Port Information

Click on **Fifo Info and DataPath Info** in the menu tree of the Port Configuration window to view Fifo and Data Path errors and up times.

Edit CO/CPE Options

Click on **CO Options** or **CPE Options** in the menu tree of the Port Configuration window to view the line provision rate, clock mode, payload rate, I-bits, annex type, transmit power, and EOC status.

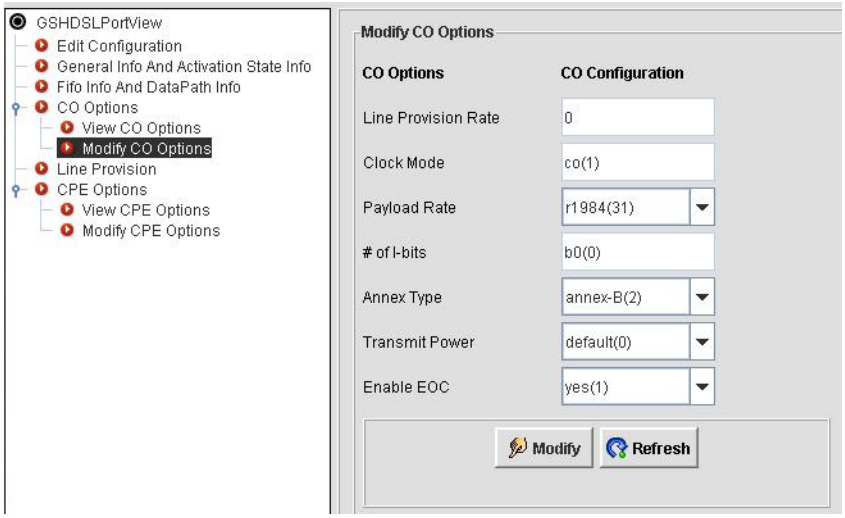


Figure 48. 3096RC Edit CO Options

To edit the CO/CPE options for a port:

1. Click on **Modify CO Options** or **Modify CPE Options** in the menu tree of the Port Configuration window.
2. Edit the desired, configurable options:
   - **Payload Rate:** Select a rate fromt he drop-down menu. See "Determine Best Payload Rate" on page 66.
   - **Annex Type:** Select **Annex-A** for North America or **Annex-B** for outside North America.
   - **Transmit Power:** Select a value between +1–6dB to -1–6dB from the drop-down menu.
   - **Enable EOC:** Select Yes (to enable EOC) or No (to disable EOC) from the drop-down menu.
3. Click **Modify** to save your changes.

Determine Best Payload Rate

Click on **Line Provision** in the menu tree of the Port Configuration window to determine the best payload rate for the port. The Line Provision tool works by resolving line length and line quality. The CO interprets line probe messages from the CPE and calculates a worst-case payload value. The worst-case value determines the highest payload rate the CO and CPE can acheive without errors.

Note **Line Probe** must be enabled on the CPE for the Line Provision tool to work.

Note The Line Provision tool will retrain the DSL line.

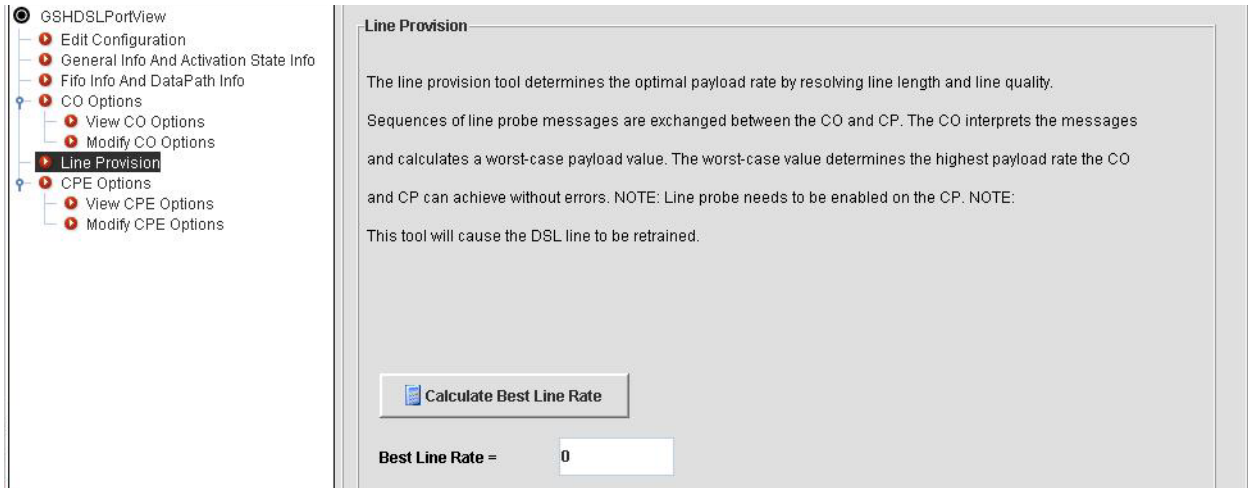


Figure 49. 3096RC Line Provision Tool

Click the **Calculate Best Line Rate** button to determine the best payload rate.

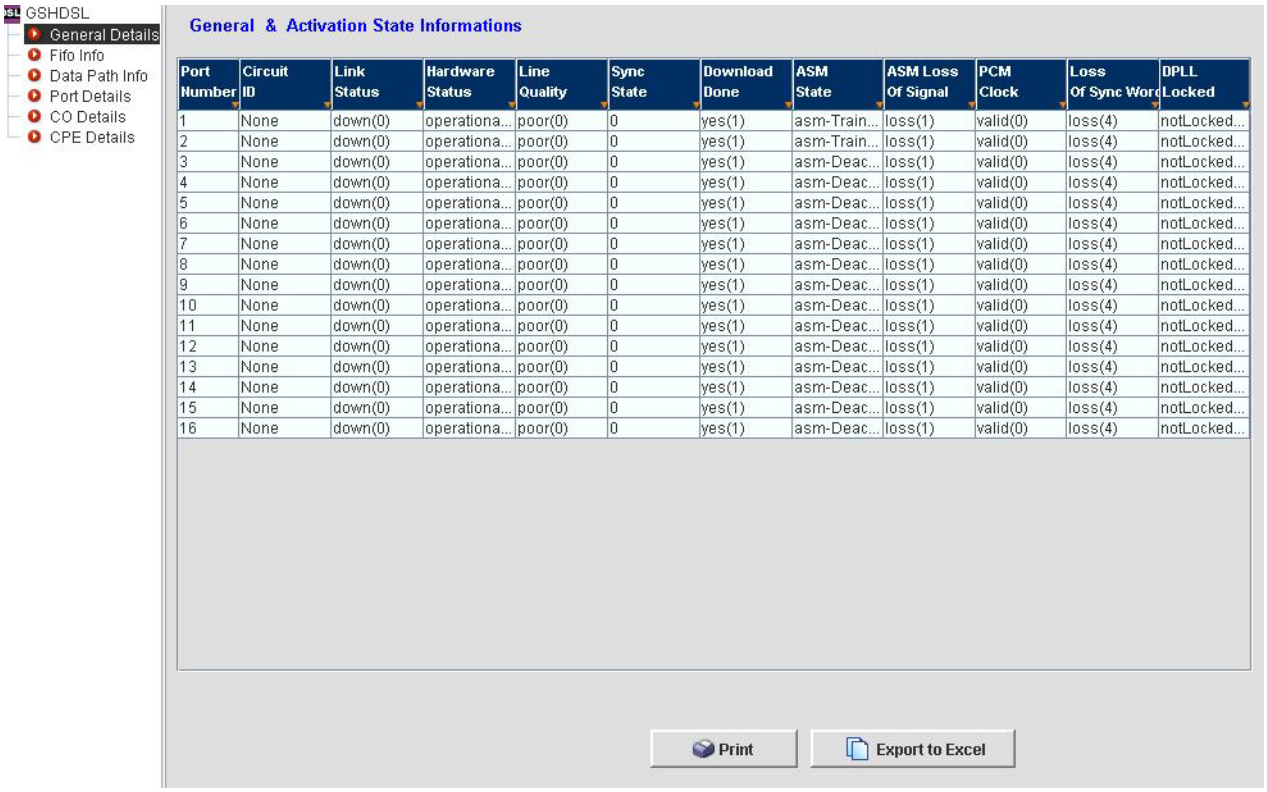
A status message will display when the tool is finished. Click **OK**.

Viewing G.SHDSL Reports

Click on **G.SHDSL Report** to view and print different reports about port details, CO/CPE details, data path, and Fifo information for the G.SHDSL ports on the 3096RC card.

Click the **Print** button to send the report to a printer on your network.

Click the **Export to Excel** button to send the report to Microsoft Excel to save in a spreadsheet.



Port Number	Circuit ID	Link Status	Hardware Status	Line Quality	Sync State	Download Done	ASM State	ASM Loss Of Signal	PCM Clock	Loss Of Sync Word	DPLL Locked
1	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Train...	loss(1)	valid(0)	loss(4)	notLocked...
2	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Train...	loss(1)	valid(0)	loss(4)	notLocked...
3	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
4	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
5	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
6	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
7	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
8	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
9	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
10	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
11	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
12	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
13	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
14	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
15	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...
16	None	down(0)	operationa...	poor(0)	0	yes(1)	asm-Deac...	loss(1)	valid(0)	loss(4)	notLocked...

Figure 50. 3096RC G.SHDSL Reports

Configuring IP Routing

Click on **IP Routing** to add routes and view routing information. The IP Overview window shows details for routing destinations, and includes information for gateway, cost, interface, protocol, and state of each route.

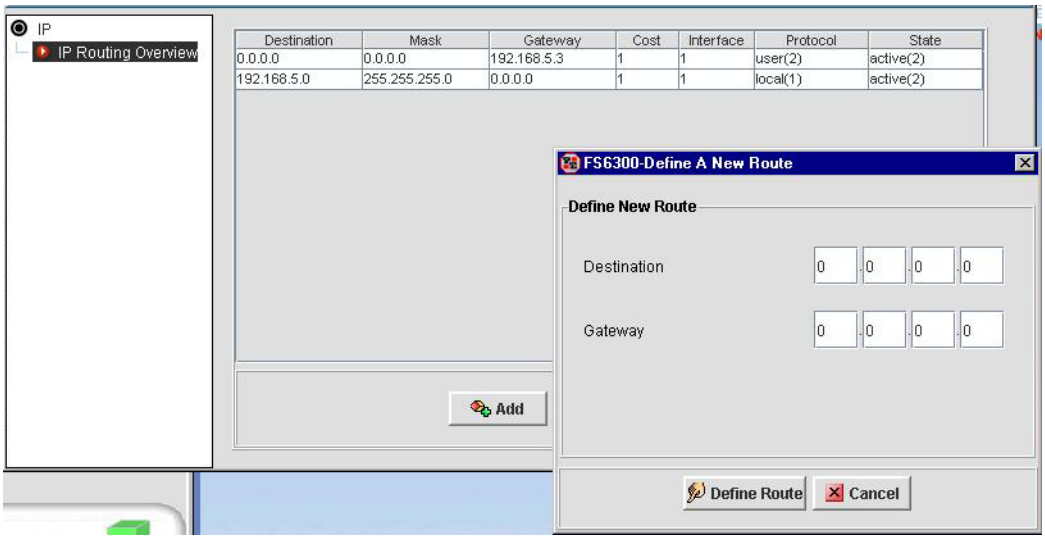


Figure 51. Add a New Route to 3096RC

Add Route

To add an IP route:

1. Click the **Add** button in the IP Overview window.
2. Enter a destination address for the new route.
3. Enter a gateway address for the new route.
4. Click **Define Route**.

Viewing the System Log

Click on **System Log** to view and modify syslog information.

Modify Syslog Configuration

If you only want to view the syslog configuration, click on **View SystemLog Configuration** in the System Log window. To configure the syslog information, click on **Modify SystemLog Configuration** in the menu tree in the Syslog window.

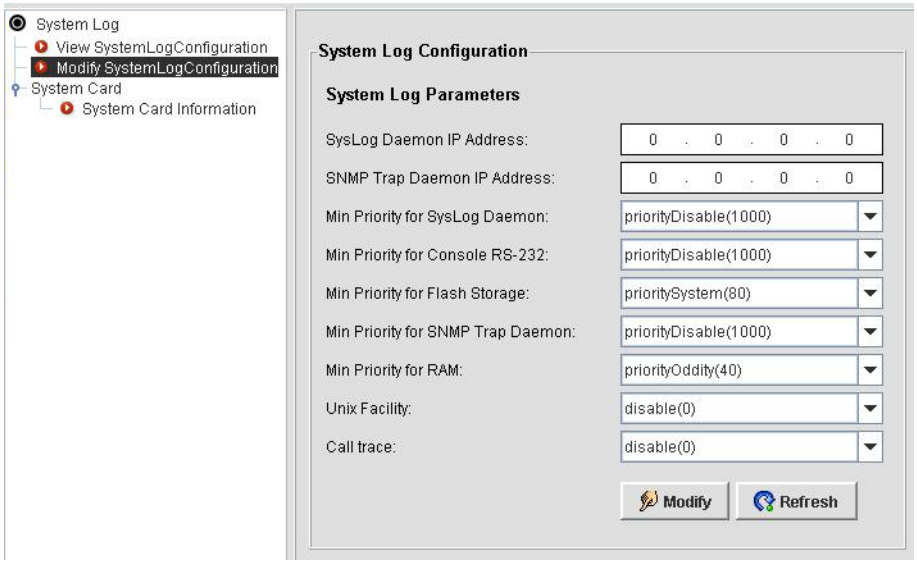


Figure 52. Modify System Log

Change Alarm Status

To change the alarm status of the 3096RC card:

1. Click on **System Card Information** in the System Log window.

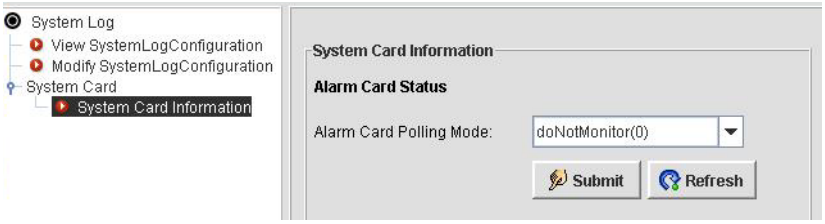


Figure 53. Set System Card Alarm Status

2. Select an option for the card from the **Alarm Card Polling Mode** drop-down menu.
3. Click **Submit**.

Configuring the T1/E1 Ports

Click on **T1E1 Port Configuration** to configure line interfaces, test settings, and channel assignments for T1/E1 ports.

View Configuration

In the T1/E1 Link Configuration window, click on **Configuration** > **View Configuration**. Select a link to view the line interface settings and test settings.

Modify Line Interface Settings

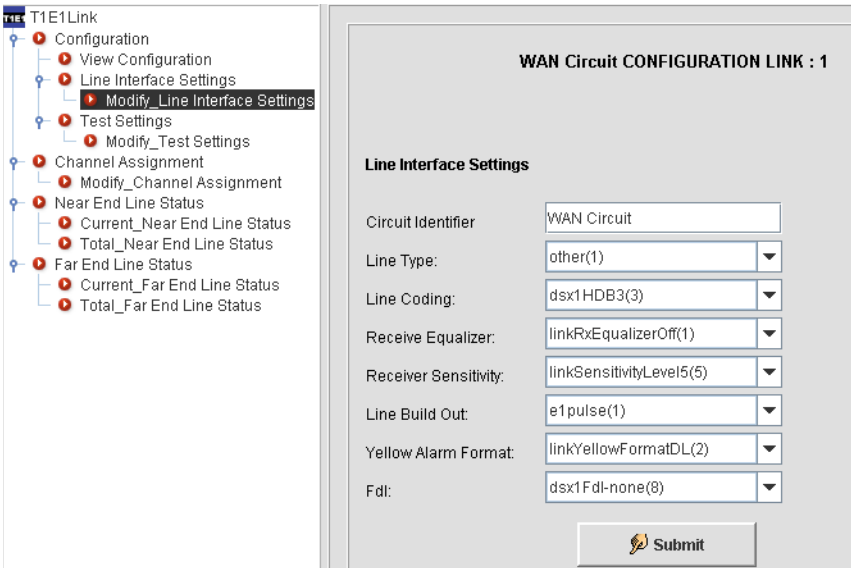


Figure 54. 3096RC T1/E1 Link Configuration window

1. In the T1/E1 Link Configuration window, click on **Configuration** > **Line Interface Settings** > **Modify Line Settings**.
2. Select a link from the drop-down menu at the top of the window.
3. Edit the desired options:
   - **Circuit Identifier**
   - **Line Type:** Other / ESF / D4 / E1 / E1-CRC / E1-MF / E1-CRC-MF
   - **Line Coding:** B8ZS / HDB3 / 2BTS1 / AM1 / Other
   - **Receive Equalizer:** Off / On
   - **Receiver Sensitivity:** Level 1-7
   - **Line Build Out:** triState / e1pulse / t1pulse0dB / t1pulse-7dB / t1pulse-15dB
   - **Yellow Alarm Format:** Bit2 / DL / Frame12FS
   - **Fdl:** Other / Ansi-T1-403 / Att-54016 / Fdl-name
4. Click **Submit** to save your changes.

Modify Test Settings

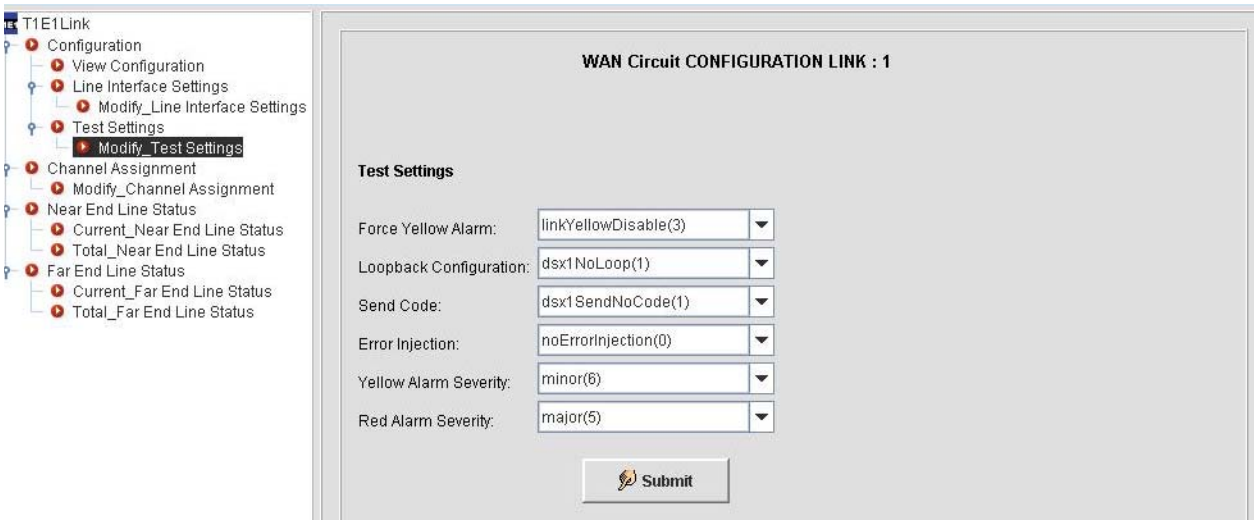


Figure 55. 3096RC T1/E1 Test Settings

1. In the T1/E1 Link Configuration window, click on **Configuration** > **Test Settings** > **Modify Test Settings**.
2. Select a link from the drop-down menu at the top of the window.
3. Edit the desired options:
   - **Force Yellow Alarm:** Auto / On / Disable
   - **Loopback Configuration:** No Loop / Payload Loop / Line Loop / Other Loop
   - **Send Code:** Send No Code / Send Line Code / Send Reset Code
   - **Error Injection:** No Error Injection / Inject CRC Error Burst / Inject Line Error Burst
   - **Yellow Alarm Severity:** Critical / Major / Minor / Info / Ignore
   - **Red Alarm Severity:** Critical / Major / Minor / Info / Ignore
4. Click **Submit** to save your changes.

Set Channel Assignments

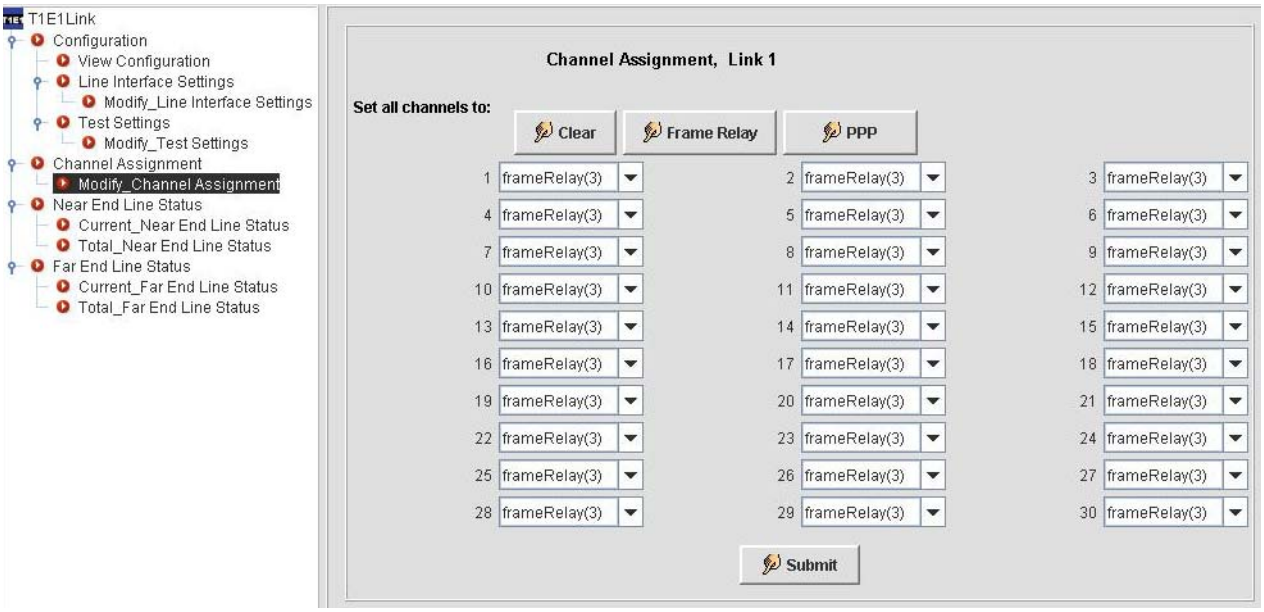


Figure 56. 3096RC T1/E1 Channel Assignment

In the **Channel Assignment** section of the T1/E1 Link Configuration window, you can set all or individual channels to Frame Relay or PPP.

To set **all channels** to Frame Relay or PPP:

1. Select a link from the drop-down menu at the top of the window.
2. Click the **Frame Relay** button to set all of the channels to Frame Relay.
3. Click the **PPP** button to set all of the channels to PPP.

You do not need to click Submit. The change will take effect immediately.

To set **individual channels** to Frame Relay or PPP:

1. Select a link from the drop-down menu at the top of the window.
2. Select Frame Relay or PPP from the drop-down menu for that channel.
3. Repeat Step 1 for all of the individual channels you want to change.
4. Click **Submit**.

View Line Status

There are two types of line status statistics that you may view in the T1/E1 Link Configuration window – **Near End Line Status** and **Far End Line Status**.

- **Near End Line Status** – Click on **Current Near End Line Status** to view statistics for current near end performance. Click on **Total Near End Line Status** to view statistics totals for near end performance.
- **Far End Line Status** – Click on **Current Far End Line Status** to view statistics for current far end performance. Click on **Total Far End Line Status** to view statistics totals for far end performance.

Managing Inband T1/E1 Channels

Click on **Inband Channel Management-T1E1** to view, edit, and add T1/E1 channels. T1/E1 ports must be configured before adding a channel (see "Configuring the T1/E1 Ports" on page 70).

Click on **View/Modify** in the T1/E1 Inband Management menu tree to view a list of T1/E1 channels.

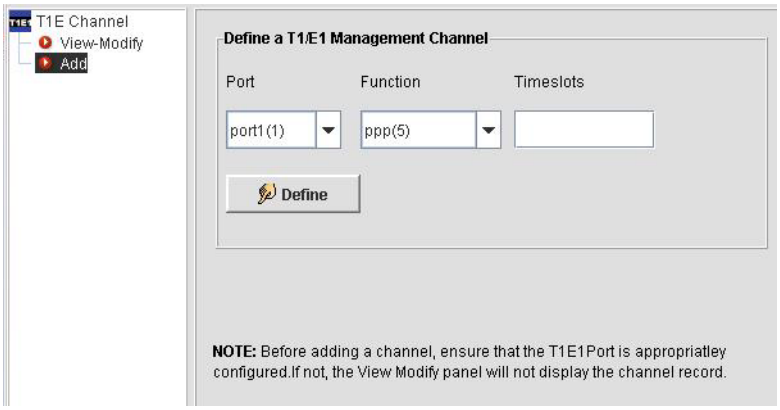


Figure 57. 3096RC T1/E1 Inband Management window

Adding a T1/E1 Management Channel

To add a channel to a configured T1/E1 port:

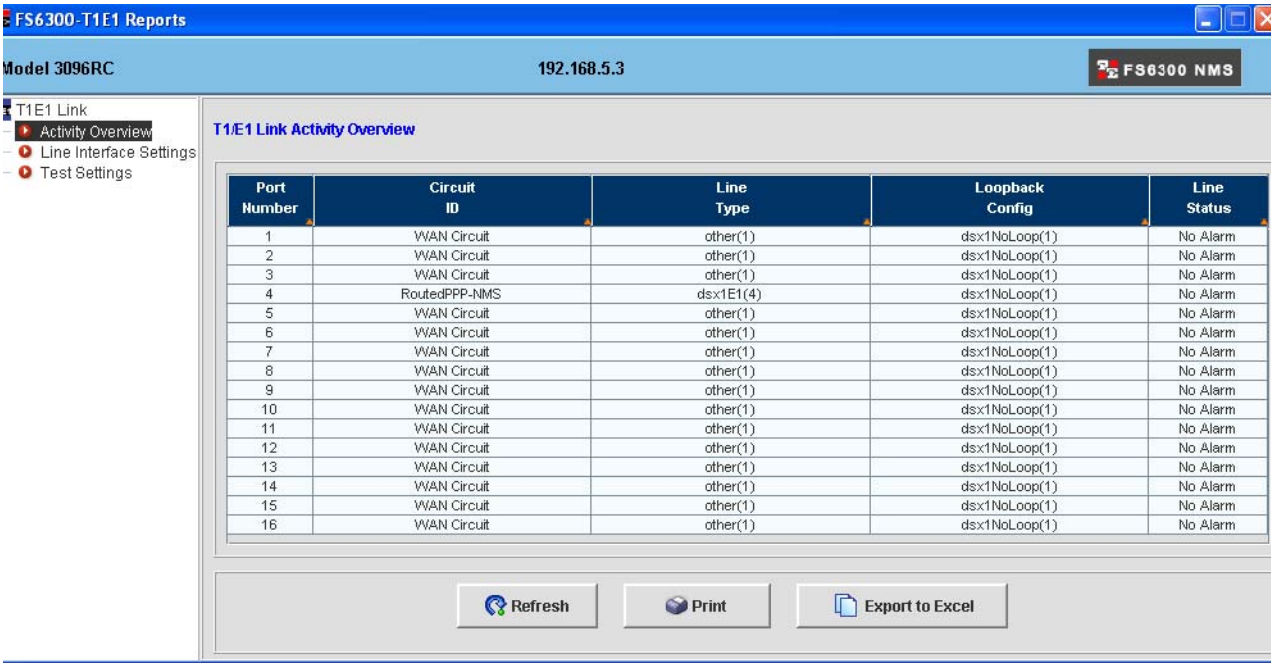
1. Click on **Add** in the menu tree of the T1/E1 Inband Management window.
2. Select a T1/E1 port from the **Port** drop-down menu.
3. Select ppp from the **Function** drop-down menu. (Currently, ppp is the only function available).
4. Enter the range of time slots for the channel in the **Time Slots** field.
5. Click **Define**.

Viewing T1/E1 Reports

Click on **T1E1 Reports** to view and print different reports about the activity, line interface settings, and test settings of T1/E1 links on the 3096RC card.

Click the **Print** button to send the report to a printer on your network.

Click the **Export to Excel** button to send the report to Microsoft Excel to save in a spreadsheet.



Port Number	Circuit ID	Line Type	Loopback Config	Line Status
1	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
2	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
3	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
4	RoutedPPP-NMS	dsx1E1(4)	dsx1NoLoop(1)	No Alarm
5	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
6	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
7	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
8	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
9	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
10	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
11	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
12	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
13	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
14	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
15	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm
16	WAN Circuit	other(1)	dsx1NoLoop(1)	No Alarm

Figure 58. 3096RC T1/E1 Reports

Viewing the T1/E1 Map Layer

Click on **Display T1E1 Map Layer** to show a map of all the T1/E1 ports on the card. Right-click on a port in the map to configure its link.

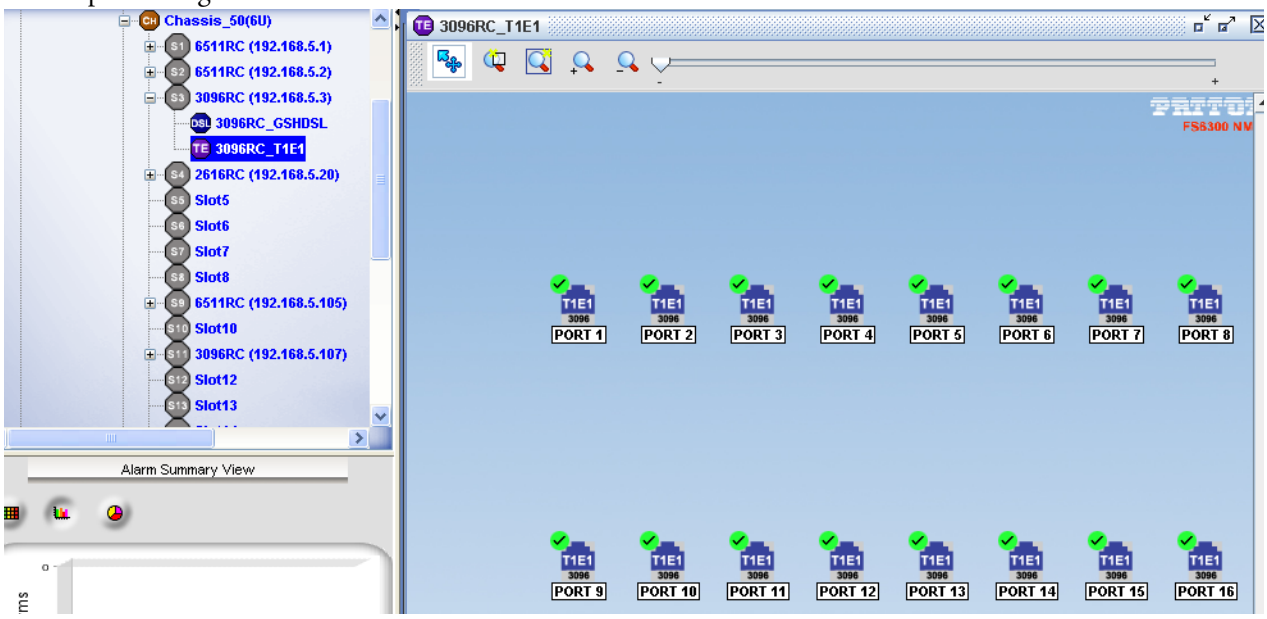


Figure 59. 3096RC T1/E1 Port Map

Viewing the G.SHDSL Map Layer

Click on **Display G.SHDSL Map Layer** to show a map of all the G.SHDSL ports on the card. Right-click on a port in the map to configure its link.

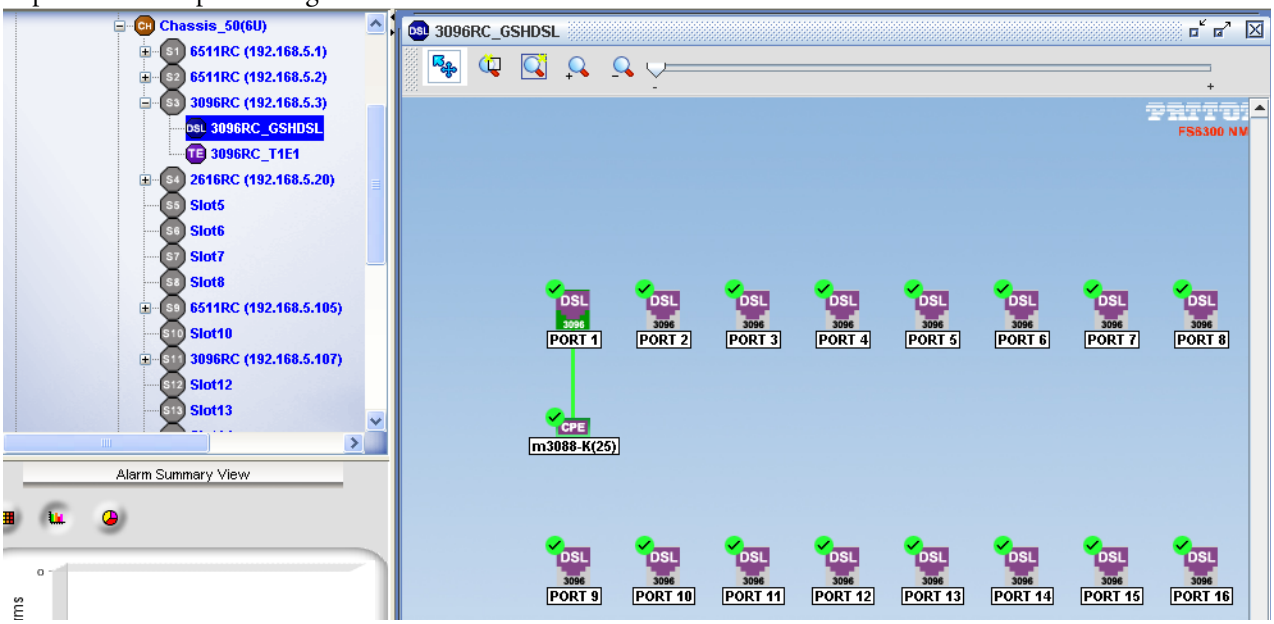


Figure 60. 3096RC G.SHDSL Port Map

Chapter 7 Configuring the 6511RC Card

Chapter contents

Introduction

The Patton Model 6511RC is a matrix switch with Gigabit Ethernet. There are several ways to reach the configuration menu for the 6511RC card:

- Click on **Network Maps** in the main menu tree, then click on **Chassis.** Right-click on the 6511RC icon.
- Select the **6511RC** card from the main menu tree, then right-click on the card icon in the main window.
- Navigate to **Network Database** > **Managed Objects** > **Cards** in the main menu tree, then right-click on the IP address of the card in the table in the main window.

The best way to reach the configuration menu for a card is to select the card in the main menu tree, then right-click on the card's icon in the main window.

6511RC Configuration Menu

The following options are available in the pull-down menu for the 6511RC card:

Figure 61. 6511RC Configuration Menu

- Card Overview – Shows information for Box Status, Card Info, and Alarm Info
- Alarm Parameter Configuration – See "Configuring the Alarm Trap Manager" on page 29 in Chapter 3
- Card Front Panel GUI – See "Viewing the Front Panel" on page 78
- Card System Clocking – See "Configuring Card System Clocking" on page 34 in Chapter 3
- Card System Configuration – See "Configuring the Card System" on page 78
- Ethernet Overview – See "Configuring Ethernet Settings" on page 80
- E1 Link – See "Configuring E1 Links" on page 81
- IP Routing – See "Configuring IP Routing" on page 84
- Events and Alerts – See "Viewing Events and Alerts" on page 85

- Export Import Configuration – See "Exporting/Importing the Configuration" on page 85
- Operator Action – See "Managing Operator Actions" on page 40 in Chapter 4
- System Log – See "Viewing the System Log" on page 87
- SDH Configuration – "Configuring SDH" on page 88
- Re-Discover Card – See "Re-Discovering Cards" on page 27 in Chapter 2
- Display E1Link – See "Viewing E1Link Layers" on page 90
- UnManage – See Chapter 9, "Monitoring Managed Objects" on page 97

Viewing the Front Panel

Click on **Card Front Panel GUI** to view the front panel of the card in real-time.

Figure 62. 6511RC Front Panel LEDs

Configuring the Card System

Click on **Card System Configuration** to configure system parameters. You can also view the system status, ethernet status, system parameters, SNMP/HTTP parameters, and system status details.

Modify System Parameters

If you only want to view the system parameters, click on **View System Parameters** in the Card System Configuration window.

To configure the card system, click on **Modify System Parameters** in the menu tree in the Card System Configuration window (see Figure 61 on page 77).

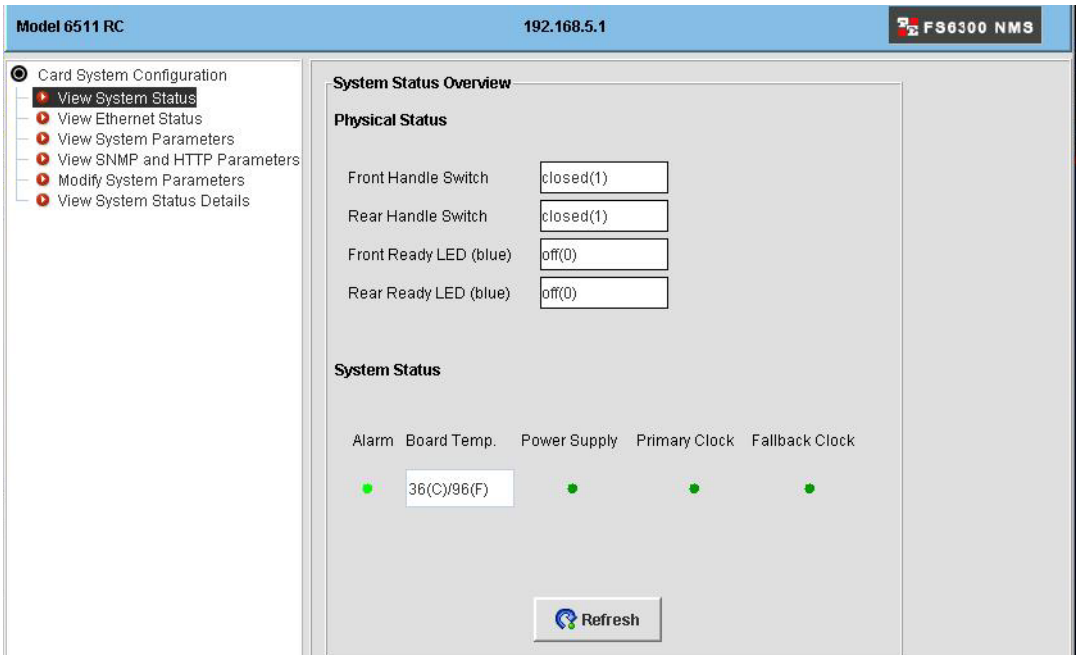


Figure 63. Modify 6511RC Card System Parameters

1. Enter the country where the card is located in the **Country** text field.
2. Enter a description for the card in the **Module Name** text field.
3. Select to enable or disable graphics from the **Web Settings** drop-down menu.
4. Select a privilege option from the **Monitor Privilege** drop-down menu.
5. Select how often you would like to refresh statistics information from the **Stats Refresh Rate** drop-down menu.
6. Select to enable or disable front handle information from the **Front Handle Reset** drop-down menu.
7. Click **Modify** to save your changes. Click **Refresh**.

View System Status

Click on **View System Status** in the Card System Configuration window to see an overview of the physical status of the card and the system status. **View System Status** shows information about the handle switches, front/rear LEDs, alarm and clock LEDs, and the board temperature.

View System Status Details

Click on **View System Status Details** in the Card System Configuration window to see information on CPU statistics, Message Block statistics, Memory statistics, Manufacturer details, and the Enclosure System temperature.

View Ethernet Status

Click on **View Ethernet Status** in the Card System Configuration window to see the LEDs and speeds of the card's Ethernet ports.

View SNMP/HTTP Parameters

Click on **View SNMP/HTTP Parameters** in the Card System Configuration window to see the SNMP version and passwords.

Configuring Ethernet Settings

Click on **Ethernet Overview** to configure Ethernet settings. You can also view Ethernet statistics.

Modify Ethernet Parameters

If you only want to view the Ethernet parameters, click on **View Ethernet Parameters** in the Ethernet Overview window.

To configure the Ethernet settings, click on **Modify Ethernet Parameters** in the menu tree in the Ethernet Overview window (see Figure 64).

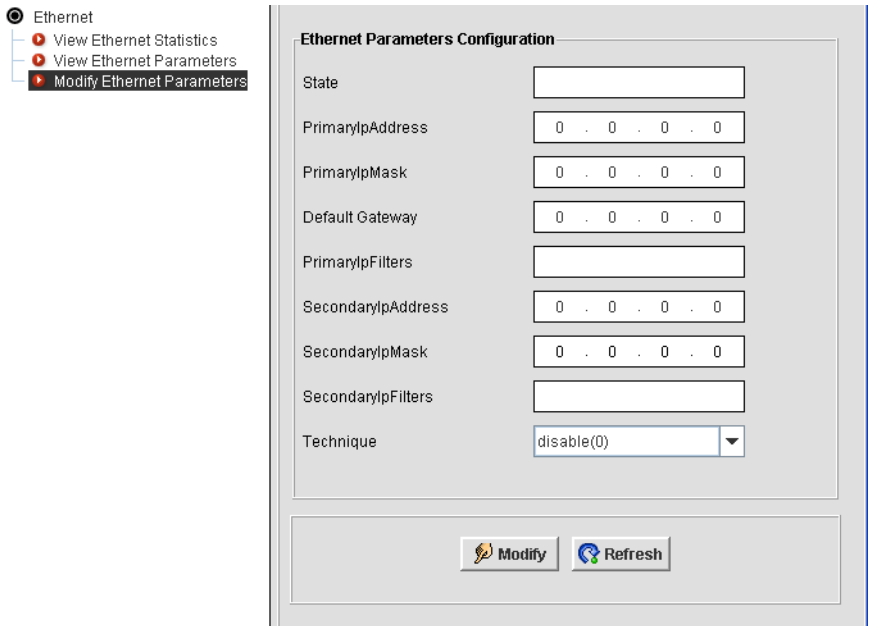


Figure 64. Modify 6511RC Ethernet Parameters

1. Enter the main address and mask for the card in the **Primary IP Address** and **IP Mask** fields.
2. If desired, enter a secondary address and mask in the **Secondary IP Address** and **IP Mask** fields.
3. Select static or disable the technique in the **Technique** drop-down menu.
4. Click **Modify** to save your changes. Click **Refresh**.

View Ethernet Statistics

Click on **View Ethernet Statistics** in the Ethernet Overview window to view statistics for the Ethernet ports on the device, such as errors and frame stats.

Configuring E1 Links

Click on **E1 Link** to configure the line interface, alarm status, DS0 settings, and test settings.

Edit Line Interface Settings

Click on **Line Interface** (under Current Configuration) in the menu tree for the E1 Link window, then select the links you want to edit from the **TUG3**, **TUG2**, and **TU** drop-down menus. Make the desired changes, then click **Submit**.

View Alarm Status

Click on **Alarm Status** (under Current Configuration) in the menu tree for the E1 Link window, then select the links you want to view alarms for from the **TUG3**, **TUG2**, and **TU** drop-down menus.

View Line Statistics

You can view Current, Past, and Total Line Statistics for a link. Navigate to **Near End Line Statistics > Current**, **Near End Line Statistics > History**, or **Near End Line Statistics > Totals** in the menu tree for the E1 Link window, then select the links you want to view from the **TUG3**, **TUG2**, and **TU** drop-down menus.

Configure DS0 Settings

Enable/Disable DS0 Numbers

Click on **DS0 Configuration > Details** in the menu tree for the E1 Link window, then select the links you want to configure from the **TUG3**, **TUG2**, and **TU** drop-down menus (see Figure 65 on page 82).

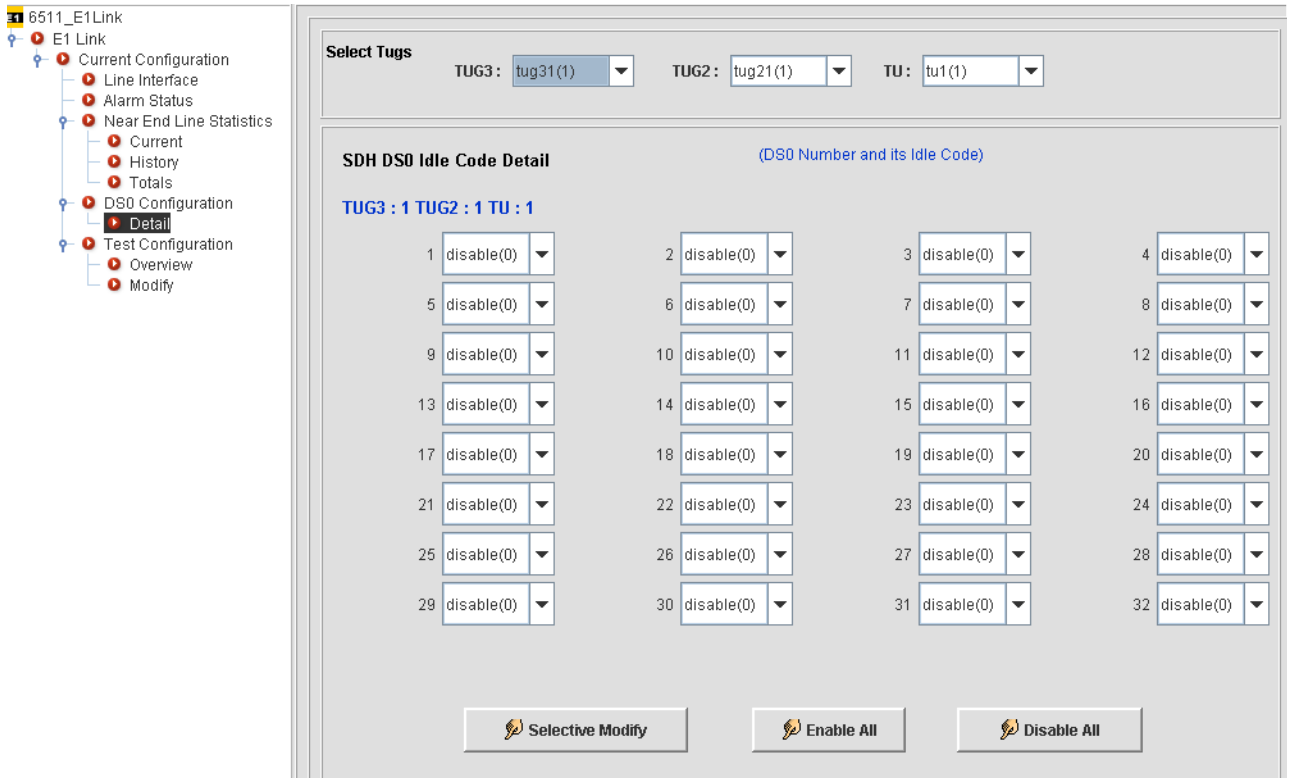


Figure 65. 6511RC DS0 Details

If you only want to enable or disable a few DS0 numbers, select the status from the drop-down menu for each DS0 number you want to change, then click **Selective Modify**.

If you want to activate all DS0 numbers, click **Enable All**. If you want to deactivate all DS0 numbers, click **Disable All**. A status emssage will display. Click **OK**.

Edit Test Settings

Click on **Test Configuration** in the menu tree for the E1 Link window, then select the links you want to configure from the **TUG3**, **TUG2**, and **TU** drop-down menus. **Test Configuration > Overview** shows information for SDH, including test settings, line parameters, and test parameters.

Click on **Test Configuration > Modify** to configure test parameters (see Figure 66 **on page 83**).

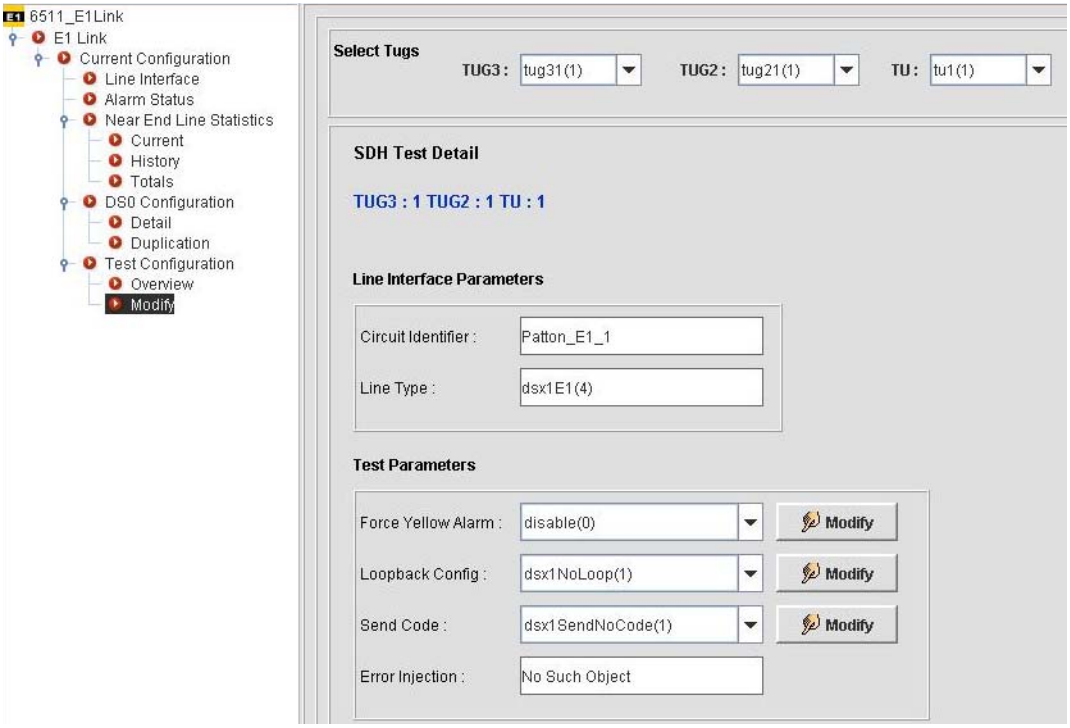


Figure 66. 6511RC E1 Link Test Settings

1. Select enable or disable from the **Force Yellow Alarm** drop-down menu, then click **Modify**.
2. Select a loop test from the **Loopback Config** drop-down menu, then click **Modify**.
   Loopback options include: Payload Loop, Line Loop, Other Loops, or No Loops.
3. Select a code from the **Send Code** drop-down menu, then click **Modify**.
   Code options include: Line Code, Payload Code, Reset Code, QRS, 511 Pattern, 3in24 Pattern, Other Test Pattern, and No Code.

Configuring IP Routing

Click on **IP Routing** to add routes and view routing information. The IP Overview window shows details for routing destinations, and includes information for gateway, cost, interface, protocol, and state of each route.

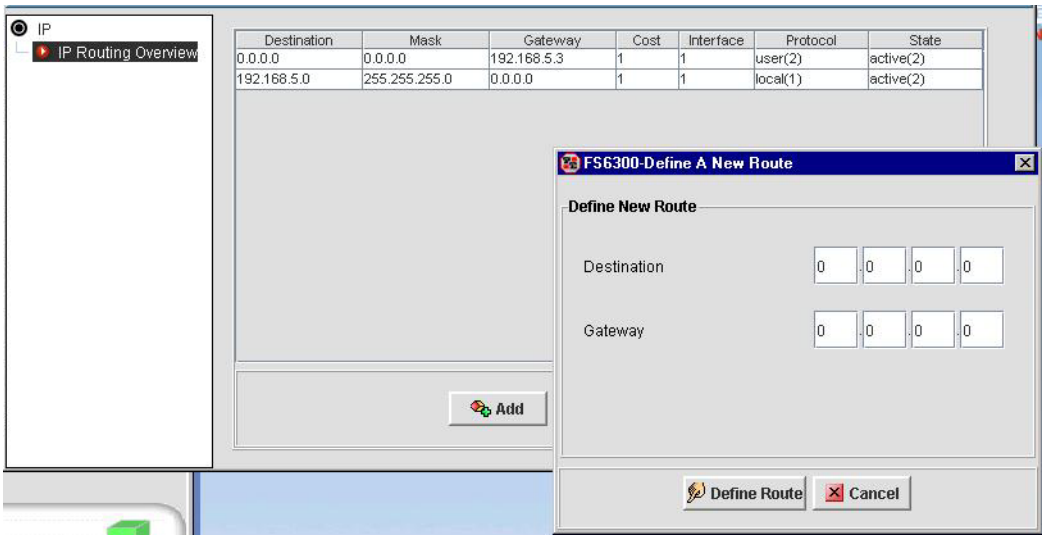


Figure 67. Add a New Route to 6511RC

Add Route

To add an IP route:

1. Click the **Add** button in the IP Overview window.
2. Enter a destination address for the new route.
3. Enter a gateway address for the new route.
4. Click **Define Route**.

Viewing Events and Alerts

Click on **Events and Alerts** to view a color-coded chart that shows the amount of alarms and severity of alarms for the card.

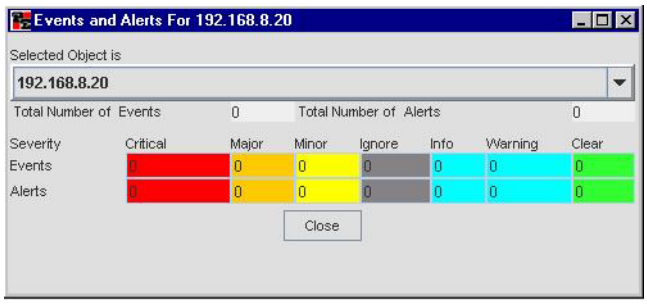


Figure 68. 6511RC Events and Alerts

Exporting/Importing the Configuration

Click on **Export/Import Configuration** to save or load a configuration file.

Exporting the Configuration

To save the current configuration, click on **Export Configuration** in the menu tree of the window, then click **Export** to save the current configuration to a file.

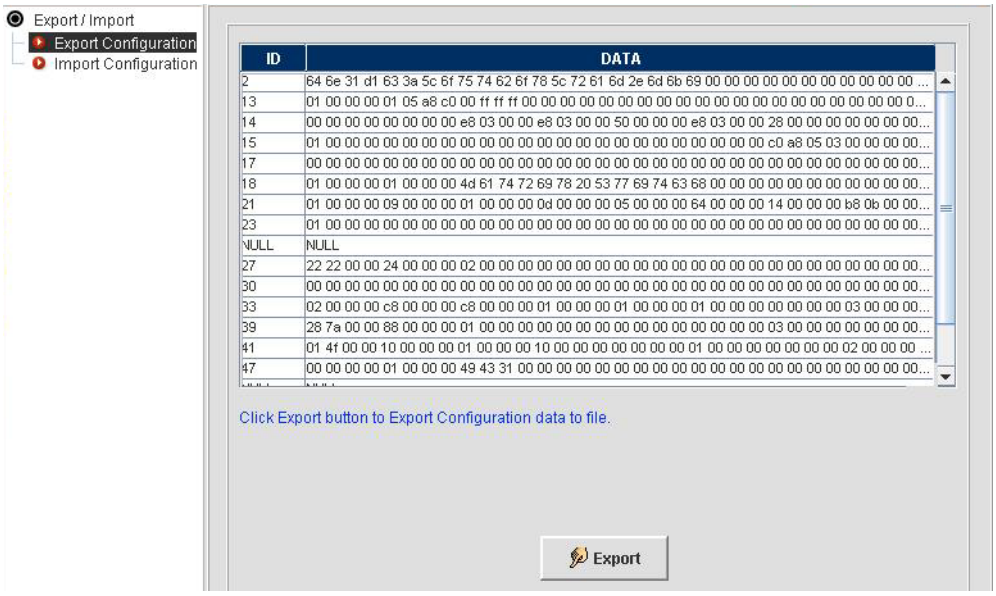


Figure 69. Export Configuration

Importing the Configuration

To load a configuration file, click on **Import Configuration** in the menu tree of the window, then click **Browse** to select the configuration file you want to load. Click **Import** to load the file.

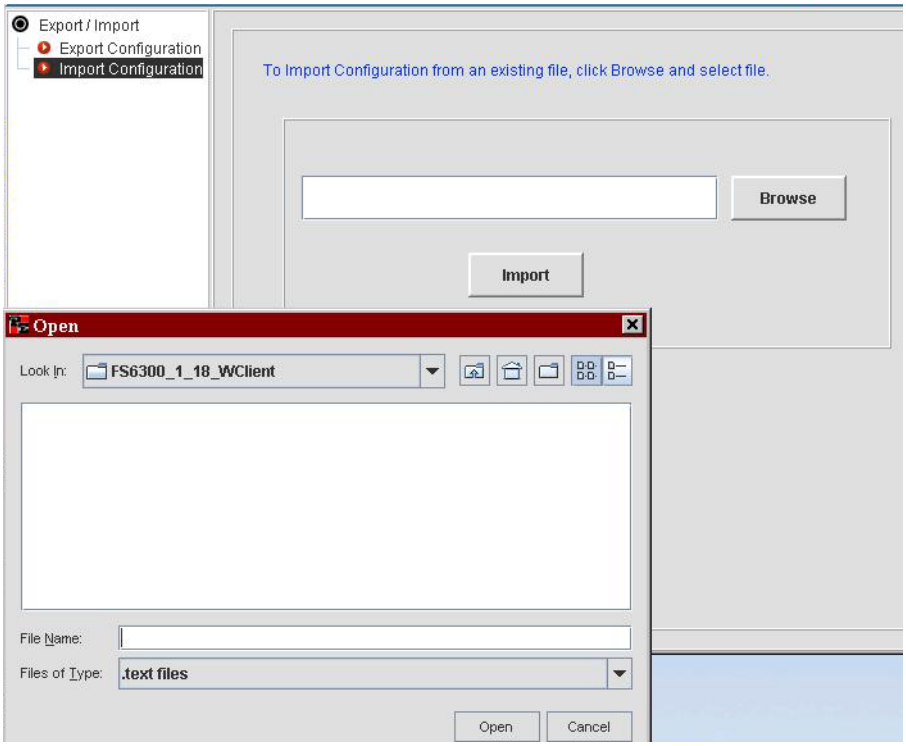


Figure 70. Import Configuration

Viewing the System Log

Click on **System Log** to view and modify syslog information.

Modify Syslog Configuration

If you only want to view the syslog configuration, click on **View SystemLog Configuration** in the System Log window. To configure the syslog information, click on **Modify SystemLog Configuration** in the menu tree in the Syslog window.

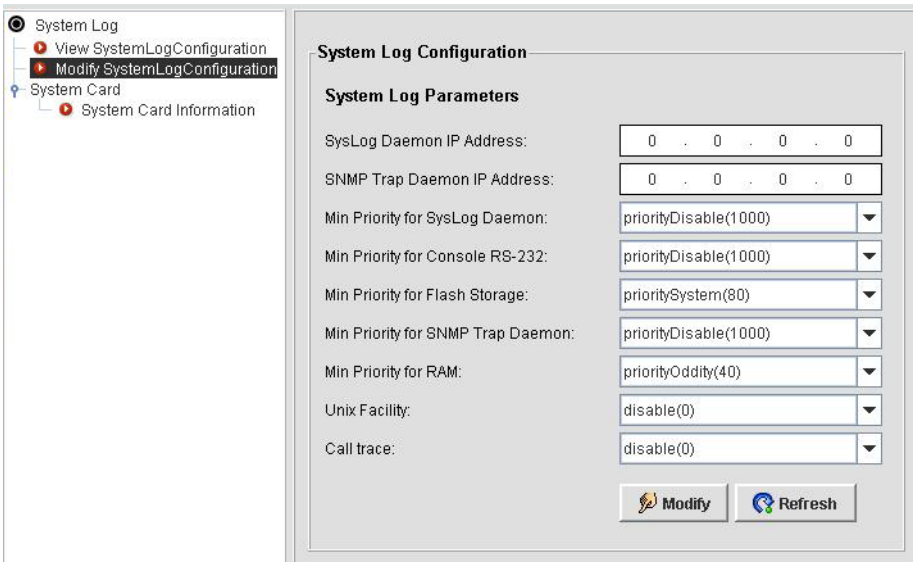


Figure 71. Modify System Log

Configuring SDH

Click on **SDH Configuration** to bring up the SDH Configuration window to view and modify SDH interfaces and paths.

Configuring SDH Interfaces

To configure SDH interfaces:

1. Click on **View/Modify SDH Configuration** in the menu tree of the SDH Configuration window.

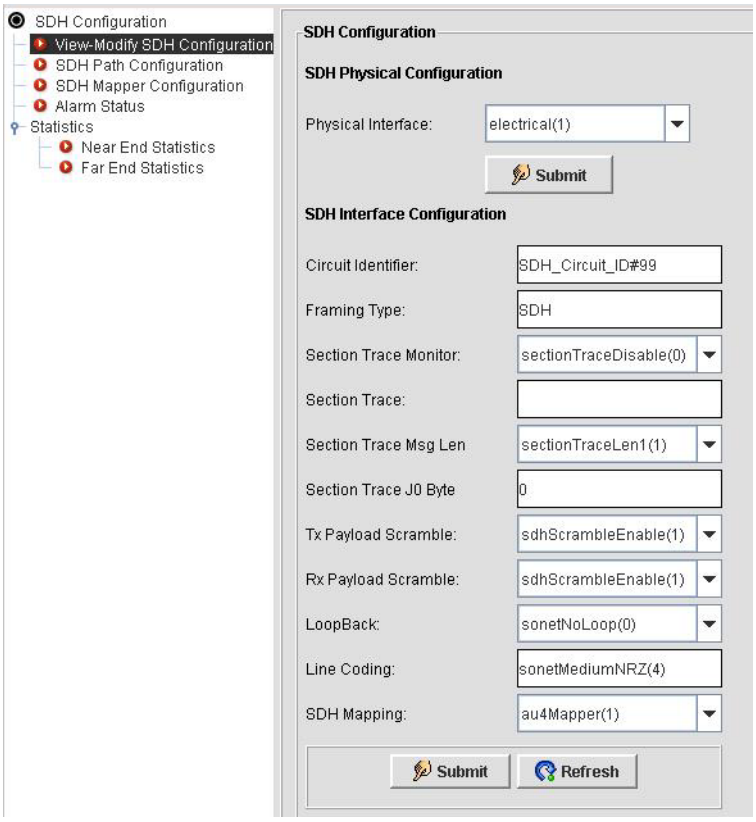


Figure 72. 6511RC SDH Interface Configuration

2. Select a **Physical Interface** from the drop-down menu under SDH Physical Configuration, and click **Submit**. The **Physical Interface** corresponds to the physical cabling atatched to the STM-1 interface ports.
   Select **Optical** if you are using fiber-optic cable connected to the rear-card SC connectors.
   Select **Electrical** if you are using coaxial cables connected to the rear-card BNC connectors.
3. If desired, enter an alphanumeric name for the STM-1 link in the **Circuit Identifier** field.
4. If section trace is enabled in your connected SDH network, select **sectionTraceEnable** from the **Section Trace Monitor** drop-down menu. Otherwise, select **sectionTraceDisable**, and go to Step 8 on page 89.
5. If the Section Trace Monitor is Enabled, enter the alphanumeric name your connected SDH network uses for the **Section Trace** message in the SDH frame.

6. Select the message length used by the SDH network –1-byte, 16-byte, or 64-byte– from the **Section Trace Message Len** drop-down menu.
7. Enter the value the connetced SDH network uses for the J0 byte in the **Section Trace J0 Byte** field.

> **Note** J0 Byte only applies to the 1-byte Section Trace Messages. For 16-byte or 64-byte, the J0 value is ignored and the trace message value applies.

8. If the SDH network transmits a scrambled payload, select **Enable** from the **Tx Payload Scramble** drop-down menu. Otherwise, select **Disable**.
9. If the SDH network expects to receive a scrambled payload, select **Enable** from the **Rx Payload Scramble** drop-down menu. Otherwise, select **Disable**.
10. Select a loop type from the **Loopback** drop-down menu.
11. For **SDH Mapping,** select the type of AU that corresponds to the SDH multiplexing path you want to use. Select **au4Mapper** if you want to multiplex three TUG-3s into an AU-4. Select **au3Mapper** if you want to multiplex seven TUG-2s into an AU-3.
12. Click **Submit** to save your changes.

Configuring SDH Paths

To configure SDH paths:

1. Click on **SDH Path Configuration** in the menu tree of the SDH Configuration window. Path Trace settings will vary, depending on which type of SDH mapping is being used– AU-3 or AU-4.

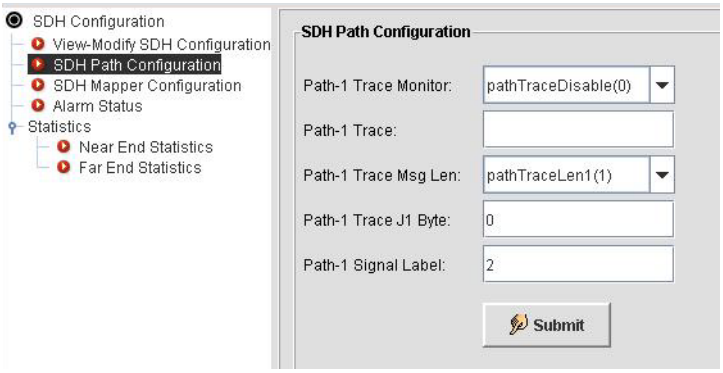


Figure 73. 6511RC SDH Path Configuration

2. Select **Enable** from the **Trace Monitor** drop-down menu if Path Trace is enabled in the connected SDH network.
3. Enter the alphanumeric name your SDH network uses for the Path-1 Trace Message in the **Trace** field. This only applies to 16-byte and 64-byte section trace messages.
4. Select the message length value your SDH network uses from the **Trace Message Len** drop-down menu.
5. For **Trace J1 Byte**, enter the value your connected SDH network uses for the J1 byte in the SDH frame. J1 only applies to 1-byte trace messages.

6. Enter the **Signal Label** in the text field.
7. Click **Submit**.

Configuring SDH Mapper

To configure the SDH Mapper:

1. Click on **SDH Mapper Configuration** in the menu tree of the SDH Configuration window.
2. Select **AsyncE1** or **ByteSyncE1** to configure the payload type for the SDH Mapper.
3. Click **Submit**.

Viewing Alarm Status

To view SDH alarms, click on **Alarm Status** in the menu tree of the SDH Configuration window. Hover the mouse pointer over an LED (Section, Line, or Path) to view the alarm status.

Viewing Statistics

To view SDH statistics, click on **Near End Statistics** or **Far End Statistics** in the menu tree of the SDH Configuration window. Click on an LED in the Current column to edit the Stats Refresh Rate. Click on an LED in the History column to view past details.

Viewing E1Link Layers

Click on **Display E1 Link VC(#)** to show a map of all the E1 links on a TUG. To edit a link, right-click on the E1 link icon that you want to edit and select **E1 Port Link Configuration**. (See "Configuring E1 Links" on page 81).

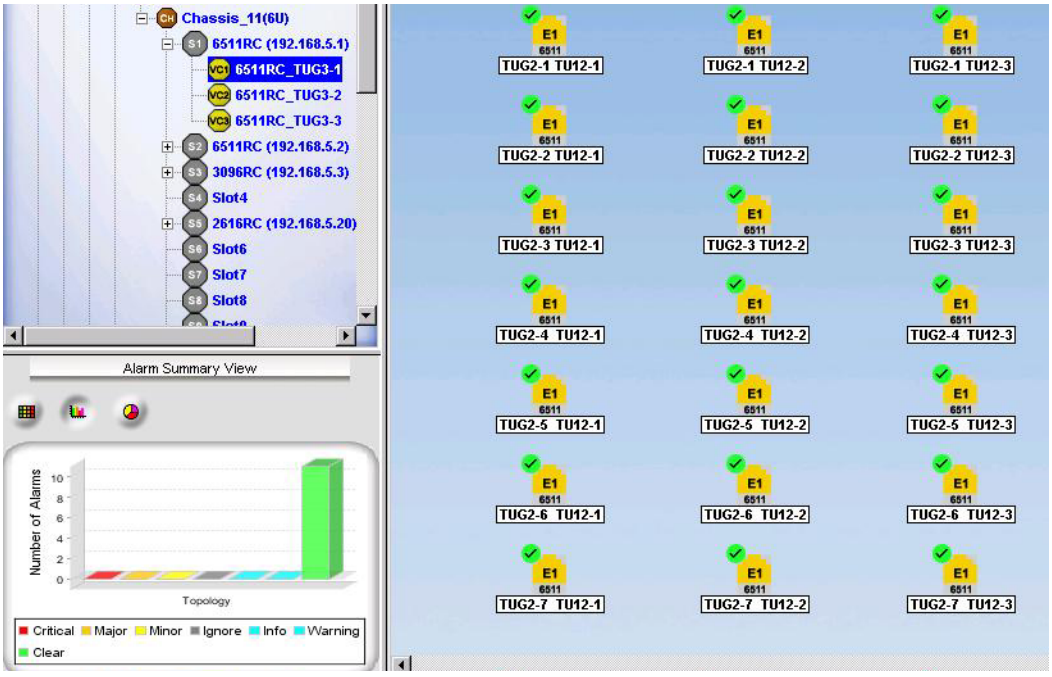


Figure 74. 6511RC E1 Link Map

Chapter 8 Configuring Chassis

Chapter contents

Introduction

To configure a chassis, navigate to **Network Maps > Geographical Area > Network Node** in the menu tree on the left side of the screen. Right-click on a chassis icon in the main window to display the configuration menu for the chassis.

Chassis Configuration Menu

The following options are available in the pull-down menu for a chassis:

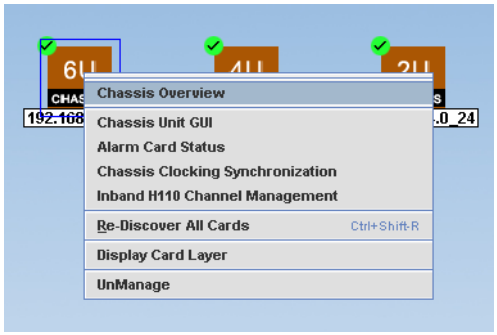


Figure 75. Chassis Configuration Menu

- Chassis Overview – Shows information for the chassis, including Area ID and Network Node, Chassis ID, Name, and Type, Network IP, Number of Cards, and Alarm Status
- Chassis Unit GUI – See "Viewing the Chassis LEDs" on page 93
- Chassis Clocking Sync – See "Configuring Card System Clocking" on page 34 in Chapter 3
- Inband H110 Channel Management – See "Managing Inband H110 Channels" on page 93
- Re-Discover All Cards – See "Re-Discovering Cards" on page 27 in Chapter 2
- Display Card Layer – See "Viewing the Card Layer Map" on page 96
- UnManage – See Chapter 9, "Monitoring Managed Objects" on page 97

Viewing the Chassis LEDs

Click on **Chassis Unit GUI** to view the front panels of all of the cards in the chassis in real-time.

Figure 76. Chassis LEDs

Managing Inband H110 Channels

Click on **Inband H110 Channel Management** to bring up the Channel Management window. To view a list of existing H110 management channels, click on **Defined Channels** in the menu tree of the Inband Management window.

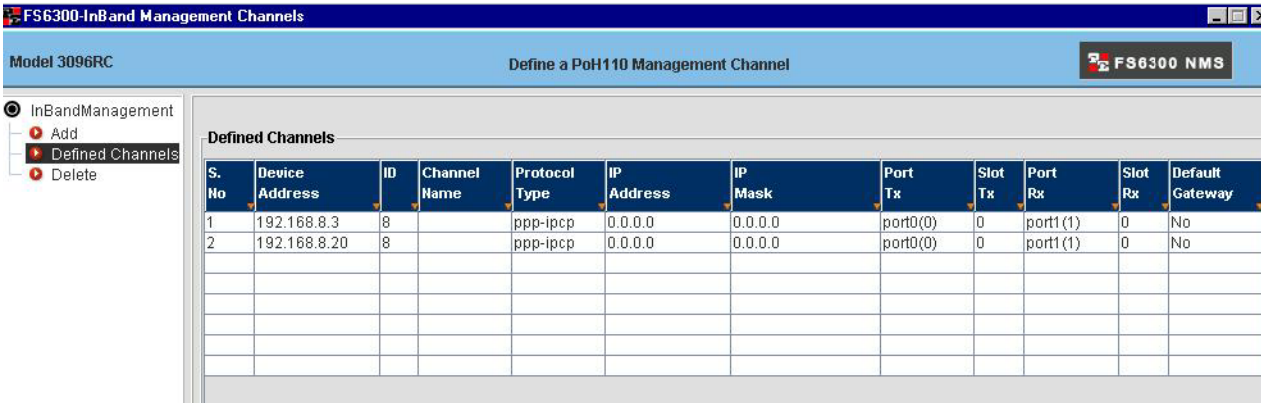


Figure 77. Chassis Defined Channels

Add H110 Management Channel

To add an H110 management channel to a chassis:

1. Click on **Add** in the menu tree of the Inband Management window.

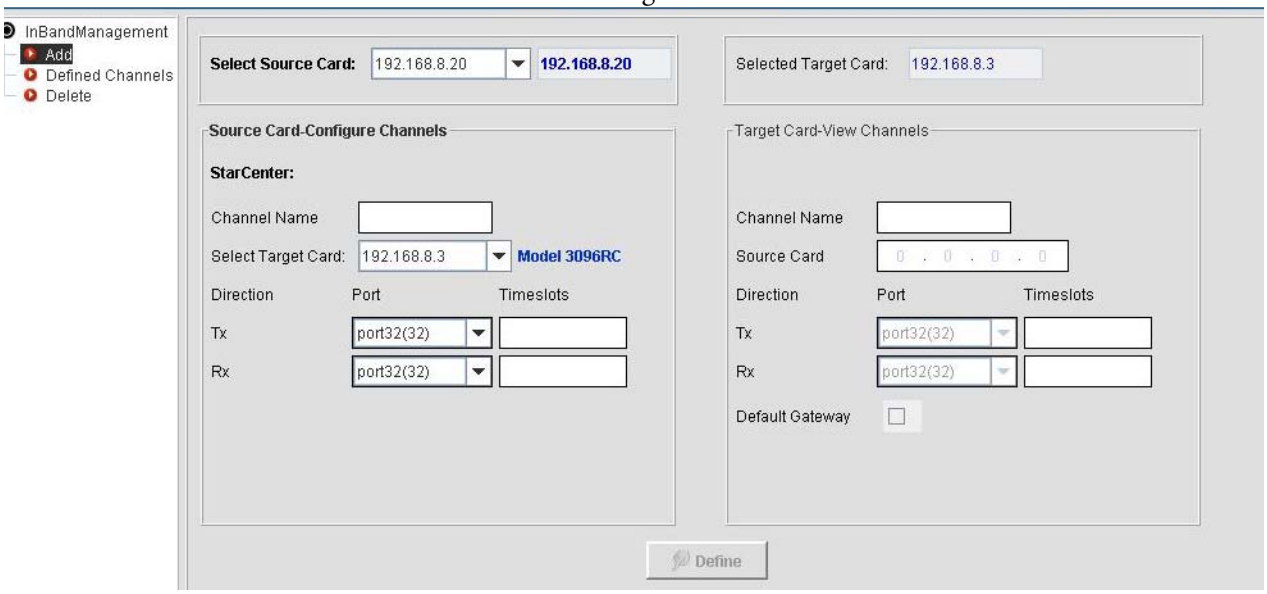


Figure 78. Add H110 Management Channel to Chassis

2. Select a **Source Card** from the drop-down menu.
3. Enter a **Channel Name** for the **Source Card** in the text field.
4. Select a **Target Card** from the drop-down menu.
5. Select a port from the **Tx** drop-down menu and enter the time slots in the text field for transmitting data.
6. Select a port from the **Rx** drop-down menu and enter the time slots in the text field for receiving data.
7. Repeat Steps 3-6 for the **Target Card**.
8. Click **Define**.

Delete H110 Management Channel

To delete a H110 management channel from a chassis:

1. Click on **Delete** in the menu tree of the Inband Management window.

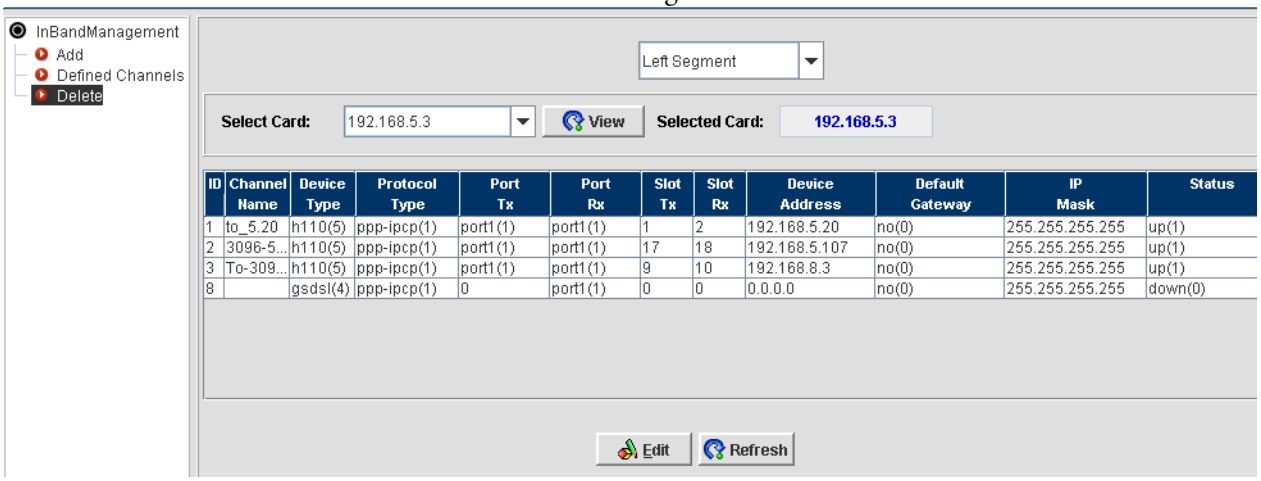


Figure 79. Delete H110 Management Channel from Chassis

2. Select a **Source Card** from the drop-down menu, and click **View**.
3. Select the row in the table of the channel you want to delete, and click **Edit**.
4. The **Delete Configuration** window displays, which shows the information for the channel.
5. Click **Delete**.

Viewing the Card Layer Map

Click on **Display Card Layer** to view a map of all of the cards in the chassis. Right-click on a card to configure to view it's configuration menu.

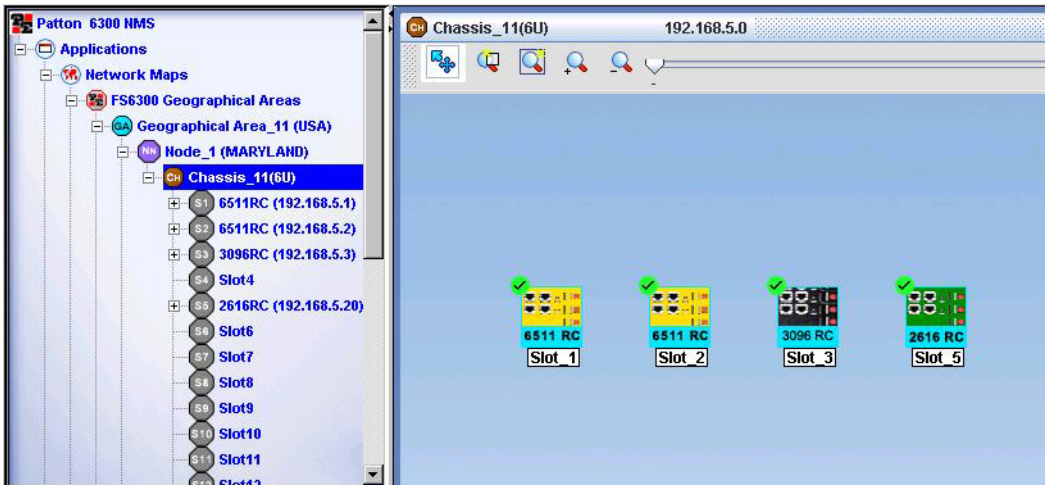


Figure 80. Chassis Card Layer Map

Chapter 9 Monitoring Managed Objects

Chapter contents

Introduction

Managed objects save information about an element in the network database. You can view a list of managed objects by clicking on **Network Database** in the menu tree on the left side of the screen, then **Managed Objects**.

This chapter describes viewing the various properties of managed objects. It also covers other aspects of the **Network Database** section of the NMS interface, such as Unmanaged Objects.

Working with Managed Objects

Click on **Network Database > Managed Objects** in the main menu tree to view a full list of managed objects in the network. Right-click on a device in the Managed Objects table to view a device-specific menu for configuring that device. The device-specific menu also appears as a toolbar at the top of the screen when you select a device in the table. All Managed Objects have the options to **UnManage** and **Update Status**.

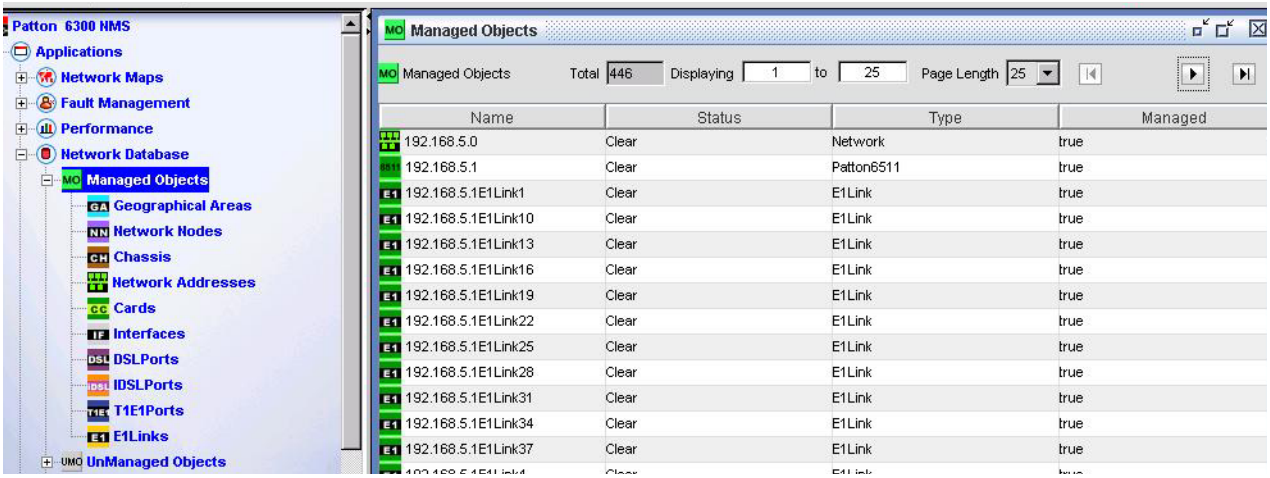


Figure 81. Managed Objects Table

Expand the Managed Objects selection in the menu tree to view specific object categories.

- "Geographical Areas" (See page 99)
- "Network Nodes" (See page 99)
- "Chassis" (See page 99)
- "Network Addresses" (See page 100)
- "Cards" (See page 100)
- "Interfaces" (See page 100)
- "DSL Ports" (See page 101)
- "IDSL Ports" (See page 101)
- "T1/E1 Ports" (See page 101)
- "E1 Links" (See page 101)

Geographical Areas

Navigate to **Network Database > Managed Objects > Geographical Areas** in the menu tree to view a list of all managed geographical areas in the network. Select a row and click the new menu in the toolbar at the top of the screen (or right-click on the row) to view the configuration menu for that geographical area.

The configuration menu for a geographical area has the following options:

- **Delete Objects and Traces** – See the *FS6300 Administrator's Reference Guide*
- **Geographical Area Overview** – Displays a summary of the area name, ID, number of nodes, # of chassis, number of subnets, alarm status.
- **Re-Discover All Cards** – Re-discovers all of the cards in the geographical area. See "Re-Discovering Cards" on page 27 in Chapter 2.
- **UnManage** – Moves the area to the UnManaged Objects table.
- **Update Status** – Refreshes the information for the area.

Network Nodes

Navigate to **Network Database > Managed Objects > Network Nodes** in the menu tree to view a list of all managed nodes in the network. Select a row and click the new menu in the toolbar at the top of the screen (or right-click on the row) to view the configuration menu for that node.

The configuration menu for a network node has the following options:

- **Delete Objects and Traces** – See the *FS6300 Administrator's Reference Guide*
- **Alarm Trap Manager** – See "Configuring the Alarm Trap Manager" on page 29 in Chapter 3
- **Network Node Overview** – Displays a summary of the node, including geographical area name and ID, node name and ID, system manager, and location info.
- **Re-Discover All Cards** – Re-discovers all of the cards in the network node. See "Re-Discovering Cards" on page 27 in Chapter 2.
- **UnManage** – Moves the node to the UnManaged Objects table.
- **Update Status** – Refreshes the information for the node.

Chassis

Navigate to **Network Database > Managed Objects > Chassis** in the menu tree to view a list of all managed chassis in the network. Select a row and click the new menu in the toolbar at the top of the screen (or right-click on the row) to view the configuration menu for that chassis.

The configuration menu for a chassis has the following options:

- **Delete Objects and Traces** – See the *FS6300 Administrator's Reference Guide*
- **Chassis Overview** – Displays a summary of the chassis, including geographical area name and ID, node name and ID, chassis name, ID, and type, network address, number of each card model, and alarm status.
- **Chassis Unit GUI** – See "Viewing the Chassis LEDs" on page 93 in Chapter 8.
- **Chassis Clocking Sync**– See "Configuring Card System Clocking" on page 34 in Chapter 3.
- **Inband H110 Channel Management** – See "Managing Inband H110 Channels" on page 93 in Chapter 8

- **Time Slot Availability in Ports** – See "Viewing the Card Layer Map" on page 96 in Chapter 8
- **Re-Discover All Cards** – Re-discovers the cards in the chassis. See "Re-Discovering Cards" on page 27 in Chapter 2.
- **UnManage** – Moves the chassis to the UnManaged Objects table.
- **Update Status** – Refreshes the information for the chassis.

Network Addresses

Navigate to **Network Database > Managed Objects > Network Addresses** in the menu tree to view a list of all managed addresses in the network. Select a row and click the new menu in the toolbar at the top of the screen (or right-click on the row) to view the configuration menu for that address.

The configuration menu for an address has the following options:

- **Delete Objects and Traces** – See the *FS6300 Administrator's Reference Guide*
- **UnManage** – Moves the address to the UnManaged Objects table.
- **Update Status** – Refreshes the information for the network address.

Cards

Navigate to **Network Database > Managed Objects > Cards** in the menu tree to view a list of all managed cards in the network. Select a row and click the new menu in the toolbar at the top of the screen (or right-click on the row) to view the configuration menu for that card. Each card has different configuration options in the menu, depending on the model of the card you select.

The configuration menu for any card includes the following options:

- **Delete Objects and Traces** – See the *FS6300 Administrator's Reference Guide*
- **Card Overview** – Displays a summary of the card, including box information, card information, and alarm status.
- **Events and Alerts** – See the configuration chapter for the card model.
- **Export Import Configuration** – See the configuration chapter for the card model.
- **Operator Action** – See "Managing Operator Actions" on page 40 in Chapter 4.
- **System Log** – See the configuration chapter for the card model.
- **Re-Discover Card** – Re-discovers the card in the network. See "Re-Discovering Cards" on page 27 in Chapter 2.
- **UnManage** – Moves the card to the UnManaged Objects table.
- **Update Status** – Refreshes the information for the card.

Interfaces

Navigate to **Network Database > Managed Objects > Interfaces** in the menu tree to view a list of all managed interfaces in the network. Select a row and click the new menu in the toolbar at the top of the screen (or right-click on the row) to view the configuration menu for that interface.

The configuration menu for an interface includes the following options:

- **Interface Monitor > Ping** – Displays a status message after pinging the interface.
- **Managed Object Properties** – See the *FS6300 Administrator's Reference Guide*
- **Delete Objects and Traces** – See the *FS6300 Administrator's Reference Guide*
- **UnManage** – Moves the interface to the UnManaged Objects table.
- **Update Status** – Refreshes the information for the interface.

DSL Ports

Navigate to **Network Database > Managed Objects > DSL Ports** in the menu tree to view a list of all managed G.SHDSL ports in the network. Select a row and click the new menu in the toolbar at the top of the screen (or right-click on the row) to view the configuration menu for that DSL port.

The configuration menu for a port includes the following options:

- **Configure G.SHDSL Link** – Displays the G.SHDSL Port Configuration window, where you can view information and edit the desired state and test mode for a specific DSL port.
- **UnManage** – Moves the DSL port to the UnManaged Objects table.
- **Update Status** – Refreshes the information for the port.

IDSL Ports

Navigate to **Network Database > Managed Objects > IDSL Ports** in the menu tree to view a list of all managed IDSL ports in the network. Select a row and click the new menu in the toolbar at the top of the screen (or right-click on the row) to view the configuration menu for that port.

The configuration menu for a port includes the following options:

- **Configure IDSL Link** – Displays the IDSL Port Configuration window.
- **UnManage** – Moves the IDSL port to the UnManaged Objects table.
- **Update Status** – Refreshes the information for the port.

T1/E1 Ports

Navigate to **Network Database > Managed Objects > T1E1 Ports** in the menu tree to view a list of all managed T1/E1 ports in the network. Select a row and click the new menu in the toolbar at the top of the screen (or right-click on the row) to view the configuration menu for that T1/E1 port.

The configuration menu for a port includes the following options:

- **UnManage** – Moves the T1/E1 port to the UnManaged Objects table.
- **Update Status** – Refreshes the information for the port.

E1 Links

Navigate to **Network Database > Managed Objects > E1 Links** in the menu tree to view a list of all managed E1 links in the network. Select a row and click the new menu in the toolbar at the top of the screen (or right-click on the row) to view the configuration menu for that link.

The configuration menu for an E1 link includes the following options:

- **E1 Port Link Configuration** – Displays the SDH Test Overview window, where you can view information and edit line interface and test paramters.
- **UnManage** – Moves the E1 link to the UnManaged Objects table.
- **Update Status** – Refreshes the information for the link.

Working with Unmanaged Objects

Click on **Network Database > UnManaged Objects** to view a list of all of the objects that exist in the network but are not managed through the NMS.

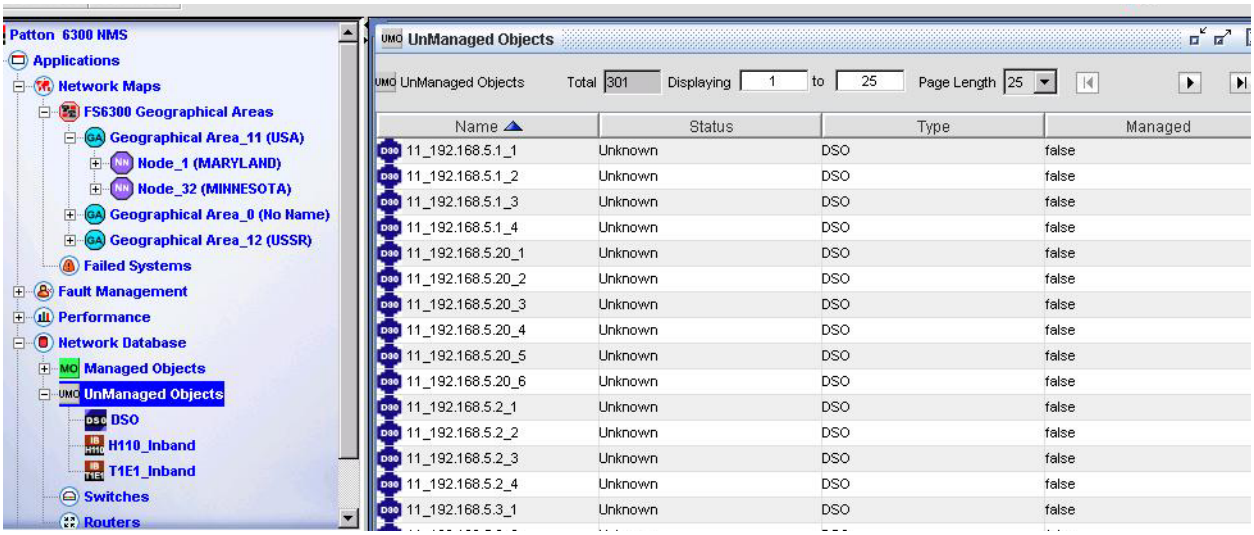


Figure 82. UnManaged Objects Table

Managing an Unmanaged Object

To change an object's status from unmanaged to managed:

1. Right-click on the row of the object in the **UnManaged Objects** table.
2. Select **Manage**. The object will move to the **Managed Objects** table.

Chapter 10 **Managing Network Events**

Chapter contents

Introduction

Network events relate to occurrences in the network , such as discovery, status updates, or a device failure. You can manage network events in the FS6300 NMS through the **Fault Management** section of the main menu on the left side of the screen. This chapter describes how to view network events, configure trap and event parsers, configure event filters, and save the current list of network events.

Viewing Network Events

Viewing the current list of events

To view a current list of network events:

1. Click on **Fault Management** in the menu tree on the left side of the screen.
2. Click on **Network Events**.

A list of current events in the network will display in the main window.

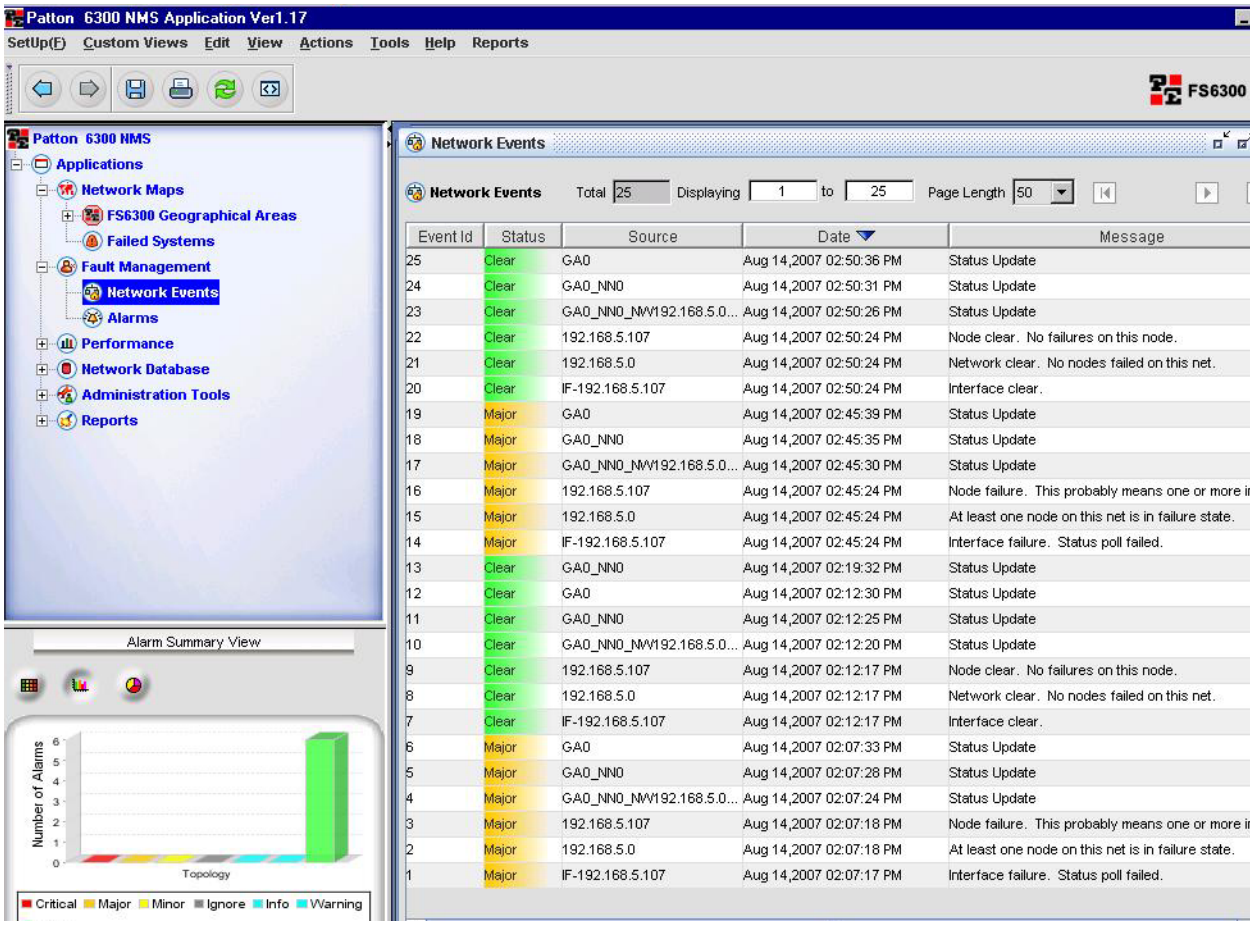


Figure 83. Fault Management > Network Events

Viewing details of an event

You can view the details of a network event in the list in several ways:

- Select a row in the table. Click on the **View** menu at the top of the screen, then select **Details**.
- Right-click on a row in the table, and select **Details** from the pull-down menu.
- Select a row in the table, then press **Alt+D**.
- Double-click on a row in the table.

Table 2 shows information about network event details.

Table 2. Network Event Details

Property	Description
Index	Specifies a unique ID created for each of the events that are generated.
Severity	Specifies the severity of the event, such as Critical, Major, Minor, Clear, Warning, Info.
Message	Specifies the message associated with the event.
Category	Specifies the category to which the event belongs. Example: Topology.
Domain	Specifies the domain-specific information which is based on physical location, functional categorization, or logical categorization of the source of the event.
Network	Specifies the network to which the event belongs to.
Node	Specifies the node to which the event belongs to. For example, if the event is for an interface, the node value is specified as interface parent node.
Failure Object	Specifies the specific entity (in the source) that has failed and is primarily responsible for the event.
Source	Specifies the exact source (network, node, interface) of the event.
Help URL	Specifies the URL for locating the help documentation on clicking the Help button in the same dialog box.
Date/Time	Specifies the date and time when the event was generated.
GroupName	Specifies the group name to which the event belongs.

Viewing alarms related to an event

If an event is significant, it will be converted into an alarm. To view alarms related to an event:

1. Click on **Network Events** (under Fault Management) in the menu tree.
2. Select the row of the event that you would like to view alarms for in the table.
3. Click on the **View** menu at the top of the screen, and select **Alarms**;
   OR, Right-click on the row and select **Alarms** from the pull-down menu;
   OR, Press **Ctrl+L**.
4. A window will display showing only the alarms for that selected event.

Searching Network Events

To search for a network event in the current list:

1. Click on **Network Events** (under Fault Management) in the menu tree.
2. Click on the **Edit** menu at the top of the screen, then select **Search**;
   OR, press **Ctrl+F**. The **Search** window displays.
3. Select **Match any of the following** to find any of the terms you specify for the search, or select **Match all of the following** to find all of the terms you specify for the search.
4. In the **Search Criteria** section, select an event property from the first drop-down box. Enter your search term in the text field. For example, if you have selected severity in the Properties combo box, then you need to specify the severity value here, e.g., critical, major, ect.. If you have selected date or time related properties in Property field, then a Date/Time box is available where you need to set the date and time.You can enter more search fields by clicking the **More** button.
5. Click **Search**.

Saving Network Events

There are several actions you can take to save the current list of network events. These options are:

- "Saving Events to File" on page 106
- "Exporting Events" on page 107
- "Printing Events" on page 107

Saving Events to File

To save the current list of events that are displayed on the screen to a file:

1. Click on **Network Events** (under Fault Management) in the menu tree.
2. Click on the **Actions** menu at the top of the screen, and select **Save To File**;
   OR, Press **Ctrl+I**. The **Properties** window displays.
3. Enter a name for the file in the **File Name** field.
4. Click **Save File**. A status message displays.

By default the saved file is located in <FS6300 NMS Home>/state directory. <FS6300 NMS HOME> is where FS6300 NMS is installed.

Note To view the saved file, open a Web browser and access the URL - http://<machine_name>:9090/state [<machine_name> is the machine's name where FS6300 NMS Server is running].

Exporting Events

You can use the **Export Events** option to save the Event Custom View data as a CSV (comma-separated values) file in the FS6300 NMS server. An option is provided to export the entire Custom View data or only the data that is currently displayed in the Custom View.

To save the current list of events as a CSV file:

1. Click on **Network Events** (under Fault Management) in the menu tree.
2. Click on the **Actions** menu at the top of the screen, and select **Export Events**; **OR**, Press **Ctrl+Shift+F**. The **Export Data** window displays.
3. Select **Export Entrie Custom View Data** or **Export Displayed Data**.
4. Enter a name for the file in the **File Name** field.
5. Click **Export**. A status message displays.

The exported custom view data file will be saved in the <FS6300 NMS Home> directory.

Printing Events

To print the current range of events displayed in the table:

1. Click on **Network Events** (under Fault Management) in the menu tree.
2. Click on the **Actions** menu at the top of the screen, and select **Print**; **OR**, Press **Ctrl+P**.
3. The current list of network events is printed.

Note If you are getting the message '**server printing not configured**', this means that the FS6300 NMS Server is not configured to execute the printing operation from the Application Client. Contact your system administrator to enable the printing.

Note You can customize the Network Events table by adding or removing columns using the Custom View options, order the events by sorting, or by creating new custom views. After customizing the table, use the print option to print your customized view. For more information on working with custom views, see Appendix A, "Custom Views and Themes" on page 144.

About Trap Parsers

Traps are fault messages that occur on an SNMP device. Trap parsers generate event information when a trap is received. A received trap is passed through a level of Trap Parsers only if the trap has not been converted into an event object by a Trap Filter, or if the received trap has not been dropped during trap filtering.

> **Note** For detailed information about configuring trap parsers, such as adding, deleting, and modifying trap parsers, saving and loading trap parser files, reordering the trap parser list, and enabling/disabling trap parsers, refer to the *FS6300 NMS Administrator's Reference Guide*.

To open the **Trap Parser Configuration Tool**:

1. Click on **Network Events** (under Fault Management) in the menu tree.
2. Click on the **Edit** menu at the top of the screen. Select **Configure** > **Trap Parsers**; OR, press **Ctrl+Shift+R**. The **Trap Parser Configuration Tool** displays.

About Event Parsers

Event parsers work similarly to trap parsers. Event parsers identify failure objects that correspond to network events, and convert certain types of events, such as threshold events and status poll events, into a readable format before the events are filtered.

> **Note** For detailed information about configuring event parsers, such as adding, deleting, and modifying event parsers, saving and loading event parser files, reordering the event parser list, and enabling/disabling event parsers, refer to the *FS6300 NMS Administrator's Reference Guide*.

To open the **Event Parser Configuration Tool**:

1. Click on **Network Events** (under Fault Management) in the menu tree.
2. Click on the **Edit** menu at the top of the screen. Select **Configure** > **Event Parsers**; OR, press **Ctrl+E**. The **Event Parser Configuration Tool** displays.

About Event Filters

When events are generated from devices in a network, you can configure FS6300 NMS to send some notifications. Event filters are used to automatically start actions for selected events.

> **Note** For detailed information about configuring event filters, such as adding, deleting, and modifying event filters, saving and loading event filter files, reordering the event filter list, and enabling/disabling event filters, refer to the *FS6300 NMS Administrator's Reference Guide*.

To open the **Event Filter Configuration Tool**:

1. Click on **Network Events** (under Fault Management) in the menu tree.
2. Click on the **Edit** menu at the top of the screen. Select **Configure** > **Event Filters**; OR, press **Ctrl+Shift+E**. The **Event Filter Configuration Tool** displays.

Chapter 11 **Monitoring Performance Data**

Chapter contents

Introduction

The FS6300 NMS monitors performance of your network by collecting data from devices and providing reports. The performance is measured based on various factors, such as number of bytes of data received/sent (over a period) by a particular interface of a device, the interface's current bandwidth in bits per second, etc. After discovery, FS6300 NMS begins to collect data (by default, 5 minutes after a device is discovered) from each of the devices in the network and adds it to the database. Then, data collection occurs every 600 seconds (default interval). The data collected from a device in the network is called Performance Data.

This chapter describes how to view current and collected data. The FS6300 NMS collects data from a device based on statistics that are defined for that device. The FS6300 NMS can generate graphs and reports based on current performance data or collected (historical) performance data.

Note For information on how to configure statistics, thresholds, and polling objects for collected data, see the *FS6300 NMS Administrator's Reference Guide*.

Viewing Configured Collection Data

To view data collection details:

1. Click on **Configured Collection** (under **Performance**) in the menu tree on the left side of the screen.
2. The **Configured Collection** table displays in the main window.

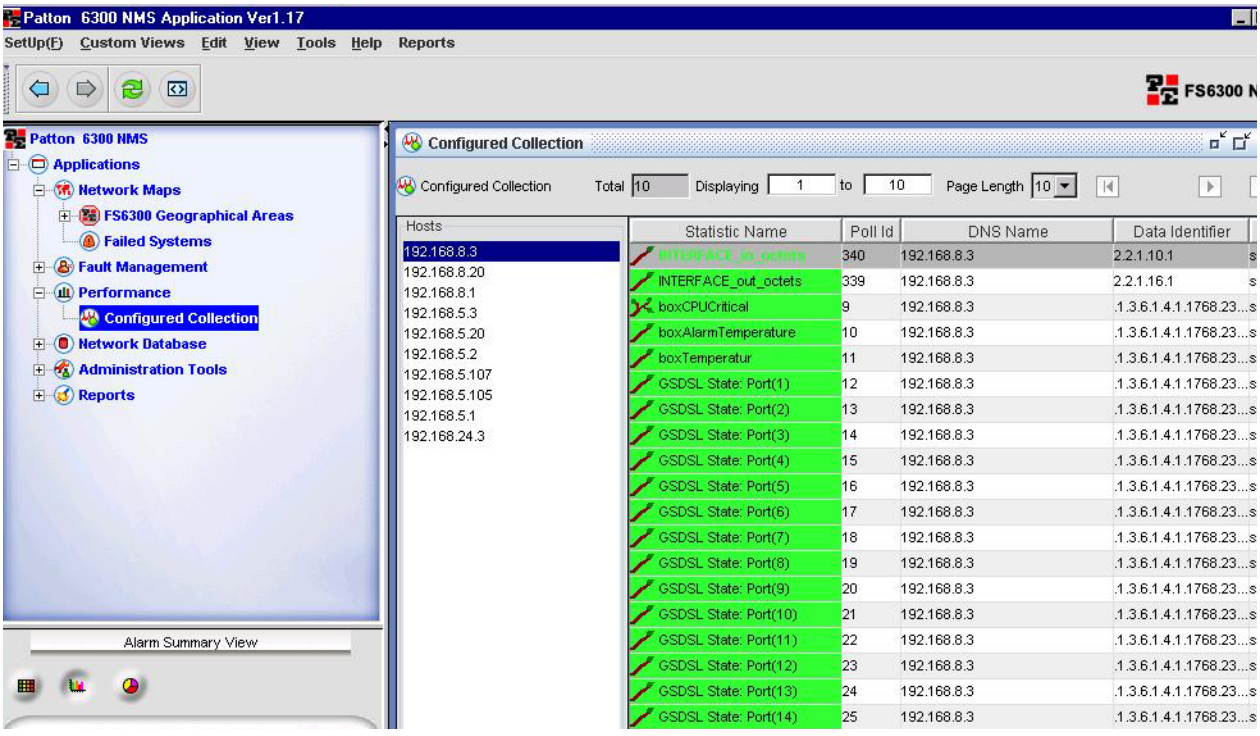


Figure 84. Performance > Configured Collection

Table 3 describes the Configured Collection properties:

Table 3. Configured Collection Properties

Property	Description
Statistic Name	A description to identify the Statistic.
Poll Id	A unique number generated automatically and associated with each Statistic.
DNS Name	Host name (device name) that the Statistic is associated with.
Data Identifier	A unique identification number of the device interface from which data about the device is to be collected.
Community	The community to be used when sending the SNMP request for collecting the Statistic.
Interval	The interval at which data should be collected for the Statistic. For example, the value 600 indicates that after every 600 seconds, data has to be collected.
Active	Specifies whether data collection for the selected device is active or not. If it is set to false, data collection is not performed for that device.
Multiple	Specifies the type used to poll columnar value of the tables

Viewing Current Performance Data

Current performance data is collected from a device instantly. To view the current data of a statistic:

1. Click on **Configured Collection** (under **Performance**) in the menu tree on the left side of the screen.
2. Select a host from the **Hosts** column in the **Configured Collection** window.
3. Select the row of the statistic that you want to view current performance data for.
4. Select **View** at the top of the screen, then choose **Plot** > **Current Statistic**;
   OR, Right-click on the row and choose **Plot** > **Current Statistic**;
   OR, Press **Ctrl+Shift+P**.
5. The **Current Graph Viewer** window appears, which shows a line chart (by default) of the current performance data for the selected statistic.

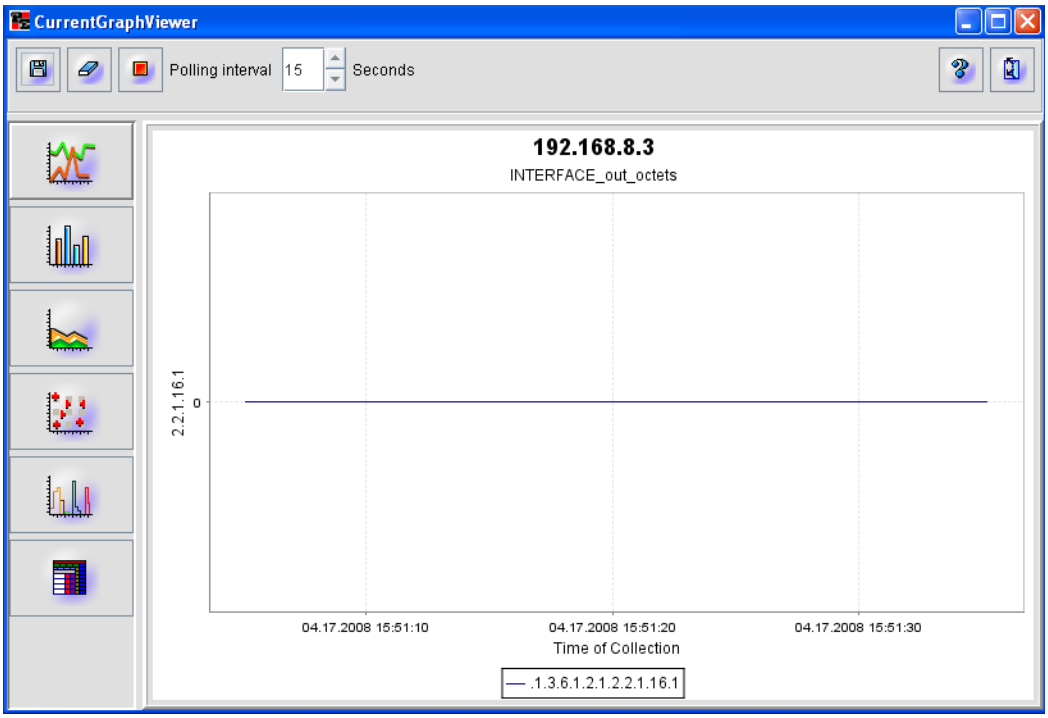


Figure 85. Plot Current Statistic

6. Click on an icon on the left side of the **Current Graph Viewer** window to change the type of chart. There are five types of graphs that you can view:
   - Line Chart
   - Bar Chart
   - Area Chart
   - Scatter Chart
   - X-Y Chart
7. By default, the **Current Graph Viewer** updates the information in the chart every 15 seconds. To change the **Polling Interval**, click **Stop Poller** at the top of the **Current Graph Viewer**. Enter a new value in the **Polling Interval** box, then click **Start Poller**.
8. To **Save** the current graph, click the disk icon .
9. To **Clear** current graph, click the eraser icon .
10. To **Print** the current graph, right-click on the graph and select **Print**.

Viewing Collected Performance Data

Collected performance data is data that was collected and stored in the database. To view the collected data of a statistic:

1. Click on **Configured Collection** (under **Performance**) in the menu tree on the left side of the screen.
2. Select a host from the **Hosts** column in the **Configured Collection** window.
3. Select the row of the statistic that you want to view collected data for.
4. Select **View** at the top of the screen, then choose **Plot** > **Collected Statistic**;
   OR, Right-click on the row and choose **Plot** > **Collected Statistic**;
   OR, Press **Ctrl+O**.
5. The **Collected Graph Viewer** window appears, which shows a line chart (by default) of the collected performance data for the selected statistic.

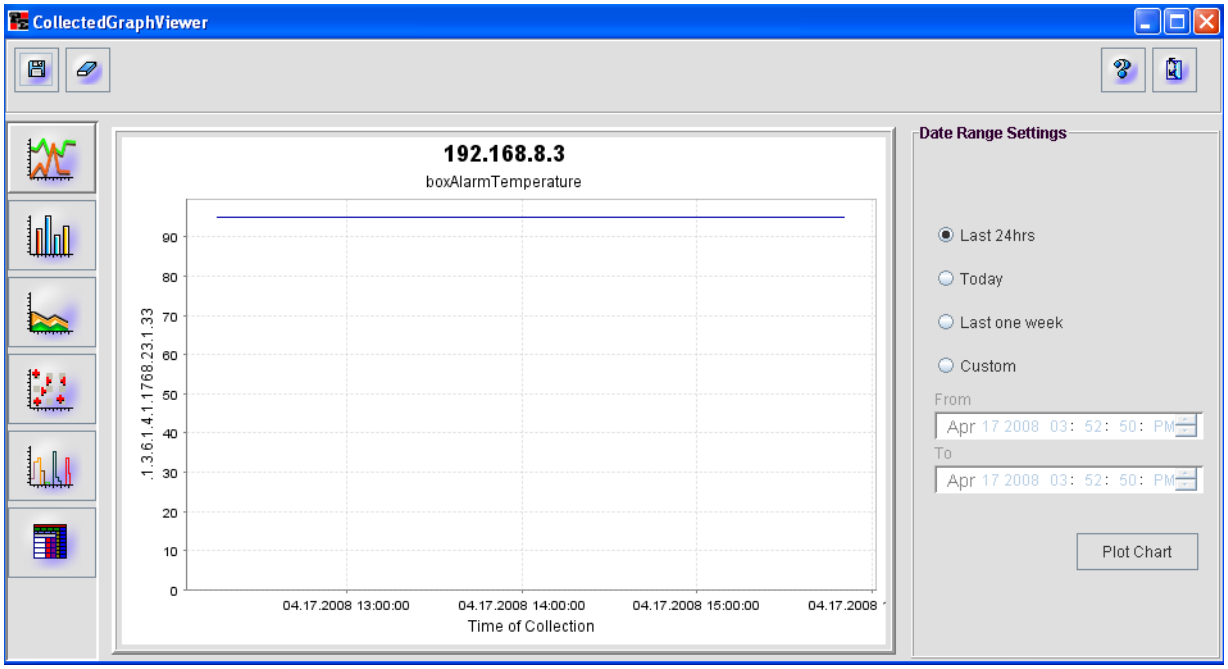


Figure 86. Plot Collected Statistic

6. Click on an icon on the left side of the **Collected Graph Viewer** window to change the type of chart. There are five types of graphs that you can view:
   - Line Chart
   - Bar Chart
   - Area Chart
   - Scatter Chart
   - X-Y Chart

7. By default, the **Collected Graph Viewer** shows information from the last 24 hours. Choose **Today**, **Last One Week**, or **Custom** based on the range of data you want to display. For **Custom**, set the **From** and **To** range in "**Month: Date: Year: Hour: Seconds: AM/PM**" format. Then, click **Plot Chart**.
8. To **Save** the current graph, click the disk icon  .
9. To **Clear** current graph, click the eraser icon  .
10. To **Print** the current graph, right-click on the graph and select **Print**.

Chapter 12 **Contacting Patton for assistance**

Chapter contents

Introduction

This chapter contains the following information:

- "Contact information"—describes how to contact Patton technical support for assistance.
- "Warranty Service and Returned Merchandise Authorizations (RMAs)"—contains information about the warranty and obtaining a return merchandise authorization (RMA).

Contact information

Patton Electronics offers a wide array of free technical services. If you have questions about any of our other products we recommend you begin your search for answers by using our technical knowledge base. Here, we have gathered together many of the more commonly asked questions and compiled them into a searchable database to help you quickly solve your problems.

Patton support headquarters in the USA

- Online support: available at **www.patton.com**
- E-mail support: e-mail sent to **support@patton.com** will be answered within 1 business day
- Telephone support: standard telephone support is available five days a week—from **8:00 am** to **5:00 pm EST** (**1300** to **2200 UTC/GMT**)—by calling **+1 (301) 975-1007**
- Fax: **+1 (253) 663-5693**

Alternate Patton support for Europe, Middle East, and Africa (EMEA)

- Online support: available at **www.patton-inalp.com**
- E-mail support: e-mail sent to **support@patton-inalp.com** will be answered within 1 business day
- Telephone support: standard telephone support is available five days a week—from **8:00 am** to **5:00 pm CET** (**0900** to **1800 UTC/GMT**)—by calling **+41 (0)31 985 25 55**
- Fax: **+41 (0)31 985 25 26**

Warranty Service and Returned Merchandise Authorizations (RMAs)

Patton Electronics is an ISO-9001 certified manufacturer and our products are carefully tested before shipment. All of our products are backed by a comprehensive warranty program.

> **Note** If you purchased your equipment from a Patton Electronics reseller, ask your reseller how you should proceed with warranty service. It is often more convenient for you to work with your local reseller to obtain a replacement. Patton services our products no matter how you acquired them.

Warranty coverage

Our products are under warranty to be free from defects, and we will, at our option, repair or replace the product should it fail within one year from the first date of shipment. Our warranty is limited to defects in workmanship or materials, and does not cover customer damage, lightning or power surge damage, abuse, or unauthorized modification.

Out-of-warranty service

Patton services what we sell, no matter how you acquired it, including malfunctioning products that are no longer under warranty. Our products have a flat fee for repairs. Units damaged by lightning or other catastrophes may require replacement.

Returns for credit

Customer satisfaction is important to us, therefore any product may be returned with authorization within 30 days from the shipment date for a full credit of the purchase price. If you have ordered the wrong equipment or you are dissatisfied in any way, please contact us to request an RMA number to accept your return. Patton is not responsible for equipment returned without a Return Authorization.

Return for credit policy

- Less than 30 days: No Charge. Your credit will be issued upon receipt and inspection of the equipment.
- 30 to 60 days: We will add a 20% restocking charge (crediting your account with 80% of the purchase price).
- Over 60 days: Products will be accepted for repairs only.

RMA numbers

RMA numbers are required for all product returns. You can obtain an RMA by doing one of the following:

- Completing a request on the RMA Request page in the *Support* section at **www.patton.com**
- By calling **+1 (301) 975-1007** and speaking to a Technical Support Engineer
- By sending an e-mail to **returns@patton.com**

All returned units must have the RMA number clearly visible on the outside of the shipping container. Please use the original packing material that the device came in or pack the unit securely to avoid damage during shipping.

Shipping instructions

The RMA number should be clearly visible on the address label. Our shipping address is as follows:

Patton Electronics Company
RMA#: xxxx
7622 Rickenbacker Dr.
Gaithersburg, MD 20879-4773 USA

Patton will ship the equipment back to you in the same manner you ship it to us. Patton will pay the return shipping costs.