

VadaTech MicroTCA

ScorpionWare® System Manager

Interface Reference Manual

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Version 1.0

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Revision History

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1 Overview

ScorpionWare® is a VadaTech System Management Software Application used to Control, Manage and Monitor AdvancedTCA and MicroTCA platforms. Telecom, Military and Aerospace projects are increasingly using AdvancedTCA and MicroTCA platforms. Integration and testing of these complex platforms are one of the stumbling blocks to integrators and add delays to final deployment. ScorpionWare® provides an easy to use Graphical User Interface with several features for monitoring, trouble shooting and easy integration of these platforms.

ScorpionWare® is a cross-platform application. The application interfaces with any ATCA and UTCA Platform Management Interface Compliant Management Software using RMCP+ to establish a secure connection.

ScorpionWare® provides an interface to the VadaTech MicroTCA Shelf Manager or the Carrier Manager. The interface is based on IPMI 2.0, AdvancedTCA™ PICMG 3.0, and MicroTCA 1.0 specifications and can be used to access information about the current state of the Shelf or the Carrier, obtain information such as the FRU population, or monitor alarms, power management, current sensor values, and the overall health of the Shelf. The interface can also be used to update Shelf and Carrier configurable parameters.

The information provided in this document is the interface to MicroTCA systems using the ScorpionWare® GUI and is a supplement to the information found in the MicroTCA Base Specification.

1.1 Applicable VadaTech Products

UTC001, UTC002, UTC003 and VT850

1.2 Document References

- Intelligent Platform Management (IPMI) Interface Specification v2.0
- PICMG® 3.0 Revision 3.0 AdvancedTCA® Base Specification
- PICMG® AMC.0 R2.0 Advanced Mezzanine Card Base Specification
- PICMG® Specification MTCA.0 R1.0 (MicroTCA)
- VadaTech MCH Software Management Manual
- UTC001 Getting Started Guide

1.3 Acronyms Used in this Document

Acronym	Description
IPMI	Intelligent Platform Management Interface. A specification and mechanism for providing inventory management, monitoring, logging, and control for elements of a computer system as defined in intelligent Platform Management Interface Specification.
MicroTCA	MicroTelecommunication Computing Architecture
FRU Device ID	A value that uniquely identifies a FRU relative to an IPM Controller. In MicroTCA the most frequent use of FRU Device ID is to uniquely identify a FRU within a MicroTCA Carrier relative to the Carrier Manager.
FRU information	Data that describes a FRU with an emphasis on data that characterizes the FRU. Format for this data is described in IPMI Platform management FRU information Storage Definition and extended herein.
Hot Swap	To remove a component (e.g., an AdvancedMC Module) from a system (e.g., an MicroTCA Shelf) and plug in a new one while the power is still on and the system is still operating
LED	Light Emitting Diode
Link	1. One or more Ports aggregated under a common protocol. Links are groups of Ports that are enabled and disabled by Electronic Keying operations. 2. A group of Lanes which operate together to connect two devices. The number of Lanes used is negotiated.
Managed FRU	Either an Intelligent FRU or a FRU that is represented by an Intelligent FRU via a FRU Device ID
Module	Refers to any MicroTCA Module types, including CU, PM, MCH, OEM Module, or AdvancedMC
Payload	The primary function that a FRU provides. This includes all the hardware on the FRU except that associated with management. It may also include the firmware, operating system and application software running on the Payload hardware.
Shelf	An electronic assembly consisting of the Subrack, Backplane, Modules, cooling Devices, power subsystems, etc. Also historically known as a chassis. Shelves are usually mounted in Frames.
Shelf Manager	The entity responsible for managing the cooling in a MicroTCA Shelf. It also routes messages between the System Manager Interface and the Shelf-Carrier Manager Interface, provides interfaces to system repositories, and responds to event messages.
System Manger	A level of management functionality above the Shelf Manager charged with the management of an entire system, whatever that may mean in a specific Implementation
System Manager Interface	The communication interface between Shelf Manager and System Manager
PEF	Platform Event Filter(ing)
SDR	Sensor Data Record
SDR Repository	Sensor Data Record Repository
SEL	System Event Log
MicroTCA Carrier	An assembly providing MicroTCA Carrier functions needed to support up to

Hub (MCH)	twelve Hub (MCH) AdvancedMCs including MCMC, optional ShMC, optional Fabric switch, and clock.
MicroTCA Carrier Management Controller (MCMC)	Management controller on the MCH. The required management controller that interfaces to AdvancedMC MMCs via IPMB-L and to CU, PM, and OEM Module EMMCs via IPMB-0.
MMC	The required management controller on an AdvancedMC Module the MicroTCA Carrier Manager on the MCH via IPMB-L
EMMC	Management Controller on PMs, OEM Modules, and CUs.

Table 1: Acronyms

2 Installation

The ScorpionWare® System Manager Application is available for Linux and Windows Operating Systems for 64-bit and 32-bit architectures.

2.1 Linux

The ScorpionWare® Linux package requires Fedora 10 or later.

To install the x86_64 or i386 RPM package

```
#rpm --install sysmanager-x.x.x.x.86_64.rpm  
#rpm --install sysmanager-x.x.x.x.i386.rpm
```

If an earlier version of ScorpionWare® is already installed, then use the upgrade option.

```
#rpm --upgrade sysmanager-x.x.x.x.86_64.rpm  
#rpm --upgrade sysmanager-x.x.x.x.i386.rpm
```

2.2 Windows

The ScorpionWare® Windows packages are available for 64-bit and 32-bit architectures running Windows XP or Vista.

3 Getting Connected

The information provided in this section is supplemental to the information found in the [UTC001 Getting Started Guide](#)

3.1 UTC001 Interfaces

The various VadaTech MicroTCA Shelf Managers support the following front panel interfaces:

- Two Ethernet connections via an RJ-45 connector
- An RS-232 serial management port interface via an RJ-45 connector

Any of these interfaces can be used to log in to the Shelf Manager or the Carrier Manager. To configure the system IP address the first time, log in using the serial port console.

3.2 Configuring the Shelf Manager IP Connections

On the MCH side, if the system IP address is not configured / not configured properly for its network, logging onto the UTC001 console the first time must be done via the serial port console.

The default administrative user name and password are 'root' and 'root', respectively, for console authentication.

Please refer to the [VadaTech UTC001 Getting Started Guide](#) for more information on how to configure the UTC001 Shelf or Carrier Manager out of band interfaces.

If the MicroTCA Shelf Manager IP address is configured properly, the user can communicate with the Shelf Manager over the network. The ScorpionWare® can run on a Remote Management Console and connect to the Shelf Manager through the RMCP interface to send IPMI messages. The Shelf Manager is configured with a system manager default user account with administrative privileges.

The default setting for the Shelf Manager IP connection address is "192.168.1.230". This can be changed during the initial configuration via the serial console.

View the available IP connections to the MicroTCA Shelf Manager:

```
# get_ip_connection

Shelf Manager IP Address 0      : 192.168.1.230
Shelf Manager Gateway Address 0 : 192.168.1.1
Shelf Manager Netmask 0        : 255.255.255.0
Shelf Manager IP Address 1      : 192.168.1.231
Shelf Manager Gateway Address 1 : 192.168.1.1
Shelf Manager Netmask 1        : 255.255.255.0
```

To change the IP connections to the Shelf Manager, use the `set_ip_connection` CLI command. The changes take effect on the next power cycle.

Please refer to the [VadaTech MicroTCA Shelf Manager Command Line Interface Reference Manual](#) for more information on how to configure the UTC001 Shelf or Carrier Manager IP Connections.

3.3 Server Connection

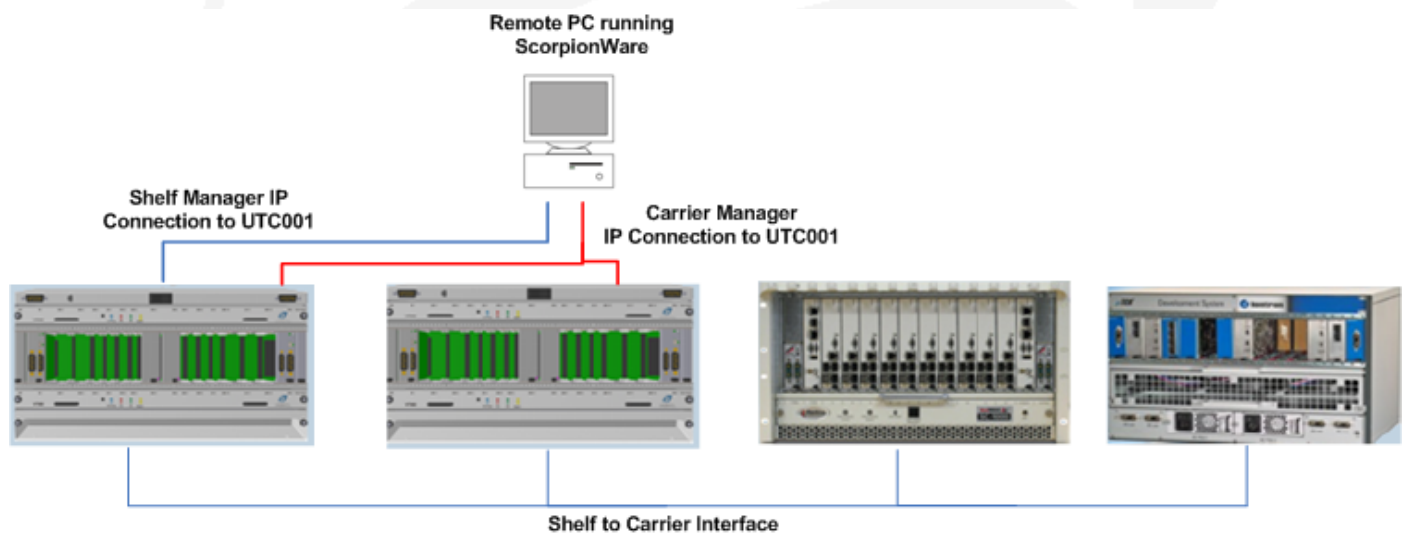


Figure 1: System Manager Connection

After the Shelf and the Carrier Manager IP Connections are configured properly on the VadaTech UTC001 MCH, the Remote PC running ScorpionWare® and the MCH must be on the same network.

From the Remote PC, ping the Shelf or Carrier Manager IP Connection address to verify communication between the MCH and the remote PC has been established. If there is a problem with the communication check your network connection.

With the network connection verified, ScorpionWare® should be able to open a session and get connected to the Shelf.

3.4 Starting the Application

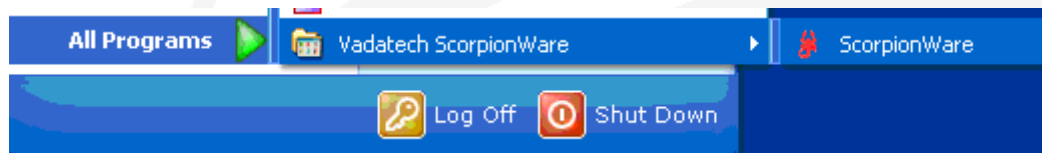
3.4.1 Linux

After completing the installation on the remote PC running Linux, ScorpionWare® can be started by issuing the following from the Linux prompt:

```
# sysmanager
```

3.4.2 Windows

After installing the ScorpionWare® Windows package the System Manager Application short cuts are available in the Windows Start Menu and Desktop.



3.5 Session

When the ScorpionWare® System Management application is started the Session Configuration screen allows the user to configure a session with UTC001 Shelf Manager or the Carrier Manager.

There are two types of connections on the UTC001 depending on its configuration:

- Carrier Manager using the Carrier Manager IP Address
- Shelf Manager using the Shelf Manger IP Address

3.5.1 Configuration

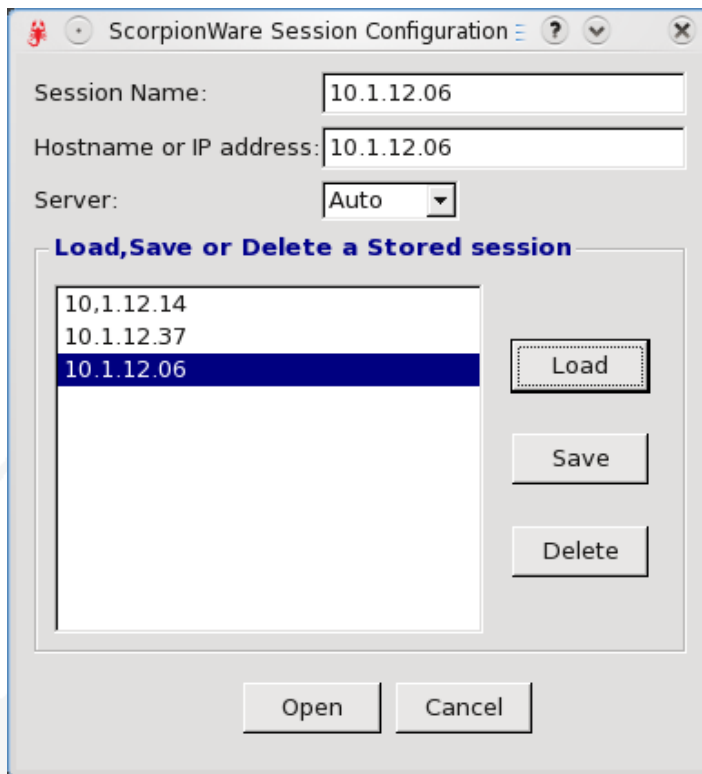


Figure 2: Session Configuration

The Session Configuration dialog allows the user to configure, save and load session connections with the UTC001 Shelf or the Carrier. If the server type is set to “Auto”, the System Manager will automatically detect a server to get connected.

In the auto server detect mode the System Manager will always try to establish connection with the Shelf, failing which it will then try to connect to the Carrier at the same address. The user can also select the Server type to selectively connect to the Shelf or Carrier Interface.

3.5.2 Login



Figure 3: Login

When the System Manager initiates a connection, the user will be prompted to enter the User Name and Password to the destination server.

The default Shelf Manager User Name is "shelf" and the Password is "shelf". The default Carrier Manager User Name is "carrier" and the Password is "carrier".

In auto server detect mode the User Name and Password entered by the user will be attempted on both Shelf and Carrier Interfaces.

3.5.3 Keep Alive

The Keep Alive option allows the user to remain connected with the server when there is no user activity. When enabled during login, the System Manager keeps the session alive by sending a heart beat message to the server periodically. If the Keep Alive option is not selected during log in the System Manager will close the session after 60 seconds of inactivity. The user may enable or disable Keep Alive at any time when the System Manager is running.

4 System Manager Interface

4.1 Main Menu



Figure 4: Main Menu

Main Menu	Sub-menu	Hot Keys	Description
File	Log out	CTRL+L	Log out from current open session
	Exit	CTRL+E	Exit ScorpionWare®
Tools	Refresh	CTRL+R	Refresh Shelf Information
	Auto-Refresh	CTRL+A	Enable/Disable Auto refresh
	Logger	CTRL+G	Enable ScorpionWare® logger
	Setting	CTRL+S	Custom ScorpionWare® settings
Help	About		Information about ScorpionWare®

Table 2: Main Menu Description

4.2 Toolbar Options



Figure 5: Tool Bar

ICON	Description
	Refresh Shelf Information on demand
	Pause Auto Refresh
	Custom ScorpionWare® settings
	Open ScorpionWare® log file
	Logout from the current open session
Carriers ▼	Open a Carrier tab

Table 3: Tool bar Description

4.3 Status

The System Manager Status bar is used to report activities and command completion status.

4.4 Connection Status

The System Manager Server connection status bar presents the Server IP address/Port number of the current open session. An indicator is provided to present the user with the status of the server connection.

Color	Description
GREEN	Shelf Manager session is active and healthy
RED	Shelf Manager session is Inactive
BLINK GREEN	System Manager is sending a heart beat to the remote server to keep session alive

Table 4: Server Connection Status

4.5 Management Resource Tabs

4.5.1 Shelf Manager

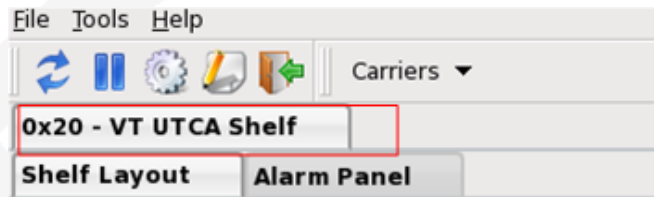


Figure 6: Shelf Manager Tab

The Shelf Tab represents the Shelf resource at event receiver address 0x20.

4.5.1.1 Shelf Layout

The Shelf Layout presents the Shelf Display, the Navigation Tree and the Resource/Entity Information.

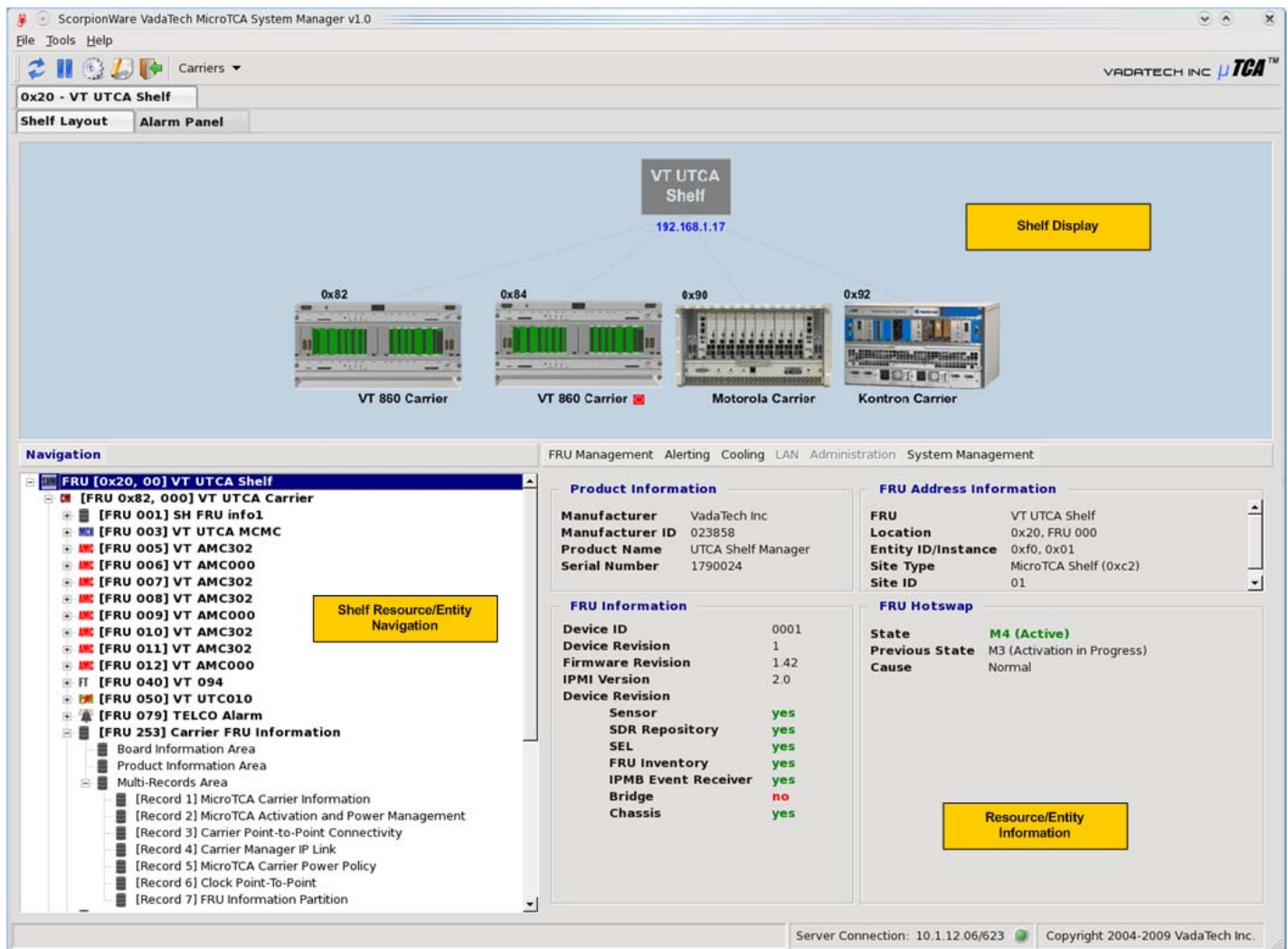


Figure 7: Shelf Layout

- **Shelf Display** – A pictorial representation of the Shelf connected to the various Carriers as described in the MicroTCA Shelf Information Record. The Shelf Display shows all the Carriers that are active and connected to the Shelf and the location of the Shelf FRU Information.
- (Note: Shelf View is under construction and is not available for version 1.0. For version 1.0 the picture shown is just a place holder.)
- **Navigation** – A tree representing the Shelf as the root node and the Carriers managed by the ShMC. Only the Carriers currently connected to the Shelf are displayed. The resources and entities behind the Carriers are presented under the Carrier node. The navigation tree is used to traverse down the Shelf resource hierarchy.
- **Resource/Entity Information** – Presents the information of the selected Resource or Entity.

4.5.1.2 Shelf Alarm Panel

The Shelf Alarm Panel displays all the active alarms on the Shelf as well the option to view the history of alarms that occurred since system startup.

4.5.1.3 SNMP Trap Panel

The SNMP Trap Panel is used to view the SNMP Traps received by the System Manager from the remote ShMC.

(Note: SNMP Trap Panel is not available in System Manager V1.0)

4.5.1.4 Chassis Temperature Panel

The Chassis Temperature Panel is used to view the temperature status of the Carriers installed in the Shelf.

(Note: Chassis Temperature Panel is not available in System Manager V1.0)

4.5.2 Carrier Manager

The Carrier Tab represents a remote Carrier connected to the Shelf. Up to 16 Carriers can be connected to a Shelf Manager.

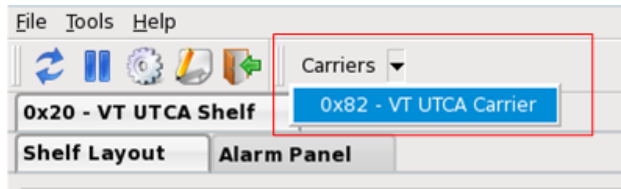


Figure 8: Carrier List

A Carrier Tab can be added using the “Carrier” drop down list in the System Manager Tool bar option. The drop down list will contain all the Carriers currently connected to the Shelf. The user can select a Carrier by name to open its Carrier Tab. If a Carrier loses communication with the Shelf Manager, the respective Carrier entry will be grayed out and disabled.



Figure 9: Carrier Manager Tab

The Carrier Tabs can be closed by the user at anytime.

4.5.2.1 Carrier Layout

The Carrier Layout presents the Carrier Display, the Navigation and the Resource/Entity Information.

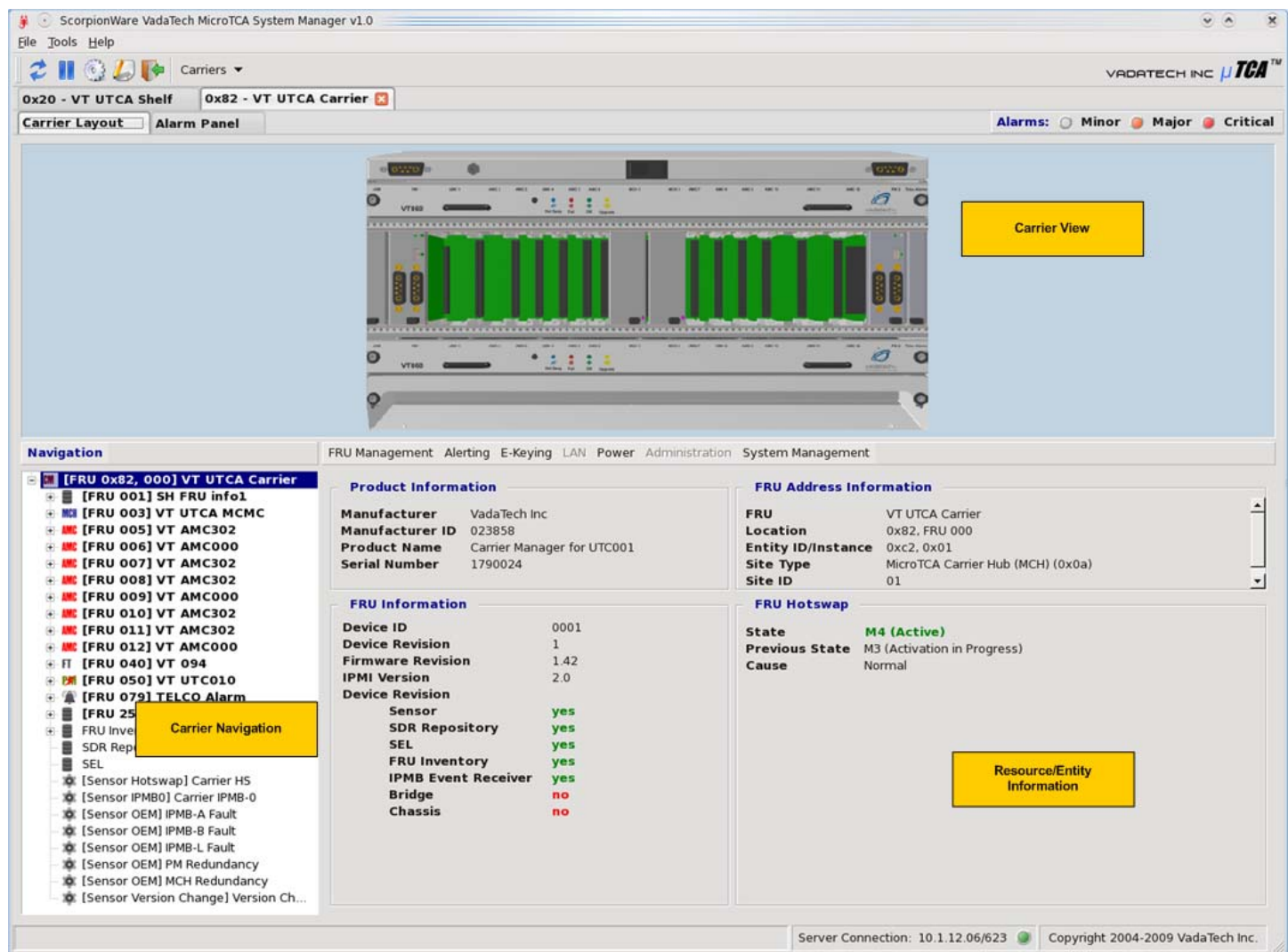


Figure 10: Carrier Layout

- **Carrier Display** – A pictorial representation of the Carrier chassis and the FRUs installed in it.
- (Note: Carrier Display is under construction and is not available for version 1.0. For version 1.0 the picture shown is just a place holder.)
- **Navigation** – A tree representing the Carrier as the root node and the FRUs managed by the MCMC. Only the FRUs currently installed to the Carrier are displayed. The resources and entities behind the Carriers are presented under the Carrier node. The navigation tree is used to traverse down the Carrier resource hierarchy.
- **Resource/Entity Information** – Presents the Information of the selected Resource or Entity.

4.5.2.2 Carrier Alarm Panel

The Carrier Alarm Panel displays all the active alarms on the Carrier as well the option to view the history of alarms that occurred since system startup.

4.5.2.3 SNMP Trap Panel

The SNMP Trap Panel is used to view the SNMP Traps received by the System Manager from the remote Carrier.

(Note: SNMP Trap Panel is not available in System Manager V1.0)

4.5.2.4 Chassis Temperature Panel

The Chassis Temperature Panel is used to view the temperature of the Carrier and the FRUs installed.

(Note: Chassis Temperature Panel is not available in System Manager V1.0)

4.5.2.5 Carrier Alarms

The Carrier Alarms shows the state of the Minor, Major and Critical alarms. These Carrier Alarms are reported by the Carrier TELCO FRU. If the TELCO FRU is not discovered or is not present for a Carrier, the Carrier Alarms will remain inactive and grayed out.

4.6 Shelf Display

The Shelf Layout provides a pictorial representation of the Shelf and its connections to the various OEM Carriers.

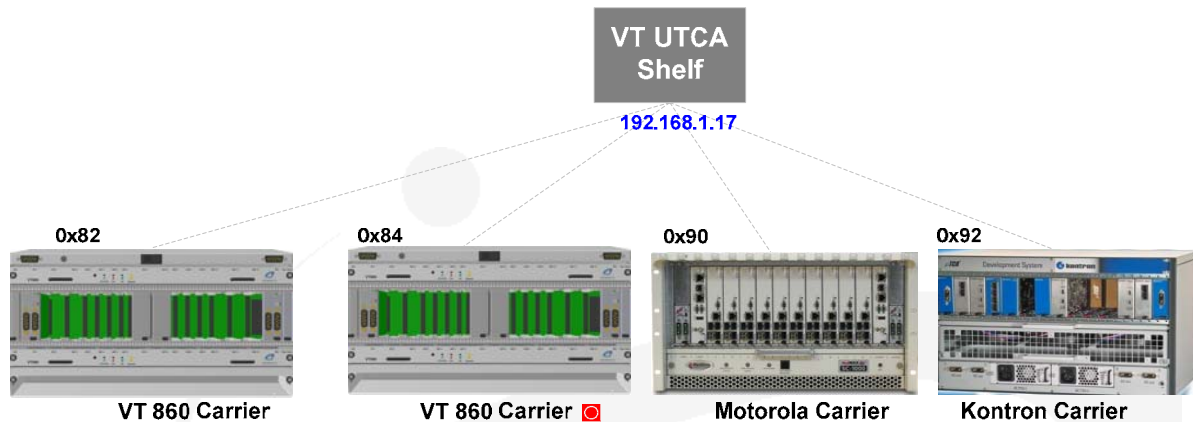


Figure 11: Shelf Display

(Note: Shelf Display is under construction and is not available for version 1.0. The picture is only a place holder)

The following table lists the Carrier IDs and access addresses in the Shelf domain:

Carrier ID	Address
1	0x82
2	0x84
3	0x86
4	0x88
5	0x8a
6	0x8c
7	0x8e
8	0x90
9	0x92
10	0x94
11	0x96
12	0x98
13	0x9a
14	0x9c
15	0x9e
16	0xa0

Table 5: Carrier Addressing

4.6.1 Shelf FRU Information

The Shelf FRU Information can be located on any one of the Carriers connected to the Shelf. During startup the Shelf Manager will discover the Shelf FRU Information. Based on this data the Shelf Manager will initialize the Shelf Cooling Management, Shelf Activation, IP connections, etc.

The Carrier that contains the Shelf FRU Information is indicated by a '■' tag under the Carrier image.

4.6.2 Carrier Active Status

When the Shelf detects a Carrier, the respective Carrier image is added to the Shelf display. If communication is lost with a Carrier, the respective Carrier image is grayed out until the communication is re-established. If a Carrier is removed or extracted from the Shelf then the Carrier image is removed from the Shelf display.

4.6.3 Carrier Resource

The Shelf Display can also be used to navigate to the selected Carrier resource. Any of the installed and active Carriers can be selected to view that Carrier's Tab.

4.7 Carrier Display

The Carrier Layout provides a pictorial representation of the Carrier and the FRUs installed in the Carrier Chassis. The Carriers are identified by their Product ID provided by the Vendor and the System Manager will load the respective Carrier image if one is available.



Figure 12: Carrier Display

(Note: Carrier Display is under construction and is not available for version 1.0. The picture is only a place holder)

4.7.1 FRU Active Status

When the System Manager detects a FRU installed in the Carrier, the respective FRU image is populated in the Carrier display. If communication is lost with a FRU, the respective FRU image is grayed out until the communication is re-established. If a FRU is removed or extracted from the Carrier then the FRU image is removed from the Carrier display.

4.7.2 Carrier Manager FRU

The Carrier Display can also be used to navigate to the selected Carrier FRU. Any of the installed FRU can be selected to view its entities.

4.8 Resource and Entity Navigation

Resources actually represent the managed elements, called Entities, and the management instruments associated with these entities. In other words, resources are a logical representation of a piece of managed hardware and the management capabilities and methods for that hardware.

4.8.1 Tree Hierarchy

The Shelf and Carrier navigation tree presents all the resources and entities in a hierarchical tree with the Shelf and Carrier as the root node and all the managed resources and entities under it.





The following table represents the FRUs and entities under the Shelf navigation tree.

Shelf/Carrier Resource	Level
Shelf Manager	1
Carrier 1..16	2
Shelf FRU Inventory	2
Shelf Sensor Data Repository (SDR)	2
Shelf System Event Log (SEL)	2
Shelf Hot swap Sensor	2
Shelf FRU Information (FRU 254)	2
Carrier FRUs	3
Carrier Sensors	3
Carrier FRU Inventory	3
Carrier Sensor Data Repository (SDR)	3
Carrier System Event Log (SEL)	3

Table 6: Shelf Tree Hierarchy

4.8.2 Resource/Entity Icons

The navigation tree presents each resource or entity using an icon which enables the user to easily identify its type. The following table lists the icons and its type.

ICON	Resource / Entity
	Shelf Manager
	Carrier Manager
	FRU Inventory
	Shelf Sensor Data Repository (SDR)








	Shelf System Event Log (SEL)
	Sensors
	AMC
	MCH
	Telco
	Fan Tray
	Active Power Module
	Passive Power Module
	LED-0
	LED-1
	LED-2
	LED-3

Table 7: Resource/Entity Icons

4.8.3 Expand and Collapse

The navigation tree can be fully expanded and collapsed using the navigation menu. Individual resource nodes can be expanded or collapsed using the + or – buttons.

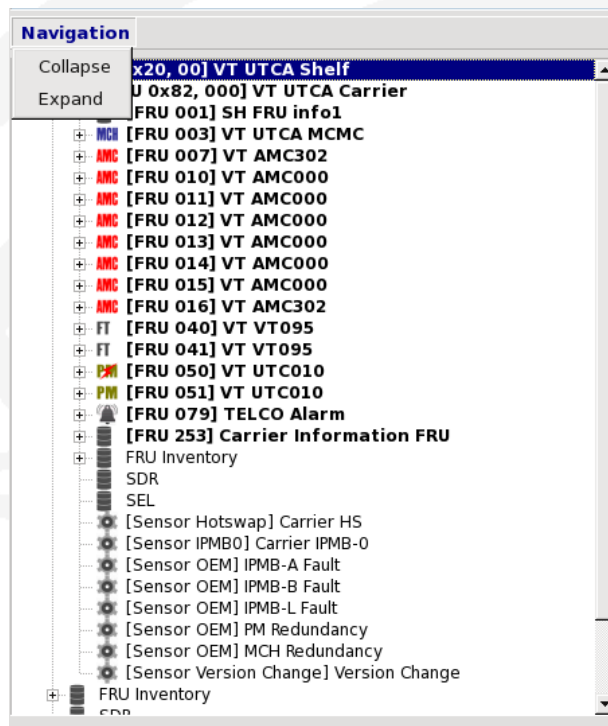


Figure 13: Expand/Collapse Option

4.8.4 Commands

Selecting an entry in the navigation tree will provide details about the resource or entity.

Using the right mouse button, click on the resource or entity to obtain the list of commands available for that resource.

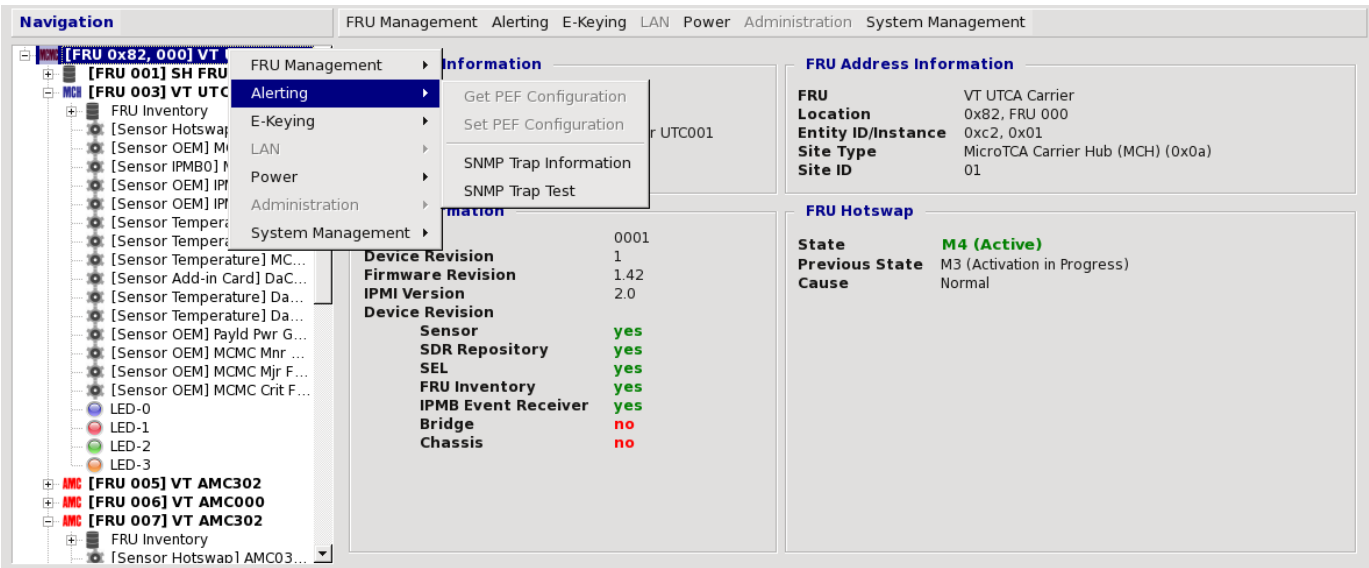


Figure 14: Resource/Entity Commands

The command options are also available in the resource or entity information view.

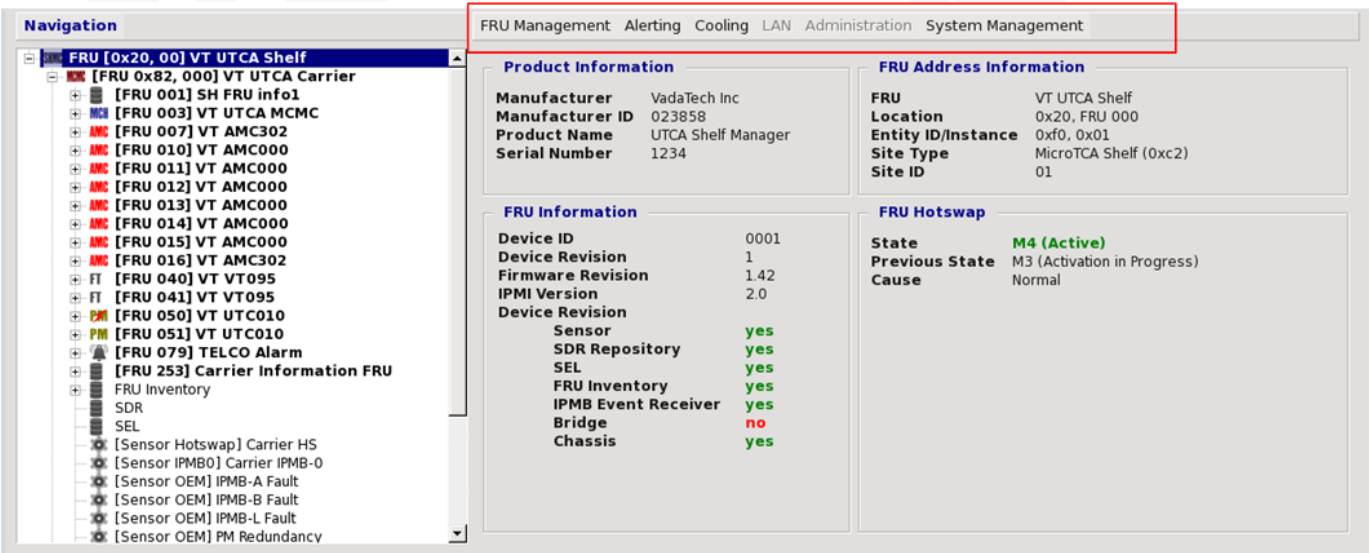


Figure 15: Resource/Entity Commands

The following table presents the list of commands that are applicable for each resource or entity.

Resource / Entity	Main Menu	Functions
Shelf Manager	FRU Management	FRU Info
	Alerting	Get PEF Configuration
		Set PEF Configuration
		SNMP Trap Information
		SNMP Trap Test
	Cooling	Parameters
		Get Fan Geography
	LAN	N/A in 1.0
	Administration	N/A in 1.0
	System Management	Chassis Control Up
		Chassis Control Down
		Chassis Control Reset
		Chassis Control Soft Shutdown
		Chassis Control Diagnostic Interrupt
		Shelf Information
Carrier Manager	FRU Management	Activate
		Deactivate
		Set Extracted
		FRU Info
	Alerting	Get PEF Configuration
		Set PEF Configuration
		SNMP Trap Information
		SNMP Trap Test
	Cooling	Parameters
		Get Fan Geography
	E-Keying	Get Carrier PTP
		Get Clock PTP
	LAN	N/A in 1.0
	Power	Get Power Distribution
		Get Power Policy
	Administration	N/A in 1.0
	System Management	Chassis Control Up
		Chassis Control Down
		Chassis Control Reset
		Chassis Control Soft Shutdown
		Chassis Control Diagnostic Interrupt
		Carrier Information
		Activation Sequence
		Failover
Shelf FRU Information	N/A	N/A
MCH, AMC, OEM	FRU Management	Activate

		Deactivate
		Cold Reset
		Warm Reset
		Graceful Reboot
		Diagnostic Interrupt
		Activation Policy
		Temperature
		Event Receiver
		Power Levels
		FRU Info
	E-Keying	Get AMC PTP
		Get Clock Configuration
		Get Clock State
		Get Port State
Fan Tray	FRU Management	Activate
		Deactivate
		Cold Reset
		Warm Reset
		Graceful Reboot
		Diagnostic Interrupt
		Activation Policy
		Temperature
		Event Receiver
		Power Levels
		FRU Info
	Cooling	Fan Level
Power Module	FRU Management	Activate
		Deactivate
		Set Extracted
		Cold Reset
		Activation Policy
		Temperature
		Event Receiver
		FRU Info
	Power	Channel Status
		Power Up
		Power Down
		Hard Reset
Telco	N/A	Diagnostic Interrupt
		Soft Shutdown
		Power Feed Reset
Carrier Information	N/A	Telco Capabilities
		State
		N/A
FRU Inventory	N/A	N/A
SDR	N/A	Get SDR Info
		Get SDR
SEL	N/A	Get SEL Info
		Get SEL

		Clear SEL
Sensor	N/A	N/A

Table 8: Resource/Entity Commands

Each entry in the navigation tree provides a specific set of commands that can be used to obtain information, current status of the resource or entity. The following sections will describe these commands in detail.

4.9 Shelf Manager

4.9.1 FRU Management

4.9.1.1 FRU Info

This command is used to obtain the following information about the ShMC:

- Product information
- FRU Information as described by the Get Device ID Command
- Address information
- Current hot swap state

4.9.2 Alerting

This command set is used to program the Platform Event Filters (PEF) and Configure and test SNMP Traps.

4.9.2.1 Get PEF Configuration

This command is used to get the Shelf Manager Platform Event Filter Configuration.

(Note: This feature is not available in Version 1.0)

4.9.2.2 Set PEF Configuration

This command is used to set the Shelf Manager Platform Event Filter Configuration.

(Note: This feature is not available in Version 1.0)

4.9.2.3 SNMP Trap Information

This command is used to get the SNMP Trap destination addresses currently programmed in the Shelf Manager SNMP Configuration.

For each SNMP Trap destination address a table of IPMI channel and its alerting state is displayed.

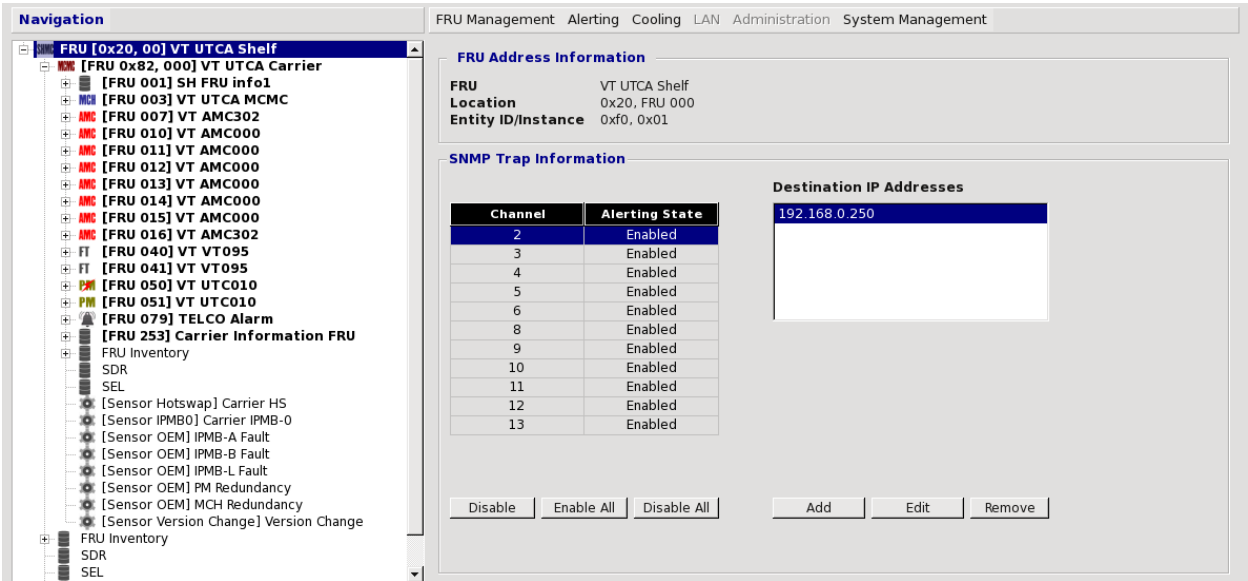


Figure 16: Shelf SNMP Trap Information

Controls:

- SNMP traps can be enabled or disabled per IPMI channel.
- Destination IP Addresses can be added, removed or edited.

4.9.2.4 SNMP Trap Test

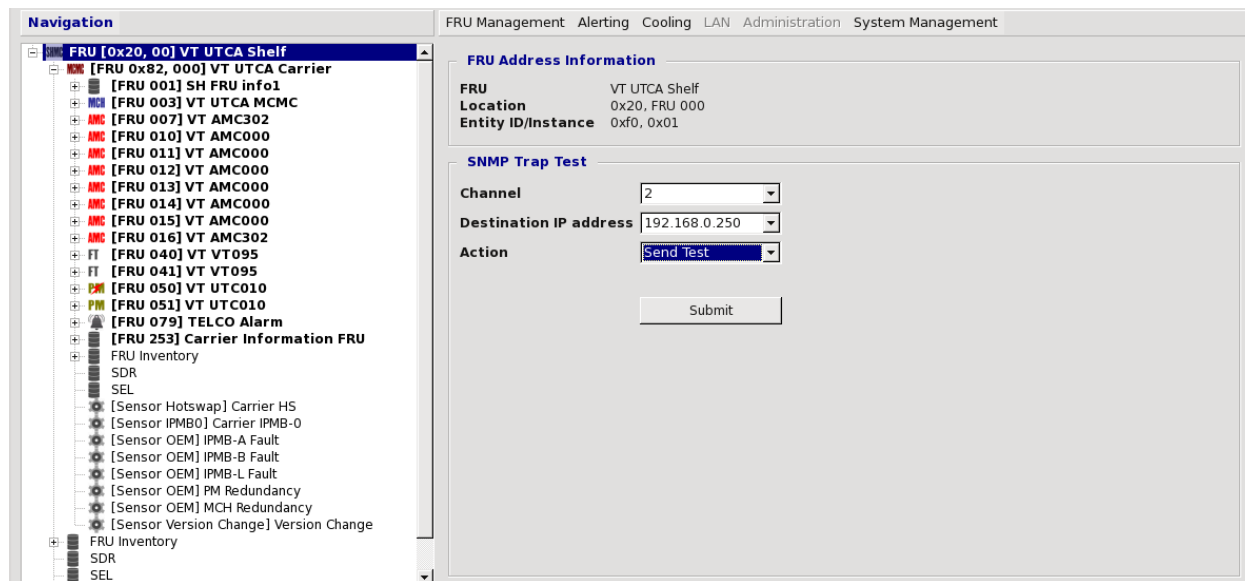


Figure 17: Shelf SNMP Trap Test

This command can be used to select an IPMI Channel, a Destination IP Address and an Action to perform on the selected parameters. To use the SNMP Trap Test the IPMI Channel on the selected Destination IP Address must be at enabled state.

Actions:

- Get the status of the SNMP Trap Test issued previously to the server.
- Clear the status of the SNMP Trap Test issued previously to the server.

4.9.3 Cooling

The cooling commands are used to configure the Shelf Manager cooling management and to obtain the Shelf cooling geography information.

4.9.3.1 Parameters

This command is used to configure the Shelf cooling parameters stored in the ShMC FRU Inventory.

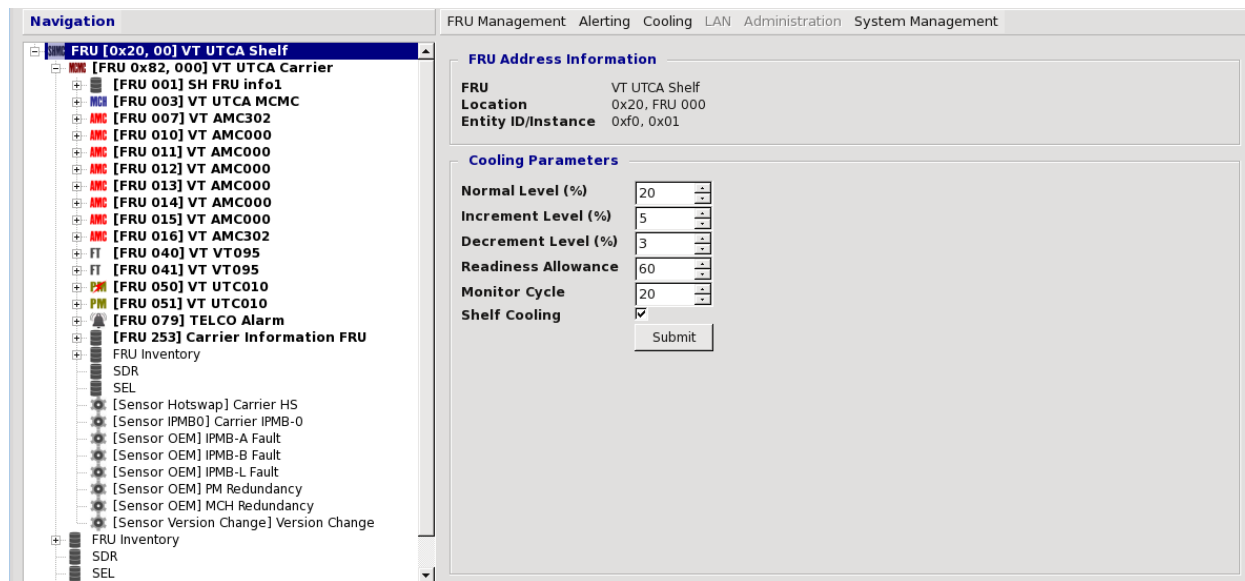


Figure 18: Shelf Cooling Parameters

Configurable Parameters:

- Fan Normal Operating Levels, Increment and Decrement Levels, Cooling Readiness Allowance, and Monitor Cycle can be set.
- The Shelf cooling management can be enabled or disabled.

4.9.3.2 Get Fan Geography

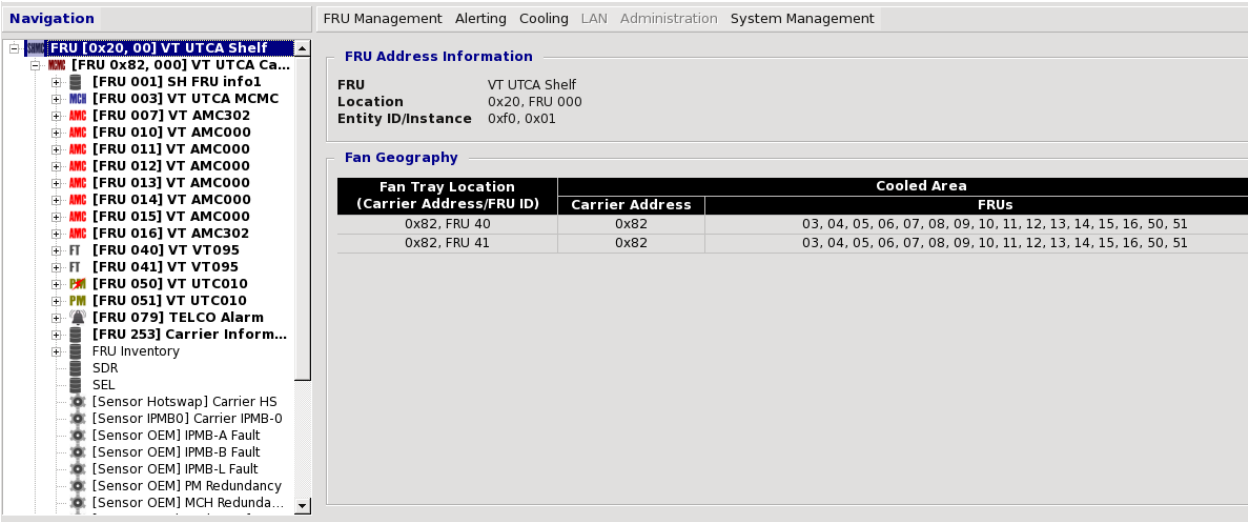


Figure 19: Shelf Fan Geography

This command is used to obtain the Shelf Fan Geography Information.

Shelf Manager will manage the Shelf-level cooling, based on the MicroTCA Fan Geography record(s) stored in the Shelf FRU Information. Shelf Managers must interact with a Carrier Manager for any Cooling Unit that is part of that Carrier Manager's MicroTCA Carrier. The mapping between FRUs and the Cooling Units that cool those FRUs is defined by the MicroTCA Fan Geography record(s). Each Cooling Unit FRU entry associates a list of FRU Device IDs and the Carrier Number the FRUs are in with the Carrier Number and FRU Device of the Cooling Unit that covers them.

4.9.4 LAN

(Note: This feature is not available in Version 1.0)

4.9.5 Administration

(Note: This feature is not available in Version 1.0)

4.9.6 System Management

4.9.6.1 Chassis Controls

Command	Description
Up	Activates all the FRUs in the specified Carrier
Down	Deactivates all the FRUs in the specified Carrier
Reset	Issue cold reset on all the powered FRUs in the Carrier
Soft Shutdown	Deactivates all the FRUs in the specified Carrier
Diagnostic Interrupt	Pulse diagnostic interrupt on all the FRUs in the Carrier

Table 9: Shelf Chassis Controls

4.9.6.2 Shelf Information

The screenshot displays the VadaTech MicroTCA System Manager interface. On the left is a navigation pane with a tree view showing the hierarchy of FRUs, including [FRU 0x82, 000] VT UTCA C..., [FRU 001] SH FRU info1, [FRU 003] VT UTCA MCMC, [FRU 007] VT AMC302, [FRU 010] VT AMC000, [FRU 011] VT AMC000, [FRU 012] VT AMC000, [FRU 013] VT AMC000, [FRU 014] VT AMC000, [FRU 015] VT AMC000, [FRU 016] VT AMC302, [FRU 040] VT VT095, [FRU 041] VT VT095, [FRU 050] VT UTC010, [FRU 051] VT UTC010, [FRU 079] TELCO Alarm, [FRU 253] Carrier Infor..., FRU Inventory, SDR, SEL, [Sensor Hotswap] Carrier HS, [Sensor IPMB0] Carrier IPMB-0, [Sensor OEM] IPMB-A Fault, [Sensor OEM] IPMB-B Fault, [Sensor OEM] IPMB-L Fault, and [Sensor OEM] PM Redundancy. The main panel on the right has tabs for FRU Management, Alerting, Cooling, LAN, Administration, and System Management. The System Management tab is selected, showing the following information:

FRU Address Information

FRU: VT UTCA Shelf
Location: 0x20, FRU 000
Entity ID/Instance: 0xf0, 0x01

Shelf Information

System GUID: c5a8f6f1-79db-4bb6-a295-2841b219d187
Shelf Address Information: N/A [Update]

Carrier Location Information

FRU	Tier (1-based)	Slot (1-based)	Coordinates (x,y)(mm)
VT UTCA Carrier	0	0	(0, 0)

Figure 20: Shelf Information

The location of the MicroTCA Carrier within a Shelf is implementation-defined by the system integrator. The MicroTCA Shelf Information record as described in the Shelf FRU Information contains mapping information used to describe the physical location of Carriers and Modules in the Shelf.

4.10 Shelf FRU Information

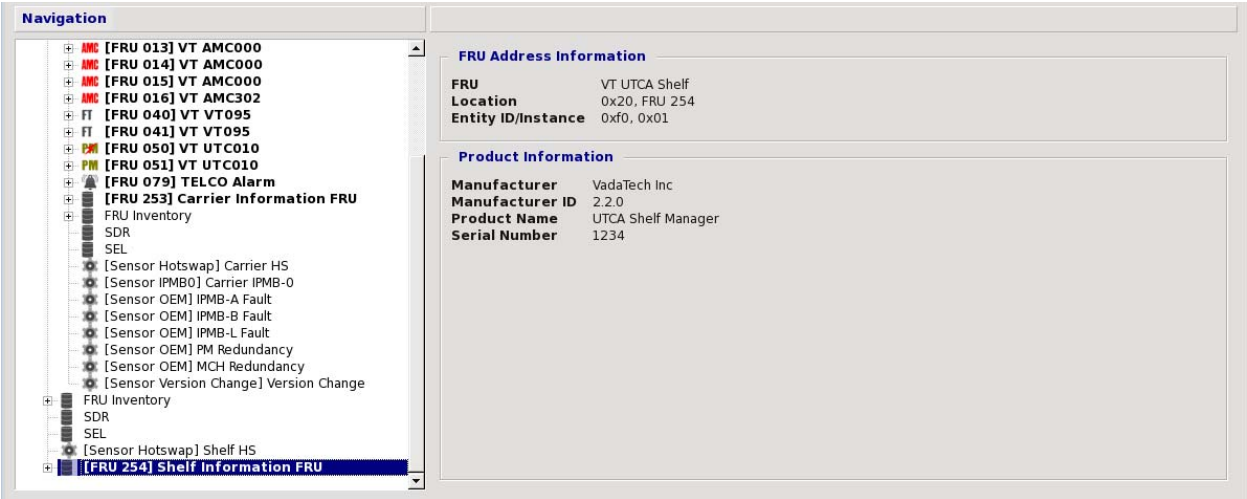


Figure 21: Shelf FRU Information

The MicroTCA Shelf FRU Information is specified as a logical entity and can be located in the Carrier FRU Information device. The Shelf FRU Information is located in one of the Carrier FRU Information Device.

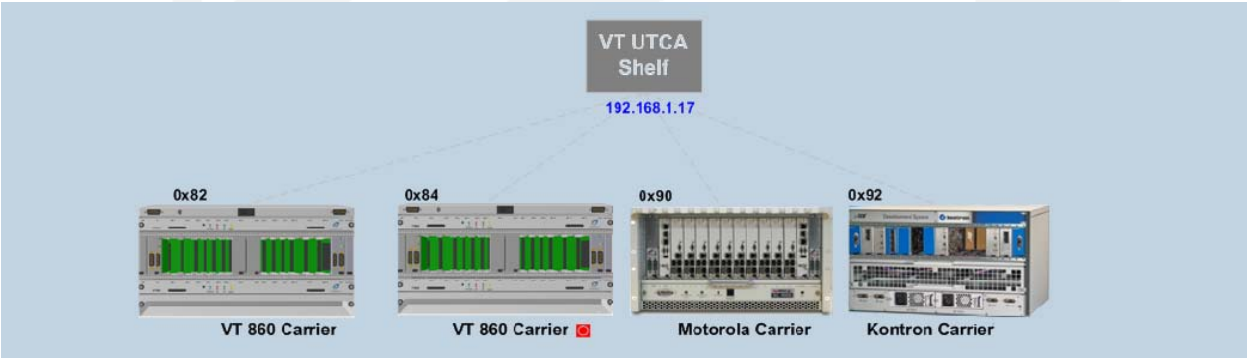


Figure 22: Shelf FRU Information Tagging

In the Shelf Display, the Carrier FRU Information Device that holds the Shelf FRU Information is identified by the tag '0x'.

The contents the Shelf FRU Information can be viewed by navigating further into the Board, Product, Chassis and Multi-Record sections of the FRU inventory.

4.11 Carrier Manager

4.11.1 FRU Management

4.11.1.1 FRU Info

This command is used to obtain the following information regarding the MCMC:

- Product information
- FRU Information as described by the Get Device ID Command
- Address information
- Current hot swap state

4.11.1.2 Activate

This command is used to activate all the FRUs in the Carrier.

4.11.1.3 Deactivate

This command is used to deactivate all the FRUs in the Carrier.

4.11.1.4 Set Extracted

This command is used to set the Carrier has been removed or extracted from the Shelf. Normally this command is used if a Carrier was removed from a Shelf domain, and currently remains at a Communication Lost state.

4.11.2 Alerting

These set of commands is used to configure and enable Carrier Alerting.

The Carrier Manager Alerting is similar to the Shelf Manager. Please refer to Section 4.9.2

4.11.3 Cooling

4.11.3.1 Parameters

This command is used to configure the Carrier cooling parameters.

The Shelf cooling parameters is stored in the MCMC FRU Inventory. The VadaTech Carrier cooling parameters is similar to the VadaTech Shelf Manager. Please refer to Section 4.9.3

4.11.3.2 Get Fan Geography

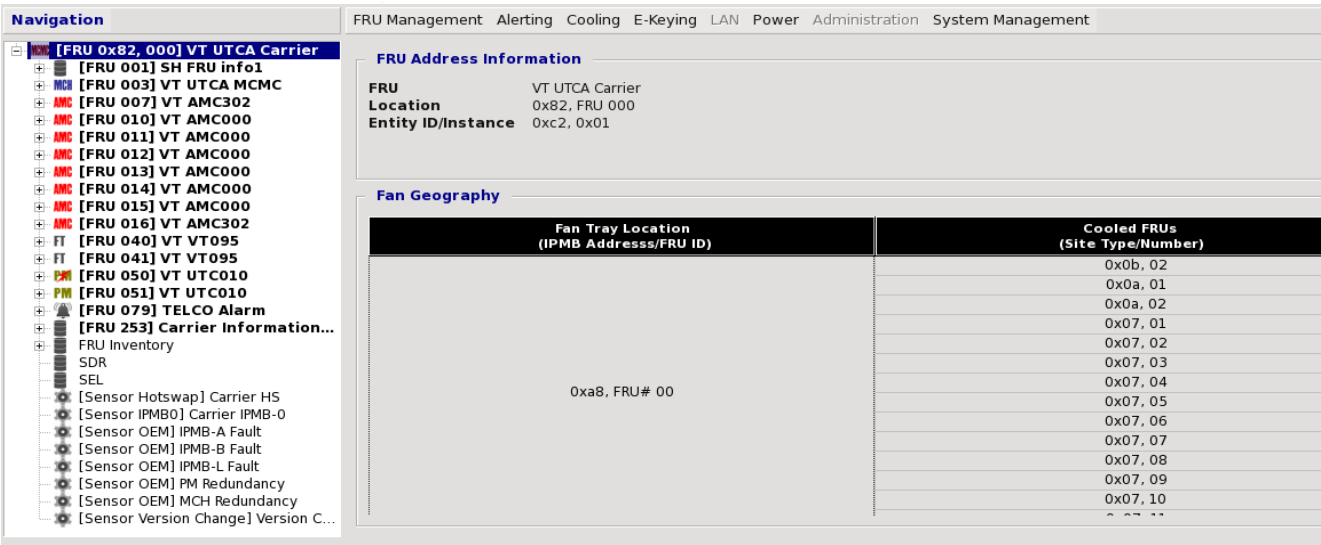


Figure 23: Carrier Fan Geography

This command is used to obtain the fan geography information for the VadaTech Carrier Manager.

This command is only available when connected to the VadaTech Carrier Manager. The VadaTech Carrier Manager is capable of managing its chassis cooling provided one or more Fan Tray(s) are available in the chassis. When a Shelf Manager is absent or communication is lost with the Shelf Manger the Carrier Manager will automatically take over its cooling. This is so the Carrier cooling is not compromised if the Shelf Manger communication was lost.

4.11.4 E-Keying

4.11.4.1 Get Carrier Point to Point

The screenshot displays the VadaTech MicroTCA System Manager Interface. The top navigation bar includes: FRU Management, Alerting, E-Keying, LAN, Power, Administration, and System Management. The left sidebar shows a tree view of FRU information, with '[FRU 0x82, 000] VT UTCA Carri...' selected. The main content area is divided into two sections:

FRU Address Information

FRU: VT UTCA Carrier
 Location: 0x82, FRU 000
 Entity ID/Instance: 0xc2, 0x01

Carrier Point-to-Point

Record Number	Descriptor	
	Type	Number
1	AMC Resource	0
2	AMC Resource	1
3	AMC Resource	2
4	AMC Resource	3
5	AMC Resource	4
6	AMC Resource	5

Record Information:

Resource ID (on-Carrier, Device ID 0)
 Point-to-Point Port Count : 8
 PTP Port Des #0
 Remote Resource ID (AMC, Bay ID 1)
 Port(Local 0 -> Remote 0)
 PTP Port Des #1
 Remote Resource ID (AMC, Bay ID 2)

Figure 24: Carrier Point-to-Point

This command is used to obtain the Carrier Point-to-Point Information.

The Carrier Point-to-Point Connectivity record contains information about the MicroTCA Carrier physical connections, as defined by the Backplane implementation. The Carrier Point-to-Point Connectivity record is located in the Carrier FRU Information. The fields in these records describe how Fabric connectivity is routed.

The System Manager lists the Carrier PTP records as defined in the Carrier FRU Information. The record information can be viewed by selecting the respective record in the Record/Descriptor Table.

4.11.4.2 Get Clock Point-to-Point

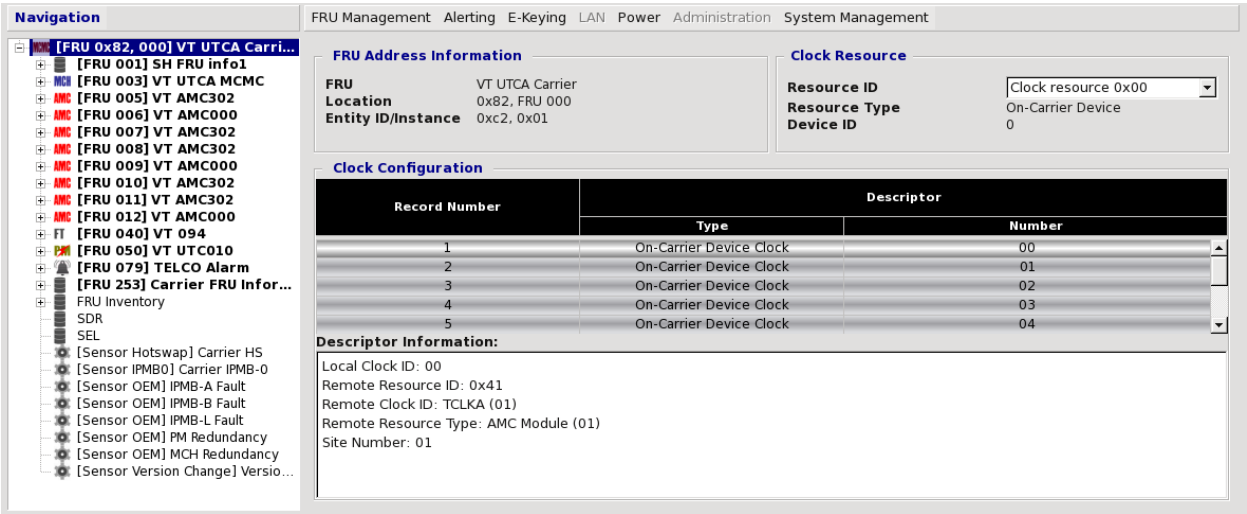


Figure 25: Clock Point-to-Point

This command is used to obtain the Carrier Clock Point-to-Point information.

4.11.5 LAN

(Note: This feature is not available in Version 1.0)

4.11.6 Administration

(Note: This feature is not available in Version 1.0)

4.11.7 Power

4.11.7.1 Get Power Distribution

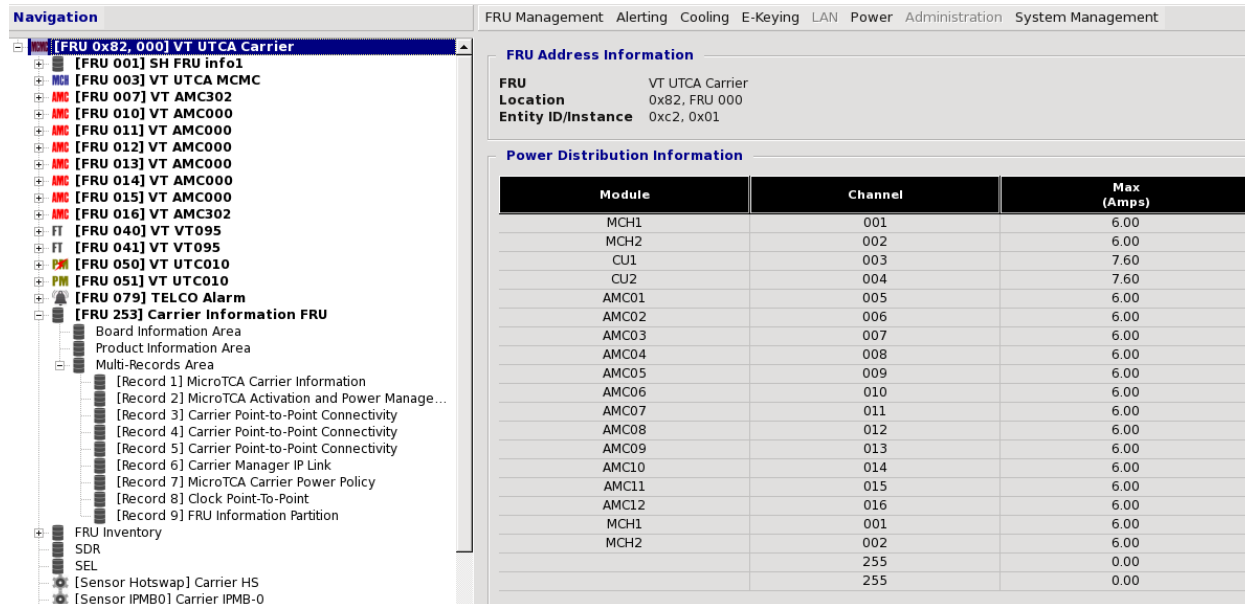


Figure 26: Carrier Power Distribution

This command is used to obtain the Carrier Power Distribution.

MicroTCA Carrier Activation and Power Management Records describe the Maximum Channel Current that the backplane is capable of delivering to a module.

The Carrier Manager will obtain the Module's current requirement from its FRU Information and then validate it against the Maximum Channel Current data defined in the MicroTCA Carrier FRU Activation and Power Management Record. The current delivered to a Module cannot exceed the Maximum Channel Current.

4.11.7.2 Get Power Policy

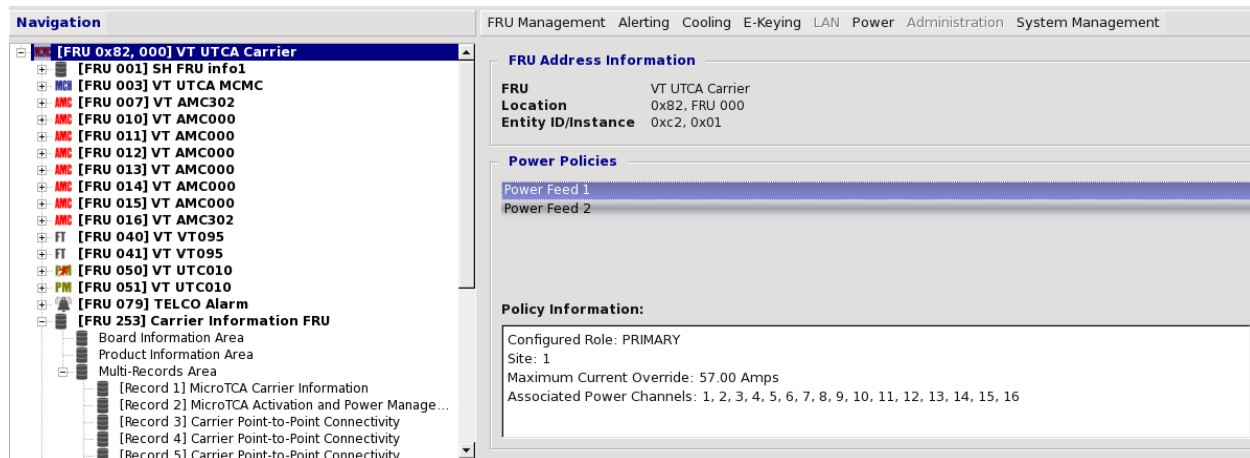


Figure 27: Carrier Power Policy

This command is used to obtain the Carrier Power Policy Record.

The MicroTCA Carrier Power Policy record specifies the Maximum Current Override and recommends Primary/Redundant roles and preferences for Power Channel allocation to each PM. The Maximum Current Override field optionally limits the maximum available Payload Power from the PM due to external constraints such as cabling, external power limitations, and power supply efficiency. Regardless of the power capability reported by the PM, the power drawn from the PM cannot exceed this value.

The optional Power Channel Array specifies the preferred Power Channels to which a PM provides Payload Power.

4.11.8 System Management

4.11.8.1 Chassis Controls

Command	Description
Up	Activate all FRUs in the Chassis
Down	Deactivate all FRUs in the Chassis
Reset	Send Cold Reset to all FRUs in the Chassis
Soft Shutdown	Deactivate all FRUs sin the Chassis
Diagnostic Interrupt	Pulse diagnostic interrupt to all FRUs in the Chassis

Table 10: Carrier Chassis Controls

4.11.8.2 Carrier Information

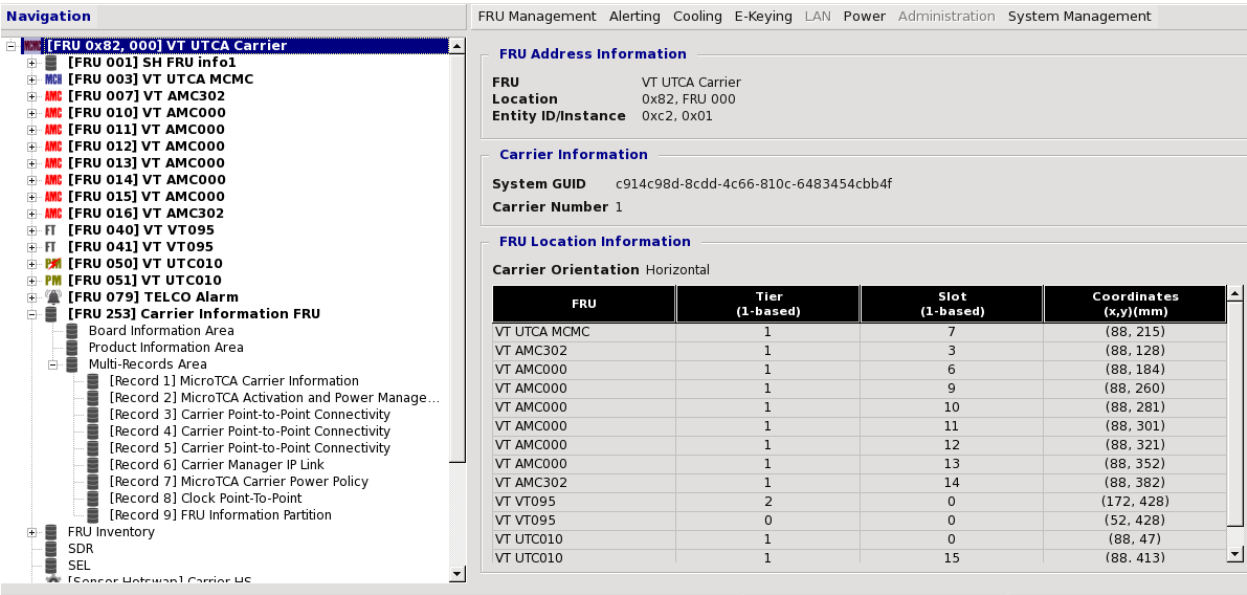


Figure 28: Carrier Information

The physical location of Modules within a MicroTCA Carrier is determined by the layout of the MicroTCA Carrier Backplane. The MicroTCA Carrier Information record as described in the Carrier FRU Information contains mapping information used to describe the physical location of Modules in the Carrier.

Each MicroTCA Carrier is identified by its MicroTCA Carrier Number from 1 through 16 within a MicroTCA Shelf. Typically, the Carrier Number is assigned based on the Carrier's physical location in the MicroTCA Shelf.

4.11.8.3 Activation Sequence

The MicroTCA Carrier Activation and Power Management Record describe the Module activation sequence, as well as the Maximum Channel Current that the Backplane is capable of delivering to the Module.

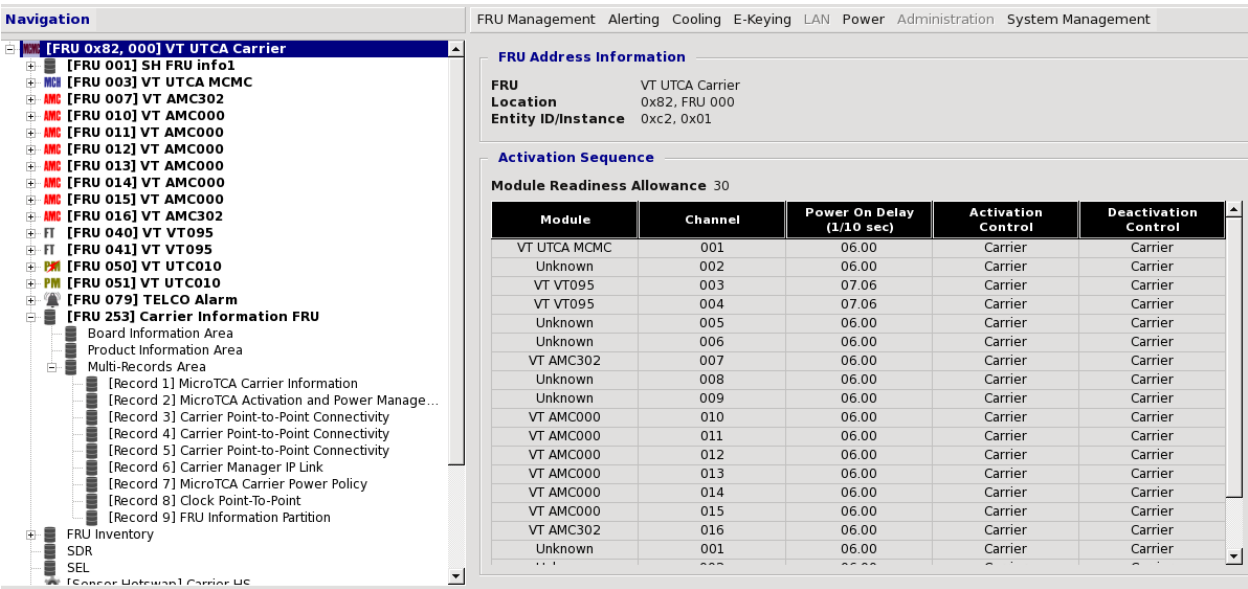


Figure 29: Carrier Activation Sequence

4.11.8.4 Failover

This command enables the user to issue a Carrier redundancy failover to the standby MCH if one is present. If a redundant MCH is healthy and active the Carrier Manager will failover immediately.

4.12 MCMC, EMMC and MMC

4.12.1 FRU Management

4.12.1.1 FRU Info

This command is used to obtain the FRU:

- Product information
- FRU Information as described by the Get Device ID Command
- Address information
- Hot swap state of FRU
- LED state

4.12.1.2 Activate

This command is used to activate the specified FRU to M4 state.

4.12.1.3 Deactivate

This command is used to deactivate the specified FRU to M1 state.

4.12.1.4 Set Extracted

Applicable only for Power Module, this command is used to set PM as extracted or not installed.

4.12.1.5 Cold Reset

Applicable only for MCMCs, MMCs, Fan Trays and OEM EMMCs, this command is used to trigger a hardware reset of the specified FRU payload.

4.12.1.6 Warm Reset

Applicable only for MCMCs, MMCs, Fan Trays and OEM EMMCs, this command is used to trigger a reset of the specified FRU payload to a stable condition while attempting to preserve its operational state. The FRU may not support this command.

4.12.1.7 Graceful Reboot

Applicable only for MCMCs, MMCs, Fan Trays and OEM EMMCs, this command is used to trigger a graceful shutdown to the specified FRU and reboot of its payload operating system. The FRU may not support this command.

4.12.1.8 Diagnostic Interrupt

Applicable only for MCMCs, MMCs, Fan Trays and OEM EMMCs, this command is used to trigger a diagnostic interrupt to the specified FRU's payload. The FRU may not support this command.

4.12.1.9 Activation Policy

Applicable only for MCMCs, MMCs, Fan Trays, PM and OEM EMMCs, this command is used to get the current state of the specified FRU Activation Policy. The policy bits indicate whether the FRU is Locked or not and whether the FRU is Deactivation-Locked or not. Conceptually, the Locked bit is like a software equivalent of the Handle Switch. Similar to the situation with the hardware Handle Switch, the FRU cannot proceed from state M1 to M2 if the Locked bit has the value 1b. The Deactivation-Locked bit indicates whether the Extraction Criteria Met condition exists. The FRU can only proceed from M4 to M5 if the Deactivation-Locked bit is cleared.

4.12.1.10 Temperature

Applicable only for MCMC, MMCs, Fan Trays, PM and OEM EMMCs, this command is used to get the current temperature reading and threshold status of the specified FRU.

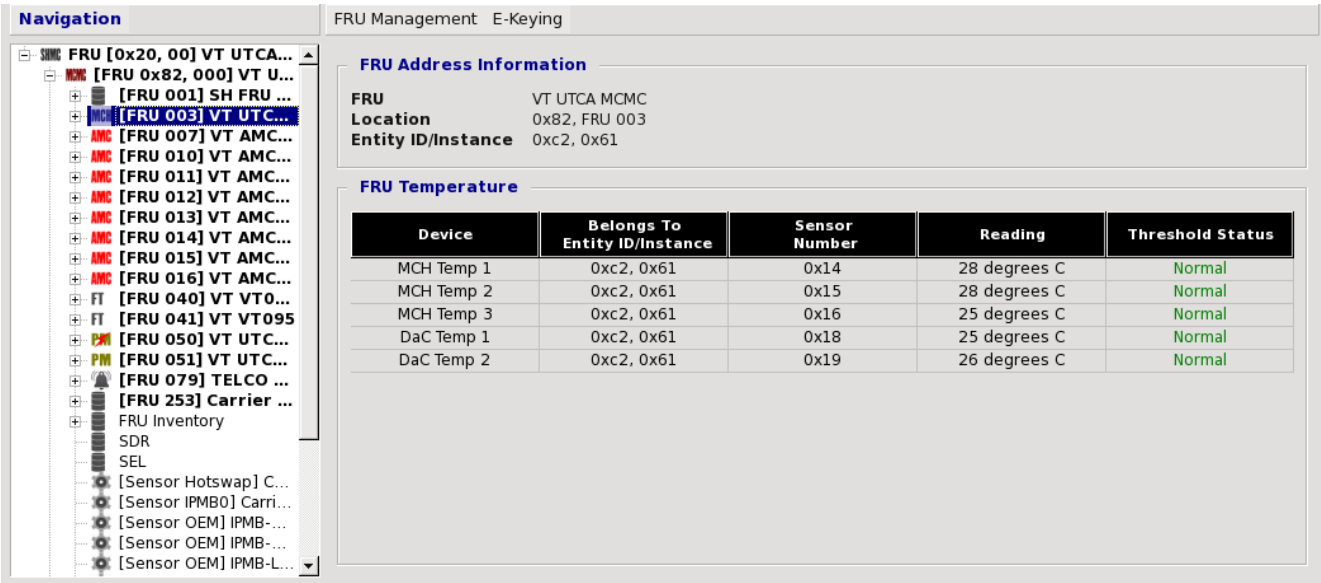


Figure 30: FRU Temperature Status

4.12.1.11 Event Receiver

This command is used to get the Event Receiver address and LUN setting for the specified FRU.

4.12.1.12 Power Levels

This command is used to get the current operating power level for the specified FRU. The user can change the power level of the FRU by selecting one of the available power levels supported by the FRU.

4.12.2 E-Keying

4.12.2.1 Get AMC PTP

Applicable only for MCMCs, MMCs and OEM EMMCs, this command is used to obtain the AMC Point-to-Point Information of the specified FRU.

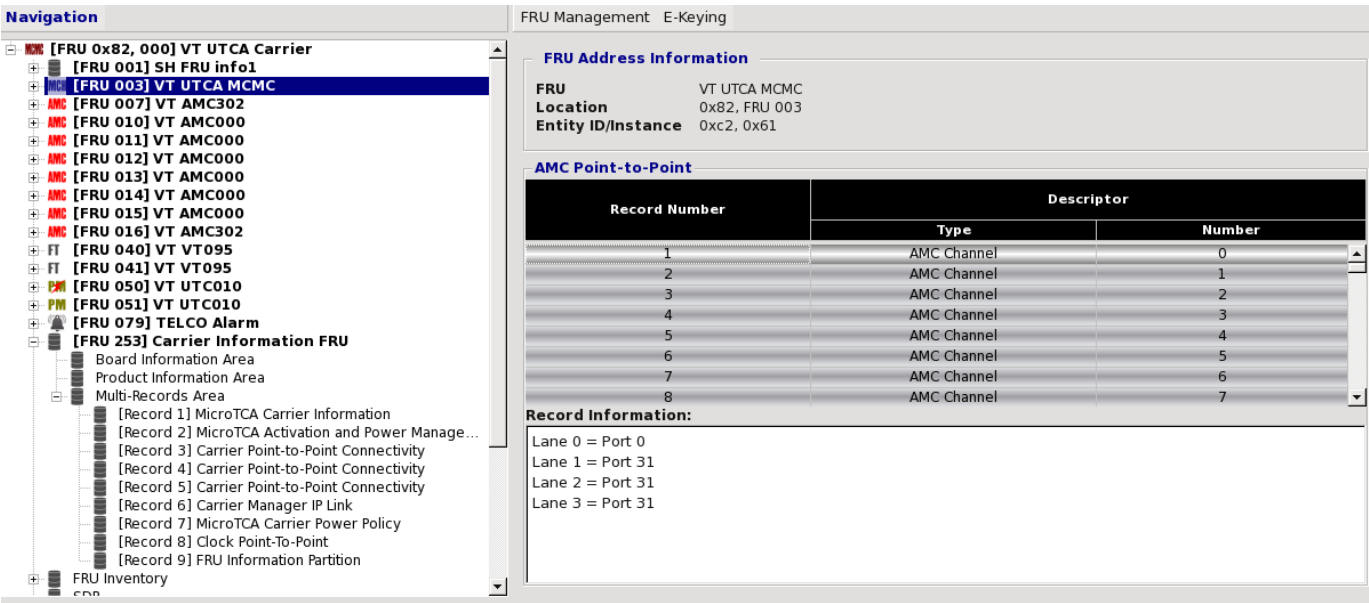


Figure 31: AMC Point-to-Point (AMC Channel)

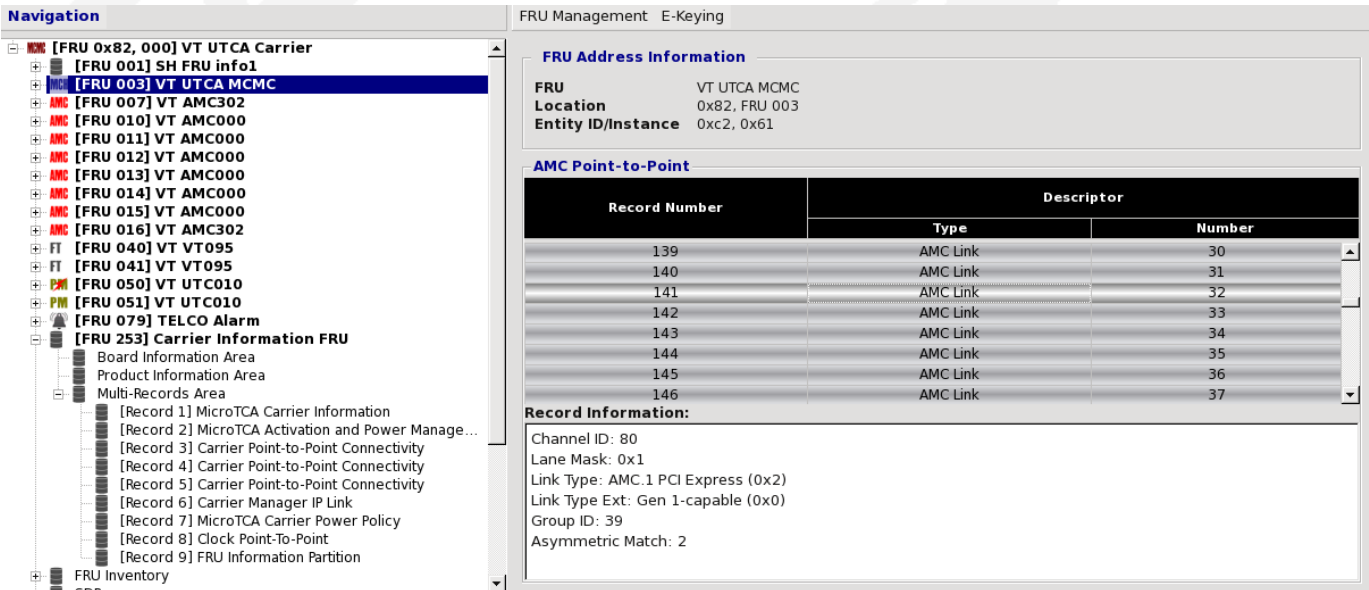


Figure 32: AMC Point-to-Point (AMC Link)

One or more AMC Point-to-Point Connectivity records are included in the AMC FRU Information and describe the Channel and Link connectivity that is implemented on the AMC Module. Each AMC point-to-point connectivity record contains AMC Link Descriptors, each of which identifies a Link and an associated protocol. Multiple AMC Link Descriptors can exist for a given point-to-point AMC Channel. This would be used when a Channel can support multiple protocols such as PCI-Express and Advanced Switching.

AMC Channel Descriptors define AMC Channels (each composed of an essentially arbitrary set of up to four Ports) that are implemented on a Module or an on-Carrier device (depending on the value of the Record Type field in the AMC Point-to-Point Connectivity record). An AMC Channel is referenced in other FRU Information records via an AMC Channel ID/Number, which is the zero-based sequential index into the corresponding AMC Channel Descriptor in a composite list combining the AMC Channel Descriptors from all the AMC Point-to-Point Connectivity records that occur in a given FRU Information area. This list preserves the order of the groups of AMC Channel Descriptors to match the order of the containing AMC Point-to-Point Connectivity records in the FRU Information area. For more information on AMC Channel and Link Descriptors please refer to PICMG Advanced Mezzanine Card AMC.0 Specification.

4.12.2.2 Get Clock Configuration

Applicable only for MCMCs, MMCs and OEM EMMCs, this command is used to obtain the Clock configuration of the specified FRU.

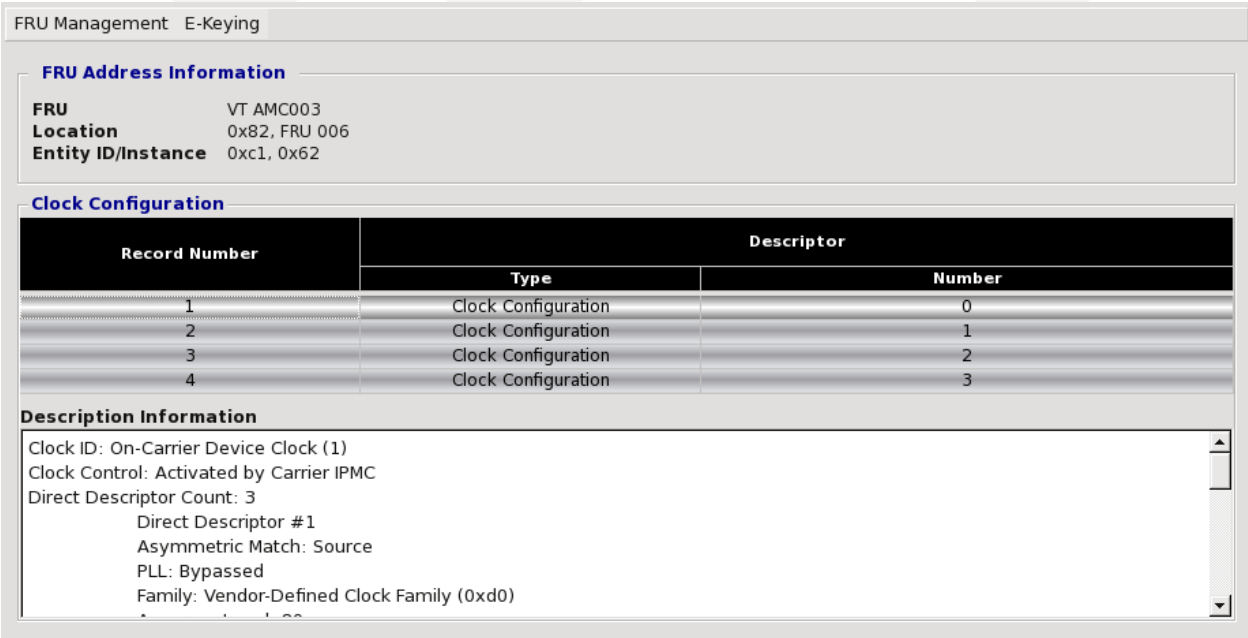


Figure 33, Clock Configuration

4.12.2.3 Get Clock State

Applicable only for MCMCs, MMCs and OEM EMMCs, this command is used to obtain the Clock state of the specified FRU.

The screenshot shows the 'FRU Management E-Keying' window. Under 'FRU Address Information', the FRU is 'VT AMC003', Location is '0x82, FRU 006', and Entity ID/Instance is '0xc1, 0x62'. The 'Clock State' section contains a table with 4 rows. All states are 'Disabled'. A 'Description' box below the table contains the text 'Clock Disabled'.

Clock ID	Direction	PLL Control	State
1	Receiver	Default	Disabled
2	Receiver	Default	Disabled
3	Receiver	Default	Disabled
4	Receiver	Default	Disabled

Description

Clock Disabled

Figure 34, Clock State

4.12.2.4 Get Port State

Applicable only for MCMCs, MMCs and OEM EMMCs, this command is used to obtain distinct *Link Info* and *State* for up to four ports.

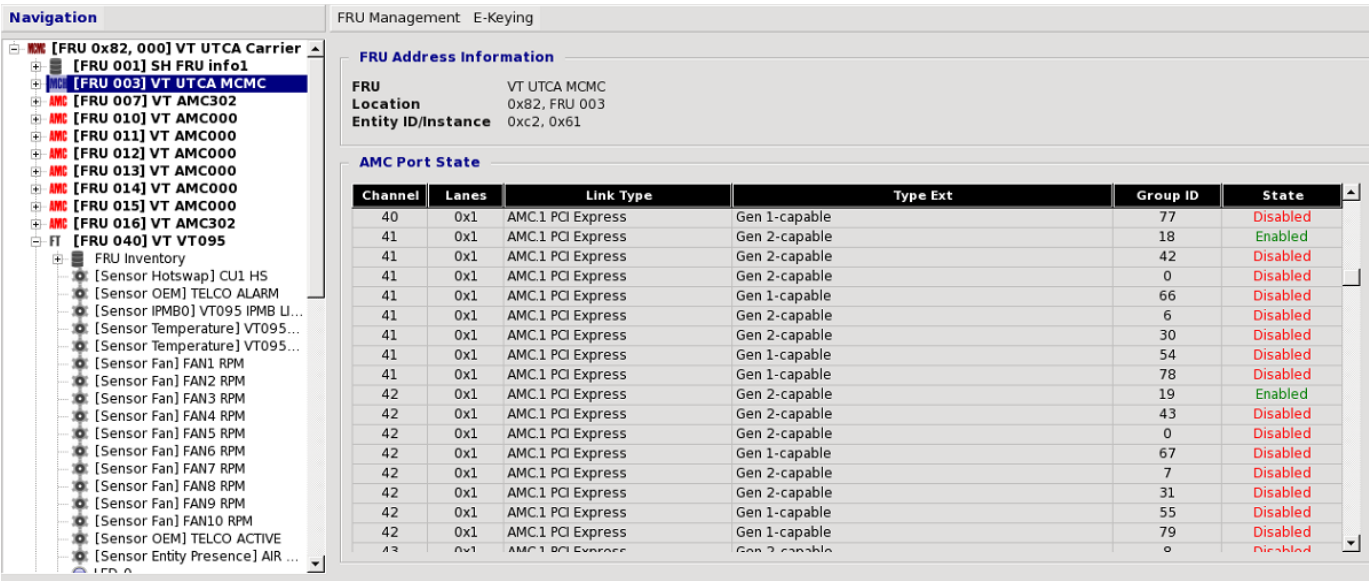


Figure 35: AMC Port Status

4.12.3 Cooling

4.12.3.1 Get Fan Level

Applicable only for Fan Tray, this command is used to obtain and modify the Fan Level.

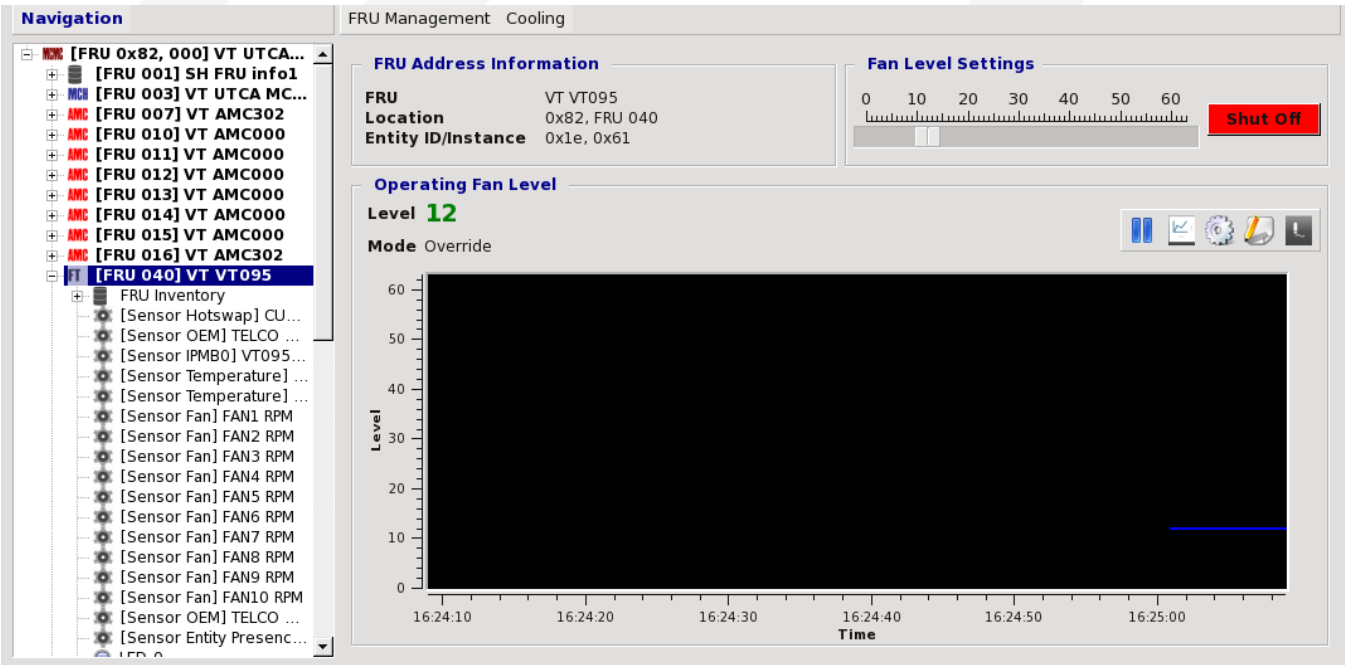


Figure 36: Fan Tray Controls

Display:

- Real time graph plotter that updates the graph with the Fan Level.
- The current Fan Level and the Operating Mode.

Controls:

- Fan Level setting and emergency shutoff button.






ICON	Function	Description
	Pause/Resume	Pause and Resume data collection
	Scale	Configure the graph scale
	Refresh Rate	Configure the date refresh rate
	Log Setting	Enable data logging to a file
	Erase	Clear history

Figure 37: Fan Tray Controls

4.12.4 Power

The following commands in this section are applicable only for Power Modules.

4.12.4.1 Channel Status

Navigation

FRU [0x20, 00] VT UTCA Shelf

FRU [0x82, 000] VT UTCA ...

FRU 001] SH FRU info1

FRU 003] VT UTCA MC...

FRU 007] VT AMC302

FRU 010] VT AMC000

FRU 011] VT AMC000

FRU 012] VT AMC000

FRU 013] VT AMC000

FRU 014] VT AMC000

FRU 015] VT AMC000

FRU 016] VT AMC302

FRU 040] VT VT095

FRU 041] VT VT095

FRU 050] VT UTC010

FRU 051] VT UTC010

FRU 079] TELCO Alarm

FRU 253] Carrier FRU ...

FRU Inventory

SDR

SEL

[Sensor Hotswap] Carrier...

[Sensor IPMB0] Carrier IP...

[Sensor OEM] IPMB-A Fault

[Sensor OEM] IPMB-B Fault

[Sensor OEM] IPMB-L Fault

[Sensor OEM] PM Redund...

[Sensor OEM] MCH Redun...

[Sensor Version Change] ...

FRU Inventory

SDR

SEL

[Sensor Hotswap] Shelf HS

FRU 254] Shelf FRU Infor...

FRU Management Power

FRU Address Information

FRU

Location

Entity ID/Instance

VT UTC010

0x82, FRU 050

0x0a, 0x61

Power Channel Status

Role

Management Power Status

Payload Power Status

Maximum Power Channel

PRIMARY

HEALTHY

HEALTHY

16

Module	Channel	PS1	Enable	Management		Payload		Power On
				Power	Status	Power	Status	
MCH1	1	Asserted	Asserted	On	Healthy	On	Healthy	On
MCH2	2	Deasserted	Deasserted	Off	----	Off	----	Off
CU1	3	Asserted	Asserted	On	Healthy	On	Healthy	----
CU2	4	Asserted	Asserted	On	Healthy	On	Healthy	----
AMC01	5	Deasserted	Deasserted	Off	----	Off	----	----
AMC02	6	Deasserted	Deasserted	Off	----	Off	----	----
AMC03	7	Asserted	Asserted	On	Healthy	On	Healthy	----
AMC04	8	Deasserted	Deasserted	Off	----	Off	----	----
AMC05	9	Deasserted	Deasserted	Off	----	Off	----	----
AMC06	10	Asserted	Asserted	On	Healthy	On	Healthy	----
AMC07	11	Asserted	Asserted	On	Healthy	On	Healthy	----
AMC08	12	Asserted	Asserted	On	Healthy	On	Healthy	----
AMC09	13	Asserted	Asserted	On	Healthy	On	Healthy	----
AMC10	14	Asserted	Asserted	On	Healthy	On	Healthy	----
AMC11	15	Asserted	Asserted	On	Healthy	On	Healthy	----
AMC12	16	Asserted	Asserted	On	Healthy	On	Healthy	----

Figure 38: Power Channel Status

This command is used to obtain the following information from the Power Module:

- Current role of the Power Module i.e. Primary or Redundant.
- Management Power status
- Payload Power status
- Maximum Power Channels supported by the Power Module.
- Per Module slot Information:
 - Channel number
 - Presence status
 - Reset Enable status
 - Management Power On/Off state with current status
 - Payload Power On/Off state with current status
 - PWR_ON state

4.12.4.2 Power Up

This command is used to enable power for all supported modules. This is an optional command for Power Modules and may not be implemented.

4.12.4.3 Power Down

This command is used to disable power for all supported modules. This is an optional command for Power Modules and may not be implemented.

4.12.4.4 Hard Reset

This command is used to trigger a reset event in the system that initializes all components and invalidates caches. This is an optional command for Power Modules and may not be implemented.

4.12.4.5 Diagnostic Interrupt

This command is typically used to cause the operating system to do a diagnostic dump. This is an optional command for Power Modules and may not be implemented.

4.12.4.6 Soft Shutdown

This command is used initiate a soft shutdown. This is an optional command for Power Modules and may not be implemented.

4.12.4.7 Power Feed Reset

This command is used to reset the alternate PM(s) in the Chassis. This command must be sent to a secondary PM, which will drive a reset signal to the specified PM if present.

4.13 Telco

4.13.1 Capabilities

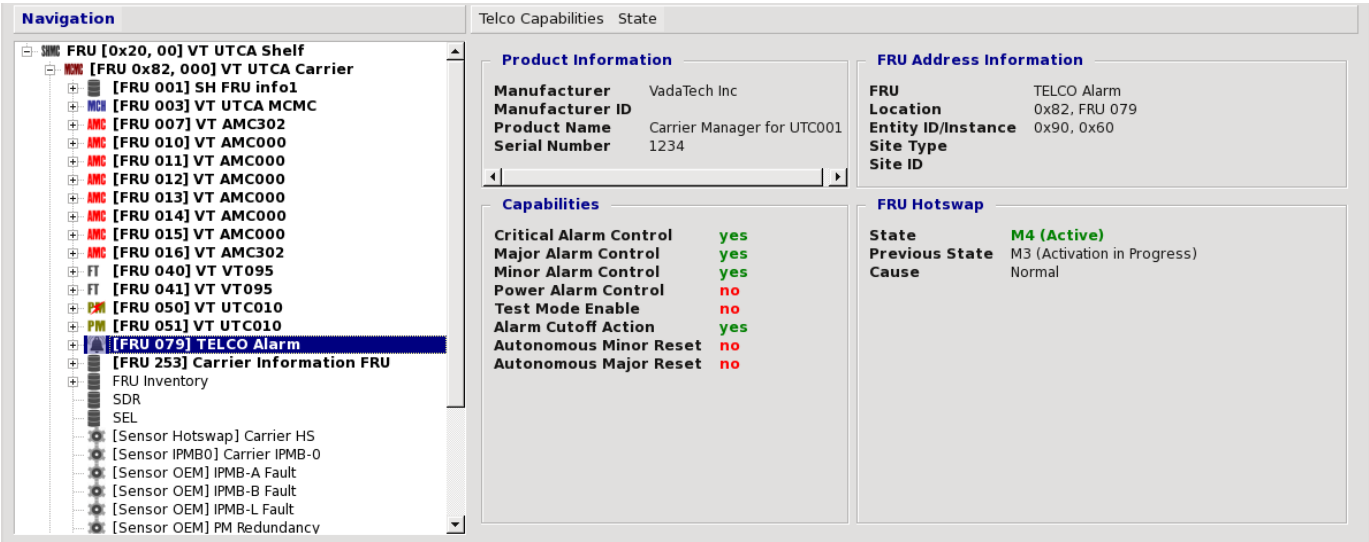


Figure 39: Telco FRU Capabilities

- Indicates which alarms can be controlled by "Set Telco Alarm State" command.
- Hot swap status

4.13.2 State

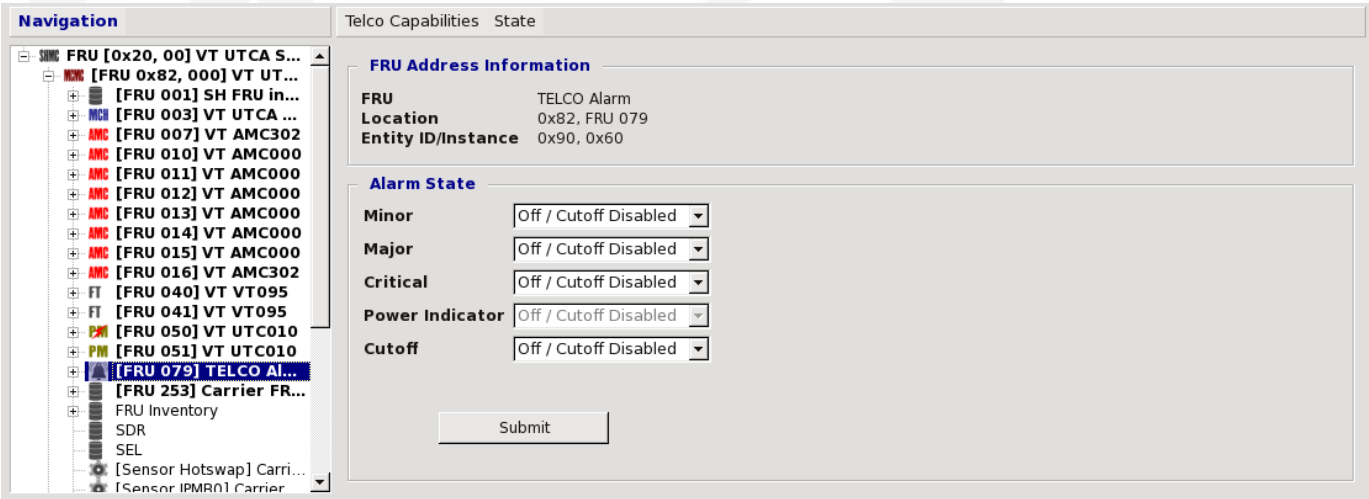


Figure 40: Telco Status

Controls:

- The current status of the Telco Alarm
- Enable/Disable Minor, Major, Critical, Power Indicator alarms.
- Enable/Disable Telco Cutoff.

4.14 Sensors

4.14.1 Sensor Classes

Sensors fall into the following classes:

Class	Description
Discrete	<p>Multiple states possible. Discrete sensors can contain up to 15 possible states. For discrete sensors, the Get Sensor Reading command returns a bit field where each bit reflects a different state. It is possible for a discrete sensor to have more than one state active at a time.</p> <p>Discrete sensors can be designed to provide either Generic or Sensor-specific states. The Event/Reading Type Codes in IPMI 2.0 Interface Specification are used to specify the particular set of possible Generic states for a discrete sensor</p>
Digital	A digital sensor is not really a unique class, but a term commonly used to refer to special case of a discrete sensor that only has two possible states.
Threshold	'Threshold based'. Changes event status by comparing the reading to fixed threshold values. Threshold enumerations may be considered a special case of the discrete sensor type. The Event/Reading Type Code for threshold-based sensors is specified in, Generic Event/Reading Type Codes in IPMI 2.0 Interface Specification. The offsets specify each particular possible threshold state.
OEM	Special case of discrete where the meanings of the states (offsets) are OEM defined.

Table 11: Sensor Classification

4.14.2 Threshold Sensors

The Temperature, Voltage and RPM sensors are some of the important threshold sensors. The System Management tool presents these sensors in a real time plotter that updates the graph with the sensor reading.

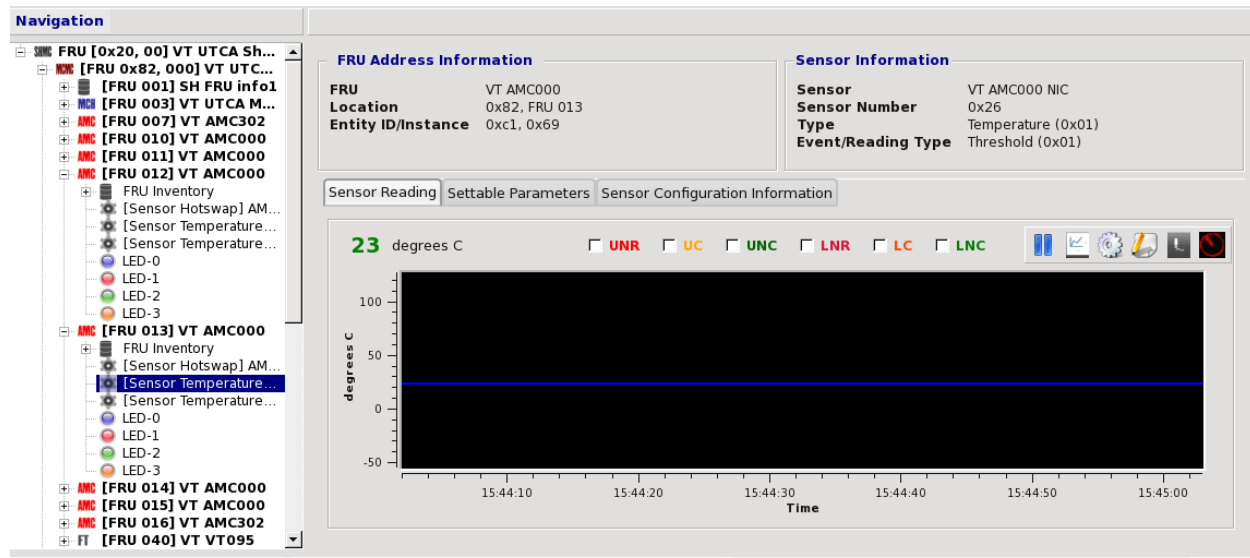
Real Time Plotting:

Figure 41: Threshold Sensor Graph

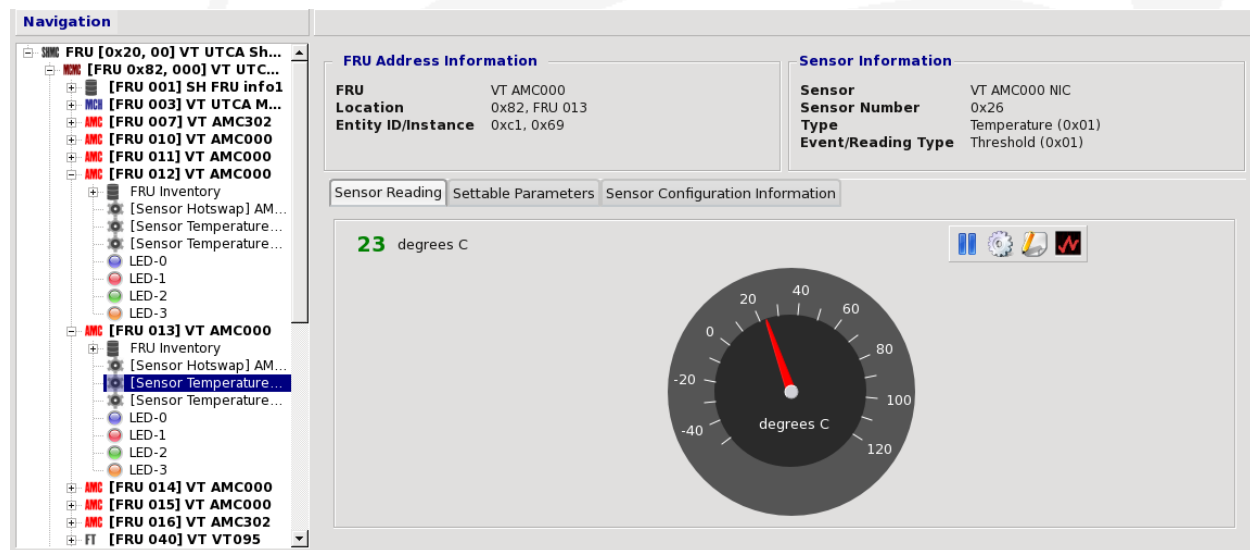
Analog Display:

Figure 42: Threshold Sensor Analog Reading

Controls:

ICON	Function	Description
	Pause/Resume	Pause and Resume data collection
	Scale	Configure the graph scale
	Refresh Rate	Configure the date refresh rate
	Log Setting	Enable data logging to a file
	Erase	Clear history
	Switch View	Switch between Graph and Analog view

Table 12: Threshold Sensor Controls

4.14.2.1 Settable/Readable Parameters

Sensor Settable Parameters enable the user to change the Threshold and Hysteresis for the sensor. Enable/Disable Event Messages and Sensor Scanning
Sensor Configuration Information as programmed in the Sensor Data Record (SDR).



4.15 LEDs

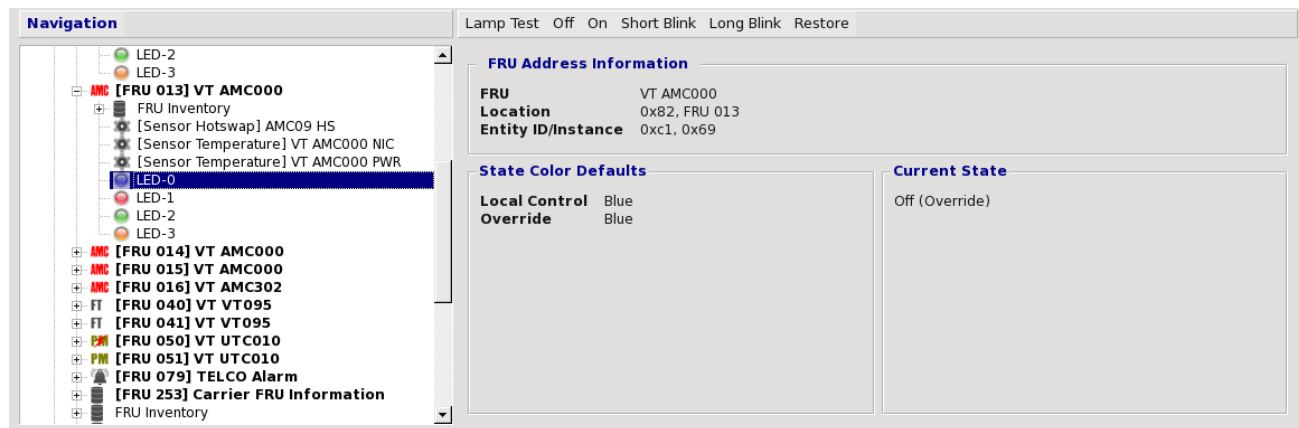


Figure 43: LED Status

There are four standard ATCA LED indicators. These are named LED-0, LED-1, LED-2 and LED-3. The first three LEDs indicate the FRU's hot swap, fault, and ready/OK states, respectively. The fourth LED is application-specific. The status of each of these LEDs can be obtained by selecting the respective LED in the FRU.

Controls:

Control	Description
Lamp Test	Lamp Test for a specified duration
Off	LED off
On	LED on
Short Blink	LED short blink
Long Blink	LED long blink
Restore	Restore LED to local control

Table 13: LED Controls

Note that On, Off, Short Blink and Long Blink override the local control state of the LED, and Lamp Test overrides all other controls.

4.16 Carrier FRU Information



Figure 44: Carrier FRU Information

This is the logical device managed by the Carrier Manager that contains the Carrier FRU Information.

The contents the Carrier Information FRU can be viewed by navigating further into the Board, Product, Chassis and Multi-Record sections of the FRU Inventory.

4.17 Sensor Data Record Repository

Sensor Data Records are data records that contain information about the type and number of sensors in the platform, sensor threshold support, event generation capabilities, and information on what types of readings the sensor provides. The primary purpose of Sensor Data Records is to describe the sensor configuration of the platform management subsystem to system software.

Sensor Data Records are kept in a single, centralized non-volatile storage area that is managed by the Base Management Controller. This storage is called the Sensor Data Record Repository.

4.17.1 Get SDR Information

This command is used to return the SDR command version for the SDR Repository and the timestamp for when the last ADD, DELETE, or CLEAR occurred.

4.17.2 Get SDR

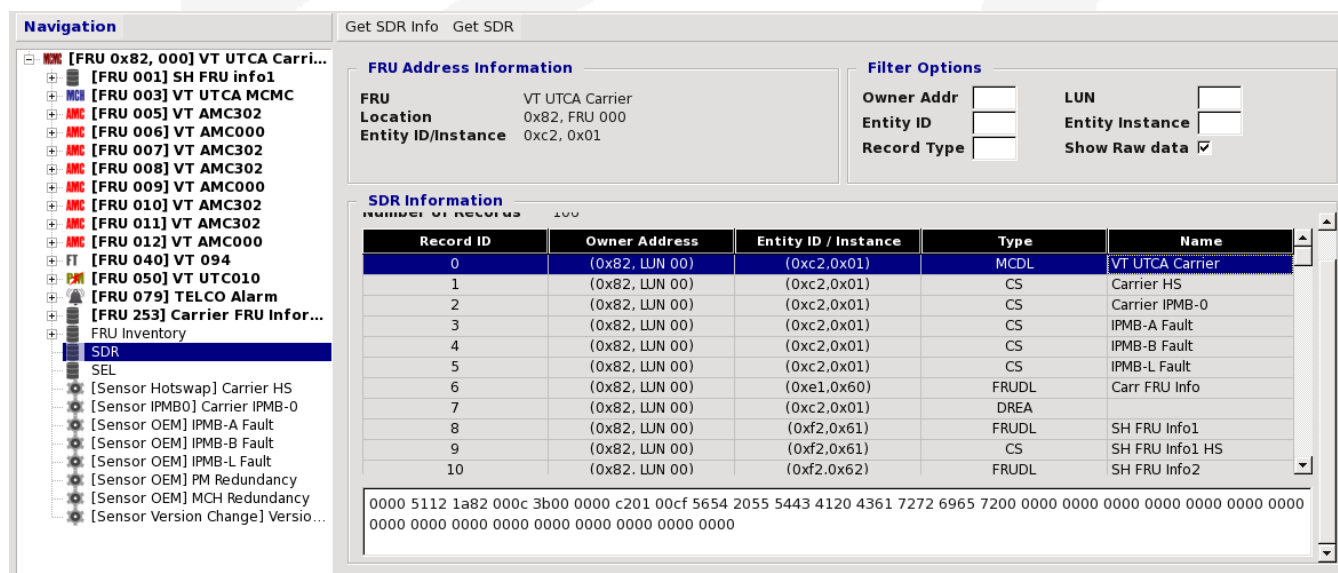


Figure 45: SDR Repository Contents

This command is used to retrieve all the Sensor Data Records contained in the Sensor Data Record Repository.

Options:

Filter options allow the user to search records by Owner Address, LUN, Entity ID, Entity Instance, Record Type and any combination of these parameters.

The Show raw data option will allow the user to view the SDR information in hex format.



4.18 System Event Log

The Shelf Manager provides a centralized, non-volatile System Event Log, or SEL. The SEL Device is the logical management device that provides the interface to the System Event Log for the system. The SEL Device provides a set of commands for managing the System Event Log. The SEL and logging helps ensure that 'post-mortem' logging information is available should a failure occur that disables the systems processor(s).

4.18.1 Get SEL Information

This command returns the SEL command version for the System Event Log. It also returns a timestamp for when the last ADD, DELETE, or CLEAR occurred.

4.18.2 Get SEL

Navigation

- [FRU 0x82, 000] VT UTCA Carri...
- [FRU 001] SH FRU info1
- [FRU 003] VT UTCA MCMC
- [FRU 005] VT AMC302
- [FRU 006] VT AMC000
- [FRU 007] VT AMC302
- [FRU 008] VT AMC302
- [FRU 009] VT AMC000
- [FRU 010] VT AMC302
- [FRU 011] VT AMC302
- [FRU 012] VT AMC000
- [FRU 040] VT 094
- [FRU 050] VT UTC010
- [FRU 079] TELCO Alarm
- [FRU 253] Carrier FRU Infor...
- FRU Inventory
- SDR
- SEL**
- [Sensor Hotswap] Carrier HS
- [Sensor IPMB0] Carrier IPMB-0
- [Sensor OEM] IPMB-A Fault
- [Sensor OEM] IPMB-B Fault
- [Sensor OEM] IPMB-L Fault
- [Sensor OEM] PM Redundancy
- [Sensor OEM] MCH Redundancy
- [Sensor Version Change] Versio...

Get SEL Info Get SEL Clear SEL

FRU Address Information

FRU: VT UTCA Carrier
 Location: 0x82, FRU 000
 Entity ID/Instance: 0xc2, 0x01

Format/Filter Options

Item Number: --OR-- Sensor Type:
 Verbose ☐ FRU Owner Addr:
 Raw ☒ Sensor Number:

SEL Information

SEL Version: 0x51
 Number of Entries: 2046

Time	Item Number	Location (Addr, Chan/LUN)	Sensor (Type/Number)	Direction
Wed Oct 7 02:34:11 2...	0001	(0x82, 00/00)	(0xf0, 0x32)	Asserted
Wed Oct 7 02:34:12 2...	0002	(0x82, 00/00)	(0xf0, 0x28)	Asserted
Wed Oct 7 02:34:12 2...	0003	(0x82, 00/00)	(0xf0, 0x03)	Asserted
Wed Oct 7 02:34:12 2...	0004	(0x82, 00/00)	(0xf0, 0x05)	Asserted
Wed Oct 7 02:34:12 2...	0005	(0x82, 00/00)	(0xf0, 0x06)	Asserted
Wed Oct 7 02:34:12 2...	0006	(0x82, 00/00)	(0xf0, 0x07)	Asserted
Wed Oct 7 02:34:12 2...	0007	(0x82, 00/00)	(0xf0, 0x08)	Asserted

04f0 326f a100 32

Figure 46: SEL Contents

This command is used to retrieve entries from the System Event Log.

Options:

- Filter options allow the user to search entries by Item Number or by Sensor Type, FRU Owner Address, Sensor Number and a combination of all these parameters.
- Show raw option will allow the user to view the SEL information in hex format.

- **Show Verbose option** will allow the user to view the SEL decoded and presented in a readable format.

4.18.3 Clear SEL

This command clears all the entries in the System Event Log.



4.19 Alarm Panel

The System Manager periodically monitors the Shelf and the Carriers for alarms due to temperature, voltage or other faults

The System Manager Alarm panel is used to view the active alarms in the Shelf or a Carrier connected to the Shelf. The user can also obtain the history of all alarms that occurred from system startup.

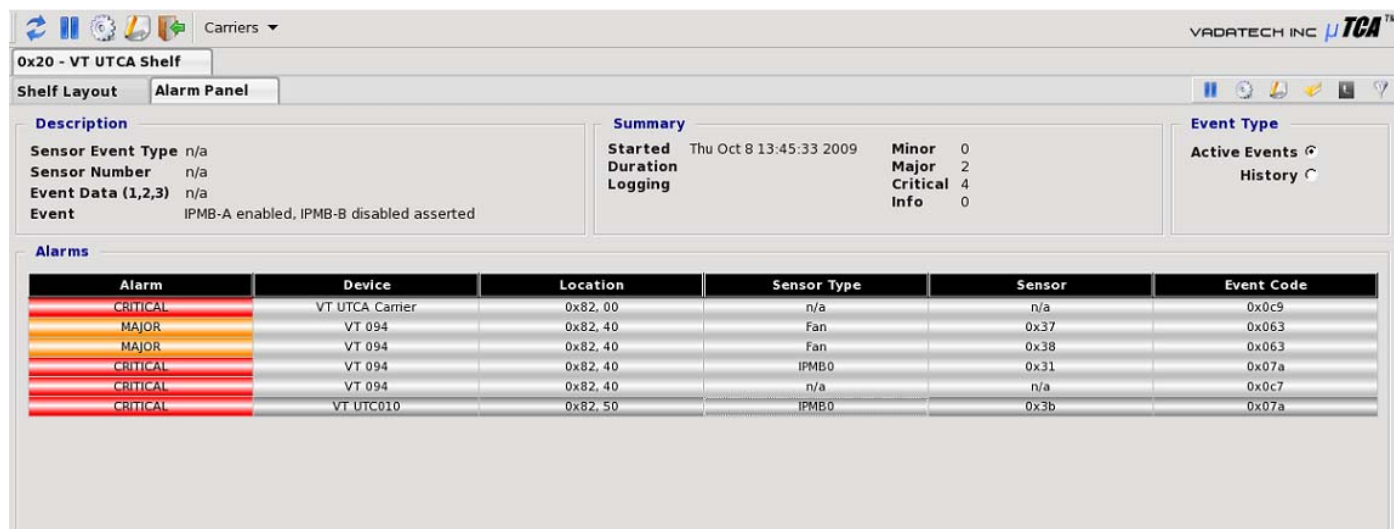


Figure 47: Alarm Panel

- Description of an alarm can be obtained by selecting the alarm entry in the table.
- The summary provides the following information:
 - Logger start time.
 - The duration of logging.
 - Enable/Disable status for logging.
 - The number of Minor, Major, Critical alarms.
- View active alarms or the history of all alarms that occurred since system startup.

Alarm Classification:

Class	Description
INFO	An event occurred in the Shelf which may not be an error and classified as Information.
MINOR	An event occurred in the Shelf or Carrier which is classified as a minor alarm
MAJOR	An event occurred in the Shelf or Carrier which is classified as Major alarm.
CRITICAL	An event occurred in the Shelf or Carrier which is classified as Critical alarm.

Table 14: Alarm Classification

Controls:






ICON	Description
	Pause/Resume alarm monitoring
	Set alarm panel data refresh interval
	Enable/Disable alarm logging to a file
	Clear history
	Alarm filter options

Table 15: Alarm Panel Controls

Logging:

Logging option allows the user to log all alarms that occur in the system to a file. The logging option is available only when the event type is set to 'history'.

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