Monitoring Hardware

This chapter includes the following sections:

Monitoring a Fabric Interconnect

Procedure

Step 1 In the **Navigation** pane, click the **Equipment** tab.

Step 2 On the **Equipment** tab, expand **Equipment** > **Fabric Interconnects**.

Step 3 Click the node for the fabric interconnect that you want to monitor.

Step 4 In the **Work** pane, click one of the following tabs to view the status of the fabric interconnect:

Option	Description
General tab	Provides an overview of the status of the fabric interconnect, including a summary of any faults, a summary of the fabric interconnect properties, and a physical display of the fabric interconnect and its components.

Option	Description
Physical Ports tab	Displays the status of all ports on the fabric interconnect. This tab includes the following subtabs: • **Uplink Ports** tab • **Server Ports** tab • **Fibre Channel Ports** tab • **Unconfigured Ports** tab
Fans tab	Displays the status of all fan modules in the fabric interconnect.
PSUs tab	Displays the status of all power supply units in the fabric interconnect.
Physical Display tab	Provides a graphical view of the fabric interconnect and all ports and other components. If a component has a fault, the fault icon is displayed next to that component.
Faults tab	Provides details of faults generated by the fabric interconnect.
Events tab	Provides details of events generated by the fabric interconnect.
Statistics tab	Provides statistics about the fabric interconnect and its components. You can view these statistics in tabular or chart format.

Monitoring a Chassis

Tip To monitor an individual component in a chassis, expand the node for that component.

Procedure

Step 1 In the **Navigation** pane, click the **Equipment** tab.

Step 2 On the **Equipment** tab, expand **Equipment** > **Chassis**.

Step 3 Click the chassis that you want to monitor.

Step 4 Click one of the following tabs to view the status of the chassis:

Option	Description
General tab	Provides an overview of the status of the chassis, including a summary of any faults, a summary of the chassis properties, and a physical display of the chassis and its components.

Option	Description
Servers tab	Displays the status and selected properties of all servers in the chassis.
Service Profiles tab	Displays the status of the service profiles associated with servers in the chassis.
Fans tab	Displays the status of all fan modules in the chassis.
PSUs tab	Displays the status of all power supply units in the chassis.
Hybrid Display tab	Displays detailed information about the connections between the chassis and the fabric interconnects. The display has an icon for the following:
Slots tab	Displays the status of all slots in the chassis.
Installed Firmware tab	Displays the current firmware versions on the following components in the chassis. • Cartridges ◦ Servers ◦ BIOS ◦ CIMC Controller • Board Controller • Chassis Management Controller • Adapter • Storage You can also use this tab to update and activate the firmware on those components.
SEL Logs tab	Displays and provides access to the system event logs for the servers in the chassis.
Power Control Monitor tab	Provides details of the power group, chassis, and servers.
Connectivity Policy tab	Provides details of the chassis ID, fabric ID, and connectivity type for the fabric.
Storage	Provides details of the following storage components in a chassis: • Storage Controller • LUNs • Disks • Faults

Option	Description
Faults tab	Provides details of faults generated by the chassis.
Events tab	Provides details of events generated by the chassis.
Board Controller	Provides details of the Board Controller and the firmware version on it.
Chassis Management Controller	Provides details of the Chassis Management Controller and the firmware version on it.
FSM tab	Provides details about and the status of FSM tasks related to the chassis. You can use this information to diagnose errors with those tasks.
Statistics tab	Provides statistics about the chassis and its components. You can view these statistics in tabular or chart format.
Temperatures tab	Provides temperature statistics for the components of the chassis. You can view these statistics in tabular or chart format.
Power tab	Provides power statistics for the components of the chassis. You can view these statistics in tabular or chart format.

Monitoring a Cartridge

Procedure

Step 1 In the **Navigation** pane, click the **Equipment** tab.

Step 2 On the **Equipment** tab, expand **Equipment** > **Chassis** > **Chassis** *Number* > **Cartridges**

Step 3 Click the cartridge that you want to monitor.

Step 4 In the **Work** pane, click one of the following tabs to view the status of the cartridge:

Option	Description
General tab	Provides an overview of the status of the cartridge, including a summary of any faults, a summary of the cartridge properties, and a physical display of the cartridge and its components.
Faults tab	Displays an overview of the faults generated by the cartridge. You can click any fault to view additional information.

Option	Description
Events tab	Displays an overview of the events generated by the cartridge. You can click any event to view additional information.

Monitoring a Server

Procedure

Step 1 In the **Navigation** pane, click the **Equipment** tab.

Step 2 On the **Equipment** tab, expand **Equipment** > **Chassis** > **Chassis** *Number* > **Cartridges** > **Cartridge** *Number* > **Servers**

Step 3 Click the server that you want to monitor.

Step 4 In the **Work** pane, click one of the following tabs to view the status of the server:

Option	Description
General tab	Provides an overview of the status of the server, including a summary of any faults, a summary of the server properties, and a physical display of the server and its components.

Option	Description
Inventory tab	Provides details about the properties and status of the components of the server on the following subtabs: • **Motherboard**—Information about the motherboard and information about the server BIOS settings. You can also update and activate BIOS firmware from this subtab. • **CIMC**—Information about the CIMC and its firmware, and provides access to the SEL for the server. You can also assign a static or pooled management IP address, and update and activate the CIMC firmware from this subtab. Information about Active vMedia mounts of CDDs and HDDs is also displayed. • **CPUs**—Information about each CPU in the server. • **Memory**—Information about each memory slot in the server and the DIMM in that slot. • **Adapters**—Information about the adapter installed in the chassis. • **HBAs**—Properties of each HBA and the configuration of that HBA in the service profile associated with the server. • **NICs**—Properties of each NIC and the configuration of that NIC in the service profile associated with the server. You can expand each row to view information about the associated VIFs and vNICs. • **iSCSI vNICs**—Properties of each iSCSI vNIC and the configuration of that vNIC in the service profile associated with the server.
Virtual Machines tab	Displays details about any virtual machines hosted on the server.
Installed Firmware tab	Displays the firmware versions on the CIMC, adapters, and BIOS. You can also use this tab to update and activate the firmware on those components.
CIMC Sessions	Displays the CIMC sessions for the server.
SEL Logs tab	Displays the system event log for the server.
VIF Paths tab	Displays the VIF paths for the adapters on the server.
Faults tab	Displays an overview of the faults generated by the server. You can click any fault to view additional information.
Events tab	Displays an overview of the events generated by the server. You can click any event to view additional information.
FSM tab	Provides details about the current FSM task running on the server, including the status of that task. You can use this information to diagnose errors with those tasks.

Option	Description
Statistics tab	Displays statistics about the server and its components. You can view these statistics in tabular or chart format.
Temperatures tab	Displays temperature statistics for the components of the server. You can view these statistics in tabular or chart format.
Power tab	Displays power statistics for the components of the server. You can view these statistics in tabular or chart format.

Monitoring a Shared Adapter

Procedure

Step 1   In the **Navigation** pane, click the **Equipment** tab.

Step 2   On the **Equipment** tab, expand **Equipment** > **Chassis** > **Chassis** *Number* > **Shared Adapter**

Step 3   Click **Shared Adapter**.

Step 4   In the **Work** pane, click one of the following tabs to view the status of the shared adapter:

Option	Description
General tab	Provides an overview of the status of the shared adapter, including a summary of any faults, a summary of the module properties, and a physical display of the shared adapter and its components.
Fabric Ports tab	Displays the status and selected properties of all fabric ports in the shared adapter.
Faults tab	Provides details of faults generated by the shared adapter.
Events tab	Provides details of events generated by the shared adapter.
Statistics tab	Provides statistics about the shared adapter and its components. You can view these statistics in tabular or chart format.

Monitoring Management Interfaces

Management Interfaces Monitoring Policy

This policy defines how the mgmt0 Ethernet interface on the fabric interconnect should be monitored. If Cisco UCS detects a management interface failure, a failure report is generated. If the configured number of failure reports is reached, the system assumes that the management interface is unavailable and generates a fault. By default, the management interfaces monitoring policy is enabled.

If the affected management interface belongs to a fabric interconnect which is the managing instance, Cisco UCS confirms that the subordinate fabric interconnect's status is up, that there are no current failure reports logged against it, and then modifies the managing instance for the endpoints.

If the affected fabric interconnect is currently the primary inside of a high availability setup, a failover of the management plane is triggered. The data plane is not affected by this failover.

You can set the following properties related to monitoring the management interface:

• Type of mechanism used to monitor the management interface.

• Interval at which the management interface's status is monitored.

• Maximum number of monitoring attempts that can fail before the system assumes that the management is unavailable and generates a fault message.

Important In the event of a management interface failure on a fabric interconnect, the managing instance may not change if one of the following occurs:

• A path to the endpoint through the subordinate fabric interconnect does not exist.

• The management interface for the subordinate fabric interconnect has failed.

• The path to the endpoint through the subordinate fabric interconnect has failed.

Configuring the Management Interfaces Monitoring Policy

Procedure

Step 1 In the **Navigation** pane, click the **Admin** tab.

Step 2 In the **Admin** tab, expand **All** > **Communication Management**.

Step 3 Click **Management Interfaces**.

Step 4 In the **Work** pane, click the **Management Interfaces Monitoring Policy** tab.

Step 5 Complete the following fields:

Name	Description
Admin Status field	Whether the monitoring policy is enabled or disabled for the management interfaces.
Poll Interval field	The number of seconds Cisco UCS should wait between data recordings. Enter an integer between 90 and 300.
Max Fail Report Count field	The maximum number of monitoring attempts that can fail before Cisco UCS assumes that the management interface is unavailable and generates a fault message. Enter an integer between 2 and 5.
Monitoring Mechanism field	The type of monitoring you want Cisco UCS to use. This can be one of the following: • **Mii Status**—Cisco UCS monitors the availability of the Media Independent Interface (MII). If you select this option, Cisco UCS Manager GUI displays the **Media Independent Interface Monitoring** area. • **Ping Arp Targets**—Cisco UCS pings designated targets using the Address Resolution Protocol (ARP). If you select this option, Cisco UCS Manager GUI displays the **ARP Target Monitoring** area. • **Ping Gateway**—Cisco UCS pings the default gateway address specified for this Cisco UCS domain on the **Management Interfaces** tab. If you select this option, Cisco UCS Manager GUI displays the **Gateway Ping Monitoring** area.

Step 6 If you chose **Mii Status** for the monitoring mechanism, complete the following fields in the **Media Independent Interface Monitoring** area:

Name	Description
Retry Interval field	The number of seconds Cisco UCS should wait before requesting another response from the MII if a previous attempt fails. Enter an integer between 3 and 10.
Max Retry Count field	The number of times Cisco UCS polls the MII until the system assumes the interface is unavailable. Enter an integer between 1 and 3.

Step 7 If you chose **Ping Arp Targets** for the monitoring mechanism, complete the fields on the appropriate tab in the **ARP Target Monitoring** area.
If you are using IPv4 addresses, complete the following fields in the **IPv4** subtab:

Name	Description
Target IP 1 field	The first IPv4 address Cisco UCS pings.
Target IP 2 field	The second IPv4 address Cisco UCS pings.
Target IP 3 field	The third IPv4 address Cisco UCS pings.
Number of ARP Requests field	The number of ARP requests Cisco UCS sends to the target IP addresses. Enter an integer between 1 and 5.
Max Deadline Timeout field	The number of seconds Cisco UCS waits for responses from the ARP targets until the system assumes they are unavailable. Enter an integer between 5 and 15.

If you are using IPv6 addresses, complete the following fields in the **IPv6** subtab:

Name	Description
Target IP 1 field	The first IPv6 address Cisco UCS pings.
Target IP 2 field	The second IPv6 address Cisco UCS pings.
Target IP 3 field	The third IPv6 address Cisco UCS pings.
Number of ARP Requests field	The number of ARP requests Cisco UCS sends to the target IP addresses. Enter an integer between 1 and 5.
Max Deadline Timeout field	The number of seconds Cisco UCS waits for responses from the ARP targets until the system assumes they are unavailable. Enter an integer between 5 and 15.

Type 0.0.0.0 for an IPv4 address to remove the ARP target or :: for an IPv6 address to remove the N-disc target.

Step 8 If you chose **Ping Gateway** for the monitoring mechanism, complete the following fields in the **Gateway Ping Monitoring** area:

Name	Description
Number of Ping Requests field	The number of times Cisco UCS should ping the gateway. Enter an integer between 1 and 5.
Max Deadline Timeout field	The number of seconds Cisco UCS waits for a response from the gateway until Cisco UCS assumes the address is unavailable. Enter an integer between 5 and 15.

Step 9 Click **Save Changes**.

Local Storage Monitoring

Local storage monitoring in Cisco UCS provides status information on local storage that is physically attached to a chassis. This includes RAID controllers, physical drives and drive groups, virtual drives, and RAID controller batteries (BBU).

Cisco UCS Manager communicates directly with the storage controllers using an out-of-band (OOB) interface, which enables real-time updates. Some of the information that is displayed includes:

- RAID controller status and rebuild rate.

- The drive state, power state, link speed, operability and firmware version of physical drives.

- The drive state, operability, strip size, access policies, drive cache, and health of virtual drives.

- The operability of a BBU, whether it is a supercap or battery.

- Information on RAID health and RAID state, card health, and operability.

- Information on operations that are running on the storage component, such as rebuild, initialization, and relearning.

> **Note** After a CMC reboot or build upgrades, the status, start time, and end times of operations running on the storage component might not be displayed correctly.

- Detailed fault information for all local storage components.

Support for Local Storage Monitoring

Through Cisco UCS Manager, you can monitor local storage components for the Cisco UCSME-142-M4 server:

Prerequisites for Local Storage Monitoring

These prerequisites must be met for local storage monitoring or legacy disk drive monitoring to provide useful status information:

- The drive must be inserted in the chassis.

- The chassis must be powered on.

- The chassis must have completed discovery.

- The results of the BIOS POST complete must be TRUE.

✎

Note	This prerequisite is not applicable to the chassis

Viewing the Status of Local Storage Components

Procedure

Step 1 In the **Navigation** pane, click the **Equipment** tab.

Step 2 On the **Equipment** tab, expand **Equipment** > **Chassis** > **Chassis** *Number*

Step 3 In the **Work** pane, click the **Storage** tab.

Step 4 Click one of the following subtabs to view the status of your storage:

Option	Description
Controller	Displays the details and status of the storage controller. Click the down arrows to expand the **Local Disk Configuration Policy**, and **Firmware** bars and view additional status information.
LUNs	Displays the status of all the virtual drives in the specified chassis.
Disks	Displays the status of all the disks in the specified chassis.
FSM	Displays the status of the FSM.
Faults	Provides details of faults generated by the chassis.