Cisco UCS Servers

Server Management

With global policies, global server pools and firmware management in Cisco UCS Central, you can manage general and complex server deployments for the following servers in your registered UCS domains:

- Cisco UCS B-Series Blade Servers

- Cisco UCS C-Series Rack-Mount Servers

- Cisco UCS Mini

Replacing a Server

If you plan to replace a server registered in a Cisco UCS Domain, use the following instructions to prepare for the replacement:

1. Disassociate any service profiles associated with the server from Cisco UCS Central.

2. Decommission the server from Cisco UCS Central. If a motherboard replacement is required, delete the server from any of the associated pools and refresh inventory.

3. Perform the necessary maintenance actions and reacknowledge the server from Cisco UCS Central.

4. After the server is discovered, add it back to the server-pools as required.

5. Refresh the inventory if required, and reassociate the service profiles from Cisco UCS Central.

Unified KVM Launcher

The **Unified KVM Launcher** page allows you to connect to any server in the Cisco UCS domain, whether or not they are associated with a service profile.

You can create users with the KVM privilege, or use the new KVM role that only has the KVM privilege. When users that only have the KVM privilege log into the Cisco UCS Central HTML5 UI, they will only be able to view the unified KVM launcher page.

Using the Unified KVM Launcher

Procedure

Step 1   On the menu bar, click the **System Tools** icon and choose **Unified KVM Launcher**.

Step 2   On the **Unified KVM Launcher** page, select the server to which you want to connect.

Use the checkboxes in the **Filters** area to narrow down the selections.

Step 3   Click **Launch KVM**.

Inband Policy

Cisco UCS Central lets you configure the Inband IP address on a server directly, or through an **Inband Policy**. This feature is supported on Cisco UCS Manager release 3.1 (3) and later. After you create an Inband policy, you can assign it to a domain group from **Domain Configuration Settings** in **Domains Main View**. The **Inband Policy** view displays details about the corresponding **VLAN Group**, the **Default Management VLAN**, and the **Management IP pool** associated with the policy.

Create Inband Policy

Procedure

Step 1   In the **Actions** bar, type **Create Inband Policy** and press Enter.

Step 2   In the **Create Inband Policy** dialog box, choose the **Domain Group Location** in which you want to create the policy and enter the **Name** and optional **Description**.

The name is case sensitive.

Step 3   In **VLAN Group**, select the VLAN group from the **VLAN Group** drop-down list, and the VLAN ID from the **Default Management VLAN** drop-down list to associate with this policy.

Step 4   In **IP Pool**, select **Management IP Pool** from the drop-down list to associate it with this policy.

Step 5   Click **Create**.

Step 6   (Optional) You can favorite this policy and pin it to the Cisco UCS Central dashboard to navigate to it directly. After you create an Inband policy, you can assign it to a domain group from the **Domain Configuration Settings** in **Domains Main View**.

Step 7   In the **Domain Configuration Settings** window, click **Inband Policy** in the **Management IP** tab, and select the policy you want to assign to the domain group.

About KVM Outband Configuration

Beginning Cisco UCS Central, you can create a KVM Outband IP pool on Cisco UCS Central and assign it to a domain directly. With a KVM Outband IP pool, you can automatically push down the IP addresses to available blade and rack servers by assigning them to a Cisco UCS domain through **Domain Configuration Settings**. The physical KVM Outband settings are independent from the KVM Outband configuration associated with a service profile. This feature is supported on Cisco UCS Manager 3.1(3) and later.

KVM Outband IP pools have the following features:

- An Outband pool pushed down to Cisco UCS Manager can override any local configuration on Cisco UCS Manager. However, a Cisco UCS Manager user can edit the Outband KVM configuration locally, and the option to edit the IP pool is not grayed out on the Cisco UCS Manager GUI.

- When an Outband configuration is altered locally on Cisco UCS Manager, the IP addresses associated with the pool are released and are available for other associations.

- If you are non-admin Cisco UCS Central user, you require Domain-Group-Management privileges to create, read, update, or delete a KVM Outband configuration.

- When you modify a Management IP pool to add, remove, or update a block, use the **Reapply Configuration** option from the **Domains Main View**. This option ensures that the pool is refreshed with the modified IP addresses before it is pushed down to Cisco UCS Manager. However, if you unassign a pool or switch the Management IP pools, you do not have to reapply the configuration settings.

  Note   A warning message displays when you use the **Reapply Configuration** option. When you accept the option to reapply the configuration, Cisco UCS Central reapplies the configuration of only the Management IP addresses.

- You can verify the assigned physical KVM Outband IP pool when you **Launch KVM** from the **Server Details** page. The drop-down menu on the KVM Console Launch displays the physical KVM Outband and the IPv4 Outband associated with a service profile.

  Note   IPv6 is not supported for KVM Outband.

- You can access the CIMC through an Outband or Inband address. In the case of an Outband address, traffic traverses the fabric interconnect (FI) via the management port to the network. Traffic to and from an Inband address traverses through the FI via the fabric uplink port.

• In Cisco UCS Central, KVM Outband support is managed through an IP pool and not with a static IP.

Equipment Policies

Equipment policies allow you to tune your servers and other equipment to suit your requirements. Equipment policies can only be set at the domain group level, and apply to all servers in that domain group.

Note Equipment policies are not included in service profiles.

Managing Equipment Policies

Procedure

Step 1 Click the **Domain Group Navigation** icon and choose a domain group.

Step 2 Click the **Configuration** icon and choose **System Policies**.

Step 3 In **Equipment**, click **Basic** and complete the following fields:

a) In **Rack Management Action**, select how server management is configured when a new rack server is discovered:

- **Auto Acknowledged**—Cisco UCS automatically configures server management by domain based on the available server connections.

- **User Acknowledged**—Cisco UCS does not automatically configure server management. It waits until acknowledged by the user.

b) In **MAC Address Table Aging Time**, select the length of time an idle MAC address remains in the MAC address table before it is removed:

- **Mode Default**—System uses the default value. For end-host mode, the default is 14,500 seconds. For switching mode, the default is 300 seconds.

- **Never**—Cisco UCS never removes MAC addresses from the table.

- **Other**—Enter a custom value in the dd:hh:mm:ss field.

c) In **VLAN Port Count Optimization**, select whether Cisco UCS can logically group VLANs to optimize the use of ports and reduce the CPU load on the FI.

d) In **Firmware Auto Server Sync State**, select the firmware synchronization policy for recently discovered blade servers or rack servers:

- **User Acknowledged**—Cisco UCS does not synchronize firmware until the administrator acknowledges the upgrade.

- **No Actions**—Cisco UCS does not perform any firmware upgrade on the server.

Step 4 e) In **Info Action**, select whether the information policy displays the uplink switches that are connected to the Cisco UCS domain.

Step 4 Click **Discovery** and complete the fields to specify how you want the system to behave when you add a new chassis or FEX:

a) In **Chassis/FEX Link Action**, select the minimum threshold for the number of links between the chassis or FEX and the fabric interconnect.

b) In **Chassis/FEX Link Grouping Preference**, select whether the links from the system IO controllers, IOMs, or FEXes to the fabric interconnects are grouped in a port channel.

c) In the **Multicast Hardware Hash**, click **Enable** to specify if Cisco UCS can use all of the links from the IOMs or FEXes to the fabric interconnects for multicast traffic.

d) In the **Backplane Speed Preference**, choose the speed that you want to use.

Step 5 Click **Power** and complete the following fields:

a) In **Power Redundancy**, select the power redundancy policy that you want to use:

- **N+1**—The total number of power supplies, plus one additional power supply for redundancy, equally share the power load for the chassis. If any additional power supplies are installed, Cisco UCS sets them to a "turned-off" state.

- **Grid**—Two power sources are turned on, or the chassis requires greater than N+1 redundancy. If one source fails, the surviving power supplies continue to provide power to the chassis.

- **Non-Redundant**—All installed power supplies are turned on and the load is evenly balanced. Only power small configurations (requiring less than 2500W) by a single power supply.

b) In **Power Allocation**, select the power allocation management mode used in the Cisco UCS domain:

- **Policy Driven Chassis Group Cap**—Configures power allocation at the chassis level through power control policies included in the associated service profiles.

- **Manual Blade Level Cap**—Configures power allocation on each individual blade server in all chassis.

c) In **ID Soaking Interval**, specify the number of seconds Cisco UCS Central waits before reassigning a pool entity that Cisco UCS released. Enter an integer between 0 and 86400.

Step 6 Click **Save**.

Managing Rack Discovery Policies

Procedure

Step 1 Click the **Domain Group Navigation** icon and choose a domain group.

Step 2 Click the **Configuration** icon and choose **System Policies**.

Step 3 In **Rack Discovery**, click **Enabled**.

Step 4 In **Basic**, for **Discovery Policy Action**, select how you want the system to behave when you add a new rack server.

- **Immediate**—Cisco UCS domain attempts to discover new servers automatically.

• **User Acknowledged**—Cisco UCS domain waits until the user tells it to search for new servers.

Step 5   Click **Policies** and select the scrub policy that you want to run on a newly discovered server.

The server must meet the criteria in the selected server pool policy qualification.

Step 6   Click **Save**.

Creating or Editing Power Sync Policy

Power Sync policy addresses power synchronization issues between the associated service profiles and the servers. You can use the Power Sync policy to synchronize the power state when the power state of the service profile differs from the actual power state of the server. The Power Sync policy applies to all the service profiles by default. You cannot delete the default Power Sync policy, but you can edit the default policy. You can create your own power sync policies and apply them to the service profiles. You can also create a Power Sync policy that is specific to a service profile and it always takes precedence over the default policy.

Procedure

Step 1   In the **Actions** bar, type **Create Power Sync Policy** and press Enter.

Step 2   In the **Power Sync Policy** dialog box, choose the **Organization** in which you want to create the policy.

Step 3   Enter the **Name** and optional **Description**.

The name is case sensitive.

Step 4   Choose the **Sync Option**.

This can be one of the following:

• **Default Sync**—After the initial server association, any configuration change or management connectivity changes that you perform trigger a server reassociation. This option synchronizes the desired power state to the physical server if the physical server power state is off and the desired power state is on. This is the default behavior.

• **Always Sync**—When the initial server association or the server reassociation occurs, this option always synchronize the desired power state to the physical power state even if the physical server power state is on and desired power state is off.

• **Initial Only Sync**—This option only synchronizes the power to a server when a service profile is associated to the server for the first time or when the server is re-commissioned. When you set this option, resetting the power state from the physical server side does not affect the desired power state on the service profile.

Viewing Power Sync Policy

Procedure

Step 1   Click the **Browse Tables** icon and choose **Policies**.

Step 2   Click on the **Power Sync** check box to select it.

Step 3   On the **Policies** page, click on the Power Sync Policy you want to view the details for.
The Power Sync Policy view displays policy usage and the Power Sync options defined in the policy. The policy usage shows if the policy is associated with a service profile, the location of the policy, and power options defined in the policy.

Power Control Policy

You can create a Power Control policy in Cisco UCS Central and include it in the service profile to enable the system to manage the power allocation control for the blade servers in the registered Cisco UCS domains.

Cisco UCS uses the priority set in the Power Control policy, along with the blade type and configuration, to calculate the initial power allocation for each blade within a chassis.

During normal operation, the active blades within a chassis can borrow power from idle blades within the same chassis. If all blades are active and reach the power cap, service profiles with higher priority power control policies take precedence over service profiles with lower priority power control policies. Priority is ranked on a scale of 1-10, where 1 indicates the highest priority and 10 indicates lowest priority. The default priority is 5.

For mission-critical applications, a special priority called no-cap is also available. Setting the priority to no-cap prevents Cisco UCS from leveraging unused power from a particular server. With this setting, the server is allocated the maximum amount of power possible for that type of server.

Creating or Editing a Power Control Policy

Procedure

Step 1   In the **Actions** bar, type **Create Power Control Policy** and press Enter.

Step 2   In the **Power ControlPolicy** dialog box, choose the **Organization** in which you want to create the policy.

Step 3   Enter the **Name** and optional **Description**.

The name is case sensitive.

Step 4   Choose the **Fan Speed**.

This can be one of the following:

   • **Low Power**—The fan runs at the minimum speed required to keep the server cool.

   • **Balanced**—The fan runs faster when needed based on the heat generated by the server. When possible, the fan returns to the minium required speed.

- **Performance**—The fan is kept at the speed needed for better server performance. This draws more power but means the fan is already at speed if the server begins to heat up.

- **High Power**—The fan is kept at an even higher speed that emphasizes performance over power consumption.

- **Max Power**—The fan is kept at the maximum speed at all times. This option provides the most cooling and uses the most power.

- **Any**—The server determines the optimal fan speed.

Step 5 Choose whether to enable **Power Capping**.

Step 6 If **Enabled**, choose the **Power Group Priority**.

Priority is ranked on a scale of 1-10, where 1 indicates the highest priority and 10 indicates lowest priority. The default priority is 5.

Step 7 Click **Create**.

Physical and Logical Inventory

Cisco UCS Central allows you to view all fabric interconnects, servers, chassis, and FEXes located in your Cisco UCS domains. You can also view individual components for each type of hardware, such as cartridges, fans, CPUs, IOMs, and ports.

You can also view the logical inventory details such as the server pools and ID pools in the registered UCS domains.

Fabric Interconnect

The **Fabric Interconnect** (FI) page displays the following information related to FIs associated with the registered Cisco UCS domain:

FI	Hardware	FW	Status
This column displays the following information for a fabric interconnect: • The associated domain name and FI ID • Domain group location • IP address of the domain	This column displays the following hardware information for a fabric interconnect: • The model number and type of FI • Serial number • The number of fixed and expansion module ports • The number of ethernet and fabric channel ports	This column displays the following firmware details for a fabric interconnect: • Firmware version • Firmware status	This column displays the following status for a fabric interconnect: • Overall status • Worst fault level • Locator LED status

Fabric Interconnect Main View

The **Fabric Interconnect Main View** page displays the following information related to the selected Fabric Interconnect (FI) and its components within a registered Cisco UCS domain.

- **Basic**—Displays an overview of the FI within the domain, hardware details, firmware version, number of ports (Ethernet or FC) that are in use and available for use, management IP, and fault summary details.

- **Fixed Mod.**—Displays overall status, firmware, hardware, properties, and fault summary details of the fixed modules installed in the FI .

- **Exp. Mod.**—Displays overall status, firmware, hardware, properties, and fault summary details of the expansion modules installed in the FI.

- **Fans**—Displays overall status, and hardware details of the fan.

- **PSUs**—Displays overall status, fault summary, and hardware details of the PSU.

- **Ports**—Displays ports, port role, and port status for all ports in the FI.

- **Port Channels**—Displays all port channels in the FI and detailed information about each port channel.

- **Traffic Monitoring**—Displays traffic monitoring sessions for the Ethernet or FC ports.

You can also perform the following tasks:

- View configuration status.

- Turn on or off the Locator LED.

- Set the switching mode.

- Manage unified port configuration.

- Create port channels.

- Create Traffic Monitoring.

- Configure Evacuation.

Note You can configure the evacuation state by selecting one of these **Admin Evac Mode** options:

- **Enabled** - Stops the traffic on the IO module or the fabric interconnect

- **Disabled** - Restarts traffic on the IO module or the fabric interconnect

To evacuate a fabric interconnect regardless of its current evacuation state, you can select one of these **Force Evac** options:

- **Enabled** - To evacuate the FI regardless of the current evacuation state

- **Disabled** - Disables force evacuation of the FI regardless of the evacuation state

Note	For more information about Fabric Evacuation, see Fabric Evacuation, on page 16 and Configuring Fabric Evacuation, on page 17.

• Launch Cisco UCS Manager for the specific Cisco UCS domain.

Note	• Your browser must have pop-ups enabled. • For Cisco UCS Manager release 3.1(2) or later, this launches the HTML5 GUI. If the Cisco UCS Manager credentials match the credentials for your Cisco UCS Central login, then the system will automatically log in to the Cisco UCS Manager GUI without prompting for the login information. • For Cisco UCS Manager release 3.1(1) or previous, this launches the Java-based GUI.

Launch Cisco UCS Manager Fabric Interconnect Statistics

You can launch Cisco UCS Manager **Fabric Interconnect** (FI) statistics from the **Tools** menu in Cisco UCS Central to view these details for the FI:

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors

Name	Description
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter. The unit the value is in can be determined by the code appended to the name of the counter: • **(A)**—Amperes • **(babbles)** • **(bytes)**—Number of bytes • **(©)**—Celsius • **(collisions)**—Number of times a network collision was encountered • **(drops)**—Number of times packets were dropped during the transfer • **(errors)**—Number of errors encountered • **(lostCarrier)**—Number of times the carrier was lost during transmission • **(MB)**—Megabytes • **(noCarrier)**—Number of times no carrier could be found • **(packets)**—Number of packets transferred • **(pause)**—Number of pauses encountered during data transmission • **(resets)**—Number or resets encountered during data transmission • **(V)**—Volts • **(W)**—Watts • **(blank)**
Avg column	The average value for the counter. **Note** For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter. **Note** For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter. **Note** For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**
- Change the statistics displayed on the chart by selecting **Configure Chart**
- Print the chart by selecting **Print**

Launch Cisco UCS Manager Fabric Interconnect PSU Statistics

You can launch Cisco UCS Manager PSU statistics for a Fabric Interconnect (FI) from the **Tools** menu in Cisco UCS Central to view these details:

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors

Name	Description
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter. The unit the value is in can be determined by the code appended to the name of the counter: • **(A)**—Amperes • **(babbles)** • **(bytes)**—Number of bytes • **(©)**—Celsius • **(collisions)**—Number of times a network collision was encountered • **(drops)**—Number of times packets were dropped during the transfer • **(errors)**—Number of errors encountered • **(lostCarrier)**—Number of times the carrier was lost during transmission • **(MB)**—Megabytes • **(noCarrier)**—Number of times no carrier could be found • **(packets)**—Number of packets transferred • **(pause)**—Number of pauses encountered during data transmission • **(resets)**—Number or resets encountered during data transmission • **(V)**—Volts • **(W)**—Watts • **(blank)**
Avg column	The average value for the counter. **Note** For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter. **Note** For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter. **Note** For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

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- Change the appearance of the chart by selecting **Properties**

- Change the statistics displayed on the chart by selecting **Configure Chart**

- Print the chart by selecting **Print**

Launch Cisco UCS Manager Port Statistics

You can launch Cisco UCS Manager Port statistics from the **Tools** menu in Cisco UCS Central to view these details:

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors

Name	Description
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter.
	The unit the value is in can be determined by the code appended to the name of the counter:
	• **(A)**—Amperes
	• **(babbles)**
	• **(bytes)**—Number of bytes
	• **(©)**—Celsius
	• **(collisions)**—Number of times a network collision was encountered
	• **(drops)**—Number of times packets were dropped during the transfer
	• **(errors)**—Number of errors encountered
	• **(lostCarrier)**—Number of times the carrier was lost during transmission
	• **(MB)**—Megabytes
	• **(noCarrier)**—Number of times no carrier could be found
	• **(packets)**—Number of packets transferred
	• **(pause)**—Number of pauses encountered during data transmission
	• **(resets)**—Number or resets encountered during data transmission
	• **(V)**—Volts
	• **(W)**—Watts
	• (blank)
Avg column	The average value for the counter.
	Note For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter.
	Note For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter.
	Note For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**
- Change the statistics displayed on the chart by selecting **Configure Chart**
- Print the chart by selecting **Print**

Fabric Evacuation

Cisco UCS Central enables Fabric Evacuation, which is the ability to evacuate all traffic that flows through a fabric interconnect (FI) from all servers attached to it through an IOM or FEX while upgrading a system. Upgrading the secondary FI in a system disrupts active traffic on the FI. This traffic fails over to the primary FI. Using Fabric Evacuation, you can stop all traffic that is active through an FI. After verifying that the traffic failed over completely, and upgrading the secondary FI, you can restart all the stopped flows after rebooting the secondary FI and all the connected IOMs. In a cluster configuration, you can change the cluster lead to the subordinate FI, stop all the flows, and upgrade the other FI in the same manner.

Cisco UCS Central 2.0 supports Fabric Evacuation during Firmware AutoInstall to ensure that the appropriate failover settings are configured for the firmware upgrade. Fabric Evacuation is now automatically turned on during an FI upgrade and reboot during an AutoInstall. Fabric Evacuation is automatically configured when there is an activation prior to reboot on any of the FIs during an AutoInstall. Fabric Evacuation also forces an immediate failover of Fabric-Failover vNICs and ensures that there are no active vNICs in the target FI. This feature avoids the disruption when a primary FI goes down for a short duration for activation, and the secondary FI takes over through the heartbeat loss detection mechanism.

During an upgrade, Fabric Evacuation goes through the following steps:

1. Stop all traffic that is active through an FI.
2. Upgrade the secondary FI.
3. Restart all stopped traffic flows.
4. Change the cluster lead to the secondary FI.
5. Repeat Steps 1 to 4 to upgrade the primary FI.

Note   Fabric Evacuation is supported:

- At the FI level in Cisco UCS Manager release 2.2(4) and later.

- In AutoInstall only in Cisco UCS Manager release 3.1(3).

- Only on a subordinate FI.

- In a cluster configuration.

Fabric Evacuation has the following limitations:

- Evacuation on I/O modules is not supported.

- Evacuation of directly-attached rack servers is not supported. Evacuation on the FI is enabled by manually bringing down the server ports when there are directly-connected rack servers. For an IOM/FEX, the HIF ports must be brought down to enable evacuation.

- Downgrade from Cisco UCS Manager 2.2(4) to earlier releases places the FIs in the regular mode. However, server traffic flows through regardless of the configuration on the FI when you run the Cisco UCS Manager 2.2(4) image.

- If you use AutoInstall with Fabric Evacuation to downgrade to a Cisco UCS Manager release earlier than 3.1(3), Fabric Evacuation does not work as configured.

- When an FI is configured for evacuation, all blade and rack servers connected through the Fabric Extender are evacuated.

Configuring Fabric Evacuation

You can configure the fabric evacuation state of a fabric interconnect (FI) to enable or restart all traffic that flows through the FI. You can set the properties to turn Fabric Evacuation on automatically during an FI upgrade and reboot during Auto Install.

Procedure

Step 1   From a **Cisco UCS Domain**, select the **Fabric Interconnects** *name* for which you want to view the fabric evacuation state.

The **Fabric Interconnect** main view displays the key indicators for the FI, including the **Admin Evac Mode** and the **Oper Evac Mode** that indicate the current evacuation status of the FI.

Step 2   From **Tools**, select **Configure Evacuation**.
The **Configure Evacuation** dialog box displays.

Step 3   To configure fabric evacuation on the specified Fabric Interconnect, select one of the following options under **Admin Evac Mode**:

- • **Enabled**—Stops traffic on the IO module or the fabric interconnect

    • **Disabled** —Restarts traffic on the IO module or the fabric interconnect

Step 4 (Optional) To evacuate a Fabric Interconnect regardless of its current evacuation state, select one of the options under **Force**:

- • **Enabled**—To evacuate the FI regardless of the current evacuation state

- • **Disabled** —Disables force evacuation of the FI regardless of the evacuation state

Note When you stop the server traffic and then enable traffic evacuation, the system moves to a NO-OP status. When you select the **Force (Enabled)** option, it ensures that the second command does not involve a NO-OP and the traffic is forced to shut down again.

Step 5 Click **OK**.
The following warning messages display when you choose Enabled or Disabled, respectively:

```
There are outstanding faults since last FI reboot. Please make sure all the data paths on
other
FI are working before proceeding with this FI Evacuation to avoid interruption to the data
 traffic.
Are you sure you want to continue?

Disabling fabric evacuation will cause server traffic that failed over to the Primary Fabric

Interconnect to fail back to this Fabric Interconnect. Are you sure you want to continue?
```

Note After triggering fabric evacuation, the backplane ports on the FEX/IOM are shutdown. You must reboot the fabric interconnect to restart the traffic flows.

Step 6 Click **OK** or **Cancel** on the warning messages as necessary.
On the Fabric Interconnect main view, check the values for **Admin Evac Mode** and **Oper Evac Mode**. These values display the current evacuation status.

Server Details

The **Server** page displays the following information related to the servers associated with the registered Cisco UCS domain:

Servers	Hardware	Configuration	Status
This column displays the following information for a server: • The associated domain name, chassis ID, and slot ID • Domain group location • Management IP address	This column displays the following hardware information for a server: • Blade server model • The number of cores the CPU has and the total RAM on the motherboard • The serial number • The number of CPUs and the speed	This column displays the following configuration for a server: • Service profile name • Service profile organization location • Firmware version • Firmware status	This column displays the following status for a server: • Overall status • Worst fault level • Power status • Decommissioned server. You can recommission a decommissioned server. You can also remove a decommissioned rack server and delete all data about the server from the **Delete** option in the System Tools submenu.

Servers Details Page

You can view the following information on the selected server and its components, and also perform various tasks:

Note   Depending on the server type, the options may vary.

• **Basic**—Displays associated service profile, fault summary, hardware, and firmware details of the selected server. The server Asset tag is displayed as a read-only field in this page. Beginning Cisco UCS Central release 2.0, a server reboot log is also displayed with the top five reasons for the reset along with the time and source of power transition. To view the server reboot log, Cisco UCS Central 2.0 must be registered with Cisco UCS Manager 3.1(3) and later.

For servers that have a KMIP Certification policy configured at the domain scope, this tab displays additional details related to KMIP Certificate for the supported servers. For information on security-related remote operations, see Security-Related Operations in the *Cisco UCS Central Storage Management Guide*.

• **Motherboard**—Displays the overall status and the hardware details of the motherboard.

• **CIMC**— Displays the overall status of firmware version, server activity status, hardware specifications, and in-band policy.

- **CPUs**—Displays a list of all the CPUs in the server. Select a processor to view overall status and hardware and other details of the selected processor.

- **GPUs**—Displays a list of all graphics cards in the server. Select a graphics card to view the overall status and additional details.

- **Security**—Displays a list of all hardware security modules in the server, such as the Cisco Mezzanine Crypto Card.

- **Memory**—Displays a list of available memory in the selected server. Select a memory card to view the current overall status and other details.

- **Adapters**—Displays details of the adapter in the selected server. Select an adapter to view overall status, power status, and other product details. The **Interfaces** tab in the **Adapter Details** page displays details of the adapter interfaces that are added to a service profile. Select an interface to view admin state, operability status, MAC addresses, and other details of the interface. The following types of interfaces are displayed in the adapters **Inventory** after you assign them to the service profile:

    - DCE

    - NIC

    - HBA

    - ISCSI

        Note   Remote operations are not supported on ISCSI devices.

    Cisco UCS Central lets you perform one of the following remote operations for the adapter interfaces: enable, disable, or reset connectivity of the devices. For an HBA interface, you can enable or disable the interface, or reset connectivity. In the case of a failover vNIC interface, you can enable, disable, or reset connectivity of the active or stand-by interfaces to the fabric interconnect. The **Configuration Status** window displays the Admin state of the interfaces when there is a change in the remote operations.

- **Controllers**—Displays the list of storage controllers, such as SAS or FlexFlash. Select a controller to view operability and other product details. For FlexFlash FX3S Controllers, you can view the **Configuration Status** of the controller, **Configure Auto-Sync** of the SD cards, **Format SD cards**, and **Reset the FlexFlash Controller** from the **Tools** menu. For all other controllers, these options will be non-operational.

    You can perform these server actions for Storage controllers :

        Note   If you choose to pair or unpair the SD cards from **Configure Auto-Sync**, the contents of the SD cards are synced and the status displayed in the Operation State property. The FlexFlash controller view displays the Operation Status, Raid Pair syncing status and other properties consistent with Cisco UCS Manager. For more information about FlexFlash controller properties in Cisco UCS Manager, see *Cisco UCS Manager Storage Management Guide*.

✎

Note The dual HBA Controllers on the Cisco S3260 servers are discovered and displayed on the server details page. This feature is supported from Cisco UCS Central 2.0 and Cisco UCS Manager 3.1(3) and later.

- **Storage Enclosures**—Displays a list of the storage enclosures in the selected server. You can view details on the enclosure or the individual slots.

- **Storage**—Displays list of the storage in the selected server. Select a disk to view the current overall status, hardware, and controller details.

- **LUNs**—Displays a list of the virtual drives created on the server. Select a virtual drive to view the status, configuration status, and other details. You can also perform virtual-drive related tasks.

- From the **Tools** menu, you can perform the following actions: View Configuration Status, Reset, Recover, Decommission a server, Re-Acknowledge, Reset Server to Factory Default, Configure Management IPs, Start Diagnostic test, Toggle the locator LED. For more information about Diagnostic test, see About End-to-End Diagnostics, on page 35.

✎

Note The **Reset Server to Factory Defaults** is shown only for the supported servers. This feature is supported on servers with CIMC version 2.2(7) and later.

You can perform the following server-related tasks:

- Launch the **KVM Console**. You can launch the HTML-5 based KVM client from Cisco UCS Central 2.0 and later.

- Launch Cisco UCS Manager for the specific Cisco UCS domain.

✎

Note
- Your browser must have pop-ups enabled.

- For Cisco UCS Manager release 3.1(2) or later, this launches the HTML5 GUI. If the Cisco UCS Manager credentials match the credentials for your Cisco UCS Central login, then the system will automatically log in to the Cisco UCS Manager GUI without prompting for the login information.

- For Cisco UCS Manager release 3.1(1) or previous, this launches the Java-based GUI.

- Launch Cisco UCS Manager GUI for the selected Cisco UCS domain. Beginning Cisco UCS Central 2.0, you can sign on to a Cisco UCS Domain with the same user credentials that you provide for logging on to Cisco UCS Central. These credentials will provide the same roles/locales as Cisco UCS Central. For the Cisco UCS domains prior to 3.1(2), the existing functionality will continue to work as before. If you are not logged in the Cisco UCS domain with the same password, it prompts you to provide a new password. In order to log in as a remote user, you must authenticate the user role in the **Manage UCS Central Authentication** window. The single sign-on feature works for launching the UCS domain and KVM on any server, or a service profile using the Cisco UCS Central user credentials, roles, and locales.

> **Note** Single sign-on is supported on Cisco UCS Manager release 3.1(3) and later.

- Launch corresponding Cisco UCS Manager Statistics pages for the following:

> **Important** To view Cisco UCS Manager content from Cisco UCS Central, ensure to log in to the Cisco UCS Central GUI with the same hostname, or IP address that was used to register Cisco UCS Manager with Cisco UCS Central.

Beginning Cisco UCS Central 2.0, you can launch the KVM HTML-5 based client from the sub-menu in the **Server** view. The HTML-5 based client launches only if your set up has Cisco UCS Manager 3.1(3) or later, and if you have installed CIMC version 3.1.22.x and higher. This feature is supported on the Cisco UCS B-Series M3 and M4 Blade, and Cisco UCS C-Series M3 and M4 Rack server models or higher. If you run earlier versions of Cisco UCS Manager with the supported versions of firmware, **Launch KVM Client** launches the Java based client.

Security Related Operations

You can create security policies for Self-Encrypting Drives (SEDs) through a Storage Profile in Cisco UCS Central. In addition to creating security policies, you can perform additional operations on the supported servers. The following table lists the remote operations and their descriptions:

Component	Remote Action	Action
Controller	Unlock Disk	Unlocks ForeignSecured and Locked Disks encrypted using a Local Policy.
	Modify Remote Key	Modifies the Key in the KMIP Server and fetches the new Key for Encryption.
	Disable Security	Disables Security on the Controller when no Secured Disks are present on Controller.
	Unlock for Remote	Unlocks ForeignSecured and Locked Disks encrypted using a Remote Policy.
Virtual Disk	Secure Virtual Drive	Secures LUNs comprised only of SEDs when the Controller is Security Enabled.

Component	Remote Action	Action
Physical Disk	Enable Encryption	Used to Secure JBOD Self-Encrypting Drive(SED) when Controller is Security Enabled.
	Secure Erase	Erases disk cryptographically to make it Unsecured and Reusable.
	Secure Erase Foreign Configuration	Erases ForeignSecured and Locked disks cryptographically to make them Unsecured and Unconfigured Good

For more information about SED Management and security policies, see *Cisco UCS Manager Storage Management Guide*.

Launch Cisco UCS Manager Power Tab

You can launch Cisco UCS Manager server power statistics from the **Tools** menu in Cisco UCS Central to view these details for the server:

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors

Name	Description
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter. The unit the value is in can be determined by the code appended to the name of the counter: • **(A)**—Amperes • **(babbles)** • **(bytes)**—Number of bytes • **(©)**—Celsius • **(collisions)**—Number of times a network collision was encountered • **(drops)**—Number of times packets were dropped during the transfer • **(errors)**—Number of errors encountered • **(lostCarrier)**—Number of times the carrier was lost during transmission • **(MB)**—Megabytes • **(noCarrier)**—Number of times no carrier could be found • **(packets)**—Number of packets transferred • **(pause)**—Number of pauses encountered during data transmission • **(resets)**—Number or resets encountered during data transmission • **(V)**—Volts • **(W)**—Watts • **(**blank**)**
Avg column	The average value for the counter. **Note** For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter. **Note** For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter. **Note** For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**

- Change the statistics displayed on the chart by selecting **Configure Chart**

- Print the chart by selecting **Print**

NIC Mode and NIC Redundancy Settings

Table 1: Valid NIC Redundancy Settings For Each NIC Mode

NIC Mode	Valid NIC Redundancy Settings
Shared LOM EXT	Active-active
Dedicated	None
Shared LOM	Active-active Active-standby
Cisco Card	Active-active Active-standby

This server has the following NIC mode settings that you can choose from:

- *Shared LOM EXT* (default)—This is the shared LOM extended mode, the factory-default setting. With this mode, the Shared LOM and Cisco Card interfaces are both enabled. You must select the default *Active-Active* NIC redundancy setting in the following step.

  In this NIC mode, DHCP replies are returned to both the shared LOM ports and the Cisco card ports. If the system determines that the Cisco card connection is not getting its IP address from a Cisco UCS Manager system because the server is in standalone mode, further DHCP requests from the Cisco card are disabled. Use the Cisco Card NIC mode if you want to connect to Cisco IMC through a Cisco card in standalone mode.

- *Shared LOM*—The 1-Gb/10-Gb Ethernet ports are used to access Cisco IMC. You must select either the *Active-Active* or *Active-standby* NIC redundancy setting in the following step.

- *Dedicated*—The dedicated management port is used to access Cisco IMC. You must select the *None* NIC redundancy setting in the following step.

- *Cisco Card*—The ports on an installed Cisco UCS Virtual Interface Card (VIC) are used to access the Cisco IMC. You must select either the *Active-Active* or *Active-standby* NIC redundancy setting in the following step.

  See also the required VIC Slot setting below.

This server has the following NIC redundancy settings that you can choose from:

- *None*—The Ethernet ports operate independently and do not fail over if there is a problem. This setting can be used only with the Dedicated NIC mode.

- *Active-standby*—If an active Ethernet port fails, traffic fails over to a standby port. Shared LOM and Cisco Card modes can each use either Active-standby or Active-active settings.

- *Active-active* (default)—All Ethernet ports are utilized simultaneously. The Shared LOM EXT mode must use only this NIC redundancy setting. Shared LOM and Cisco Card modes can each use either Active-standby or Active-active settings.

Launch Cisco UCS Manager SEL Logs

You can launch the Cisco UCS Manager SEL Logs from Cisco UCS Central to view the system event log generated by the server.

It includes the following buttons below the log:

- **Export**—Exports the log to a text file.

- **Copy**—Copies the selected portion of the log to the clipboard.

- **Print**—Opens the **Print** dialog box so that you can print the log.

- **Refresh**—Displays any new messages that have been generated since the log was displayed.

- **Backup**—Backs up the log to the server specified in the SEL policy for this Cisco UCS domain.

- **Clear**—Clears the entries from the log.

> **Note**   This action triggers an automatic backup if **Clear** is enabled in the SEL policy **Action** option box.

Launch Cisco UCS Manager Server Temperatures Tab

Displays temperature statistics for the components of the server. You can view these statistics in tabular or chart format.

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.

Name	Description
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter. The unit the value is in can be determined by the code appended to the name of the counter: • **(A)**—Amperes • **(babbles)** • **(bytes)**—Number of bytes • **(©)**—Celsius • **(collisions)**—Number of times a network collision was encountered • **(drops)**—Number of times packets were dropped during the transfer • **(errors)**—Number of errors encountered • **(lostCarrier)**—Number of times the carrier was lost during transmission • **(MB)**—Megabytes • **(noCarrier)**—Number of times no carrier could be found • **(packets)**—Number of packets transferred • **(pause)**—Number of pauses encountered during data transmission • **(resets)**—Number or resets encountered during data transmission • **(V)**—Volts • **(W)**—Watts • **(blank)**

Name	Description
Avg column	The average value for the counter. **Note** For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter. **Note** For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter. **Note** For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**
- Change the statistics displayed on the chart by selecting **Configure Chart**
- Print the chart by selecting **Print**

Launch Cisco UCS Manager VIF Paths Tab

You can launch theCisco UCS Manager VIF Paths table from Cisco UCS Central to view the following details about VIF Paths:

Name	Description
Name column	The name of the virtual interface path. Expand the name to view the virtual circuits contained in that path, if any.
Adapter Port column	The adapter port associated with this interface.
FEX Host Port column	The FEX port that serves as the host port for this interface.
FEX Network Port column	The FEX port that serves as the network port for this interface.
FI Server Port column	The fabric interconnect (FI) port information, in the form *fabric name*/*port ID*/*slot ID*.
vNIC column	The vNIC associated with the virtual circuit.

Name	Description
FI Uplink column	The uplink status for the FI.
Link State column	The link state for the interface.
State Qual column	The link quality for the interface.

Launch Cisco UCS Manager Adapter Interface Statistics

You can launch Cisco UCS Manager adapter interface statistics from the **Tools** menu in Cisco UCS Central to view these details about the following adapter interfaces:

- HBAs

- NICs

- iSCSI vNICs

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors

Name	Description
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter.
	The unit the value is in can be determined by the code appended to the name of the counter:
	• **(A)**—Amperes
	• **(babbles)**
	• **(bytes)**—Number of bytes
	• **(©)**—Celsius
	• **(collisions)**—Number of times a network collision was encountered
	• **(drops)**—Number of times packets were dropped during the transfer
	• **(errors)**—Number of errors encountered
	• **(lostCarrier)**—Number of times the carrier was lost during transmission
	• **(MB)**—Megabytes
	• **(noCarrier)**—Number of times no carrier could be found
	• **(packets)**—Number of packets transferred
	• **(pause)**—Number of pauses encountered during data transmission
	• **(resets)**—Number or resets encountered during data transmission
	• **(V)**—Volts
	• **(W)**—Watts
	• **(**blank**)**
Avg column	The average value for the counter.
	Note For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter.
	Note For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter.
	Note For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**

- Change the statistics displayed on the chart by selecting **Configure Chart**

- Print the chart by selecting **Print**

Launch Cisco UCS Manager Server Statistics Tab

Statistics Subtab

You can launch the Cisco UCS Manager Server Statistics tab fromCisco UCS Central and view the statistical counters available for the selected component.

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors

Name	Description

Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter.
	
	The unit the value is in can be determined by the code appended to the name of the counter:
	
	  • **(A)**—Amperes
	  • **(babbles)**
	  • **(bytes)**—Number of bytes
	  • **(©)**—Celsius
	  • **(collisions)**—Number of times a network collision was encountered
	  • **(drops)**—Number of times packets were dropped during the transfer
	  • **(errors)**—Number of errors encountered
	  • **(lostCarrier)**—Number of times the carrier was lost during transmission
	  • **(MB)**—Megabytes
	  • **(noCarrier)**—Number of times no carrier could be found
	  • **(packets)**—Number of packets transferred
	  • **(pause)**—Number of pauses encountered during data transmission
	  • **(resets)**—Number or resets encountered during data transmission
	  • **(V)**—Volts
	  • **(W)**—Watts
	  • **(**blank**)**

Avg column	The average value for the counter. **Note** For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter. **Note** For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter. **Note** For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**

- Change the statistics displayed on the chart by selecting **Configure Chart**

- Print the chart by selecting **Print**

Launch Cisco UCS Manager CIMC Sessions Tab

You can view the Cisco UCS Manager CIMC Sessions for a registered UCS domain from Cisco UCS Central. The following details are displayed for the active CIMC sessions:

Column	Description
Name	The name of the user who launched the session.
Session ID	The ID associated with the session.
Session Type	This can be one of the following: • **KVM** • **Vmedia** • **SOL**
CIMC Address	The Management IP address on which the session is established.
Login Time	The date and time the session started.
Last Update Time	The last time the session information was updated by CIMC.
Administrative State	This can be one of the following: • **Active** • **Inactive**
Privilege	The privilege level of the user. This can be one of the following: • **Read-write (RW)** • **Read Only** • **Granted (vMedia)**

Column	Description
Source Address	The IP address of the computer from which the session was opened.
Service Profile	The name of the service profile associated with the session.
	The value is displayed when a session is launched with the service profile IP address.
	Note This field is not displayed when you view CIMC Sessions from the **Servers** tab.
Server	The name of the server associated with the session.
	Note This field is not displayed when you view CIMC Sessions from the **Equipment** tab.

Launch Cisco UCS Manager Installed Host Firmware Package Tab

You can view the Cisco UCS Manager **Installed Host Firmware Package** tab from the list of Policies in the **Service Profile Details** view. This option is available only if you have an associated service profile. You can view the following details for the installed firmware pack items:

Name	Description
Update Firmware button	Click this button to update the firmware on one or more components.
Activate Firmware button	Click this button to activate the backup firmware version on one or more components.
Capability Catalog button	Click this button to open the Catalog Update Tasks Tab.
Management Extension button	Click this button to open the Management Extension General Tab..
Name column	A navigation tree that allows you to view a particular component and its subcomponents. You can right-click a component to view any actions available for that component.
Model column	The model number.
Running Version column	The firmware version used by the component.
Startup Version column	The version of the firmware that takes effect the next time that the component reboots.
Backup Version column	Displays the firmware version that exists in memory, but is not being used by the server.

Name	Description
Update Status column	This can be one of the following: • **Ready**—This firmware version is ready to activate. • **Updating**—This firmware version is being updated. • **Failed**—The firmware update failed. For more information, double-click the component to view the **Status Details** area on the **General** tab.
Activate Status column	This can be one of the following: • **Ready**—Activation succeeded and the component is running the new version. • **Activating**—The system is activating the new firmware version. • **Failed**—The firmware activation failed. For more information, double-click the failed component to view its status properties.

About End-to-End Diagnostics

With Cisco UCS Central, you can initiate end-to-end diagnostics in an integrated fashion with Cisco UCS Manager, in order to troubleshoot hardware issues and conduct burn-in tests on your environments.

Note Cisco UCS Central does not fully support end-to-end diagnostics. For task-based information on conducting end-to-end diagnostics refer to the Cisco UCS Manager documentation. This feature also excludes policies in Cisco UCS Central. Also, Cisco UCS Central does not report instances of bad memory.

Note Initiating the end-to-end diagnostic process causes a system reboot. Also, if the process should stop mid-execution, a fault message is captured and displays the stage in which the fault occurred. You can manually restart the diagnostic process.

Note The connectivity to a Cisco UCS Domain can temporarily show **Lost Connectivity** status. This happens when Cisco UCS Manager gets extremely busy processing the job at hand and may not be able to respond to HeartBeat messages from Cisco UCS Central. The system will recover to normal connectivity after the Cisco UCS Domain completes the job.

Feature	Functions
Remote diagnostic capability	Remotely diagnose your Cisco UCS Manager hardware components and environments.

Feature	Functions
Trigger the diagnostic process (start/stop) from Cisco UCS Central	Initiate the diagnostic process from within Cisco UCS Central and then let Cisco UCS Manager continue with the full diagnostic process.
Diagnoses multiple servers simultaneously	Cisco UCS Central can identify multiple servers to diagnose.
Dynamically assign diagnostic policy changes to Cisco UCS Manager	Policy changes can be pushed from Cisco UCS Central to Cisco UCS Manager.

Conducting End-to-End Diagnostics

With Cisco UCS Central, you can initiate end-to-end diagnostics in an integrated fashion with Cisco UCS Manager, in order to troubleshoot hardware issues and conduct burn-in tests on your environments.

Note You can run diagnostics on both servers and domains. However, initiating the diagnostic process causes a server reboot. Additionally, if the diagnostic test fails, an error is shown in the fail stage in the FSM and in the result session. If you manually stop the diagnostic process, no error is displayed. Consequently, if the process should stop mid-execution, a fault message is captured and displays the stage in which the fault occurred. You can also manually restart the diagnostic process.

Procedure

Step 1 On the menu bar, click **Servers**.

Step 2 Choose a server.

Step 3 Click the **Tools** icon.

Step 4 Choose **Start Diagnostics Test**.

Step 5 Click **Yes**.

The diagnostics process begins.

Step 6 Click the **System Alerts** icon.

Step 7 Choose **Diagnostics Configuration Status**.

The **Configuration Status** page appears. The following information is displayed:

Option	Description
Server System (Management IP)	Displays the server system (as well as the Finite State Machine (FSM) stage, if present).
Server Domain	Displays the configuration status of the selected server domain.
Diagnostic Status	Displays the current diagnostics process of the selected server or domain.

Step 8 Once the process is complete click **Close**.

A pass or fail notice is displayed.

Configuration Status

You can view the FSM status for a server in the domain from the **Configuration Status** window. You can navigate to this window from **Tools** > **Configuration Status** on the following pages:

- **Server Details**
- **Service Profile Details**
- **Image Library Download Details**
- **Fabric Interconnect Details**
- **Infrastructure Firmware Management Details**
- **FlexFlash Controller**
- **Globalizing Service Profiles**

An FSM is a workflow model, similar to a flow chart, that is composed of the following:

- A finite number of stages
- Transition between those stages
- Operations

The current stage in an FSM is determined by past stages and the operations performed to transition between these stages. The transition between one stage to another is dependent on the success or failure of an operation. The **Configuration Status** window displays the following details for various components:

Launch pages in Cisco UCS Central	Configuration Status Details

Server Details	• **Server System (Management IP)** tab
	
	    • System Status
	
	    • FSM Stages
	
	• **Server Domain** tab
	
	    • Discover Domain Status of the Current FSM
	
	    • FSM Stages

Service Profile Details	• **Service Profile System** tab
	    • Success System Status
	    • FSM Stages
	
	• **Service Profile Domain** tab
	    • Configure Domain Status
	    • FSM Stages
	
	• **Server** tab
	    • Associate Domain Status
	    • FSM Stages

Image Library Download Details	• Download Success/Fail System Status • FSM Stages
Fabric Interconnect Details	• Configure Physical Domain Status • FSM Stages
Infrastructure Firmware Management Details	• Infrastructure Firmware Deploy Domain Status • FSM Stages

- The **System Status** section displays these details for all components: Status, Progress Status(percent), and FSM Details (button).

- Click **FSM Details** to view these details about the configuration status: Order of Operations, Name, Description, Time Stamp, Retries, and Status for the domain.

- You can favorite the **Configuration Status** window to navigate directly to the configuration status of a component from the Cisco UCS Central dashboard.

FlexFlash Configuration Status

You can view the following configuration status of the FlexFlash SD cards in the **FlexFlash Configuration Status** window:

- **Domain Status**—Shows the **Last Status** and the number of **Retries** for re-pairing the SD cards.

  - **Time Stamp**—Time when pairing completed

  - **Stage Completed**—Sync status completed

  - **Stage Description**—Description of the sync status

  - **Error Code**—Error code in the case of a failed pairing attempt

  - **Error Description**—Description of the error code

- **Domain Stages**—Shows the **Name**, **Time Stamp** of when the SD card re-pair was attempted, and the current status of the MOpsPair.

- **Configuration Stage**—Shows the **Configuration Status**, **Order and Retries**, **Stage Name**, **Time Stamp**, and **Stage Description** of the FlexFlash mirroring in progress.

Chassis Inventory

The **Chassis** page displays the following information related to the chassis associated with the registered Cisco UCS domain:

Chassis	Hardware	Configuration	Status
This column displays the following information for a chassis: • The associated domain name and chassis ID • Domain group location • Fabric side	This column displays the following hardware information for a chassis: • Model number of the chassis • Serial number of the chassis • Number of blades	This column displays the following configuration for a Chassis: • Configuration status • Configuration error count	This column displays the following status for a Chassis: • Overall status • Worst fault level • Power status • Thermal status • Decommissioned chassis. You can recommission the chassis by specifying a valid chassis ID.

Chassis Main View

The **Chassis Main View** page allows you to manage and monitor all chassis in a Cisco UCS domain through Cisco UCS Central GUI.

You can view the following information on the selected chassis and its components within a registered Cisco UCS domain:

- **Basic**—Displays the overall status and, overview of all the components within the selected chassis, fault summary, configuration errors and hardware details.

- **IOM Left**—Displays overall status, hardware details and fault summary of the left IOM module.

- **IOM Right**—Displays overall status, hardware details and fault summary details of the right IOM module.

- **Servers**—Displays overall status, hardware, and firmware details of the server associated with this chassis. If you select a server, the page redirects to the server detail view page.

- **Fans**—Displays a list of fans in the chassis. Select a fan to view information related to its module, overall status and hardware details.

- **PSUs**— Displays a list of all the PSUs in the chassis. Select a PSU to view information related to its fault summary, overall status, and other property details.

You can also perform the following tasks:

- Acknowledge and decommission a chassis. You can also launch the chassis statistics tab on Cisco UCS Manager.

- Turn on or turn off the Locator LED for a chassis.

- Verify that that you are in a Single-Server Single SIOC or Single-Server Dual SIOC mode.

- Launch Cisco UCS Manager for the specific Cisco UCS domain.

> **Note**
> - Your browser must have pop-ups enabled.
>
> - For Cisco UCS Manager release 3.1(2) or later, this launches the HTML5 GUI. If the Cisco UCS Manager credentials match the credentials for your Cisco UCS Central login, then the system will automatically log in to the Cisco UCS Manager GUI without prompting for the login information.
>
> - For Cisco UCS Manager release 3.1(1) or previous, this launches the Java-based GUI.

Launch Cisco UCS Manager Chassis Statistics

You can launch Cisco UCS Manager Chassis statistics from the **Tools** menu in Cisco UCS Central to view these details for a chassis:

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.

Name	Description
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter. The unit the value is in can be determined by the code appended to the name of the counter: • **(A)**—Amperes • **(babbles)** • **(bytes)**—Number of bytes • **(©)**—Celsius • **(collisions)**—Number of times a network collision was encountered • **(drops)**—Number of times packets were dropped during the transfer • **(errors)**—Number of errors encountered • **(lostCarrier)**—Number of times the carrier was lost during transmission • **(MB)**—Megabytes • **(noCarrier)**—Number of times no carrier could be found • **(packets)**—Number of packets transferred • **(pause)**—Number of pauses encountered during data transmission • **(resets)**—Number or resets encountered during data transmission • **(V)**—Volts • **(W)**—Watts • (blank)

Name	Description
Avg column	The average value for the counter. **Note** For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter. **Note** For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter. **Note** For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**

- Change the statistics displayed on the chart by selecting **Configure Chart**

- Print the chart by selecting **Print**

Launch Cisco UCS Manager Chassis FAN Statistics

You can launch Cisco UCS Manager Chassis FAN statistics from the **Tools** menu in Cisco UCS Central to view these details for a chassis:

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.

Name	Description
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click the + (plus sign) button at the top of the chart.
	System statistics for fabric interconnects and FEX are available. These include:
	• CPU usage
	• Memory usage, including low kernel memory
	Note A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB
	• ECC errors
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter.
	The unit the value is in can be determined by the code appended to the name of the counter:
	• **(A)**— Amperes
	• **(babbles)**
	• **(bytes)**— Number of bytes
	• **©)**—Celsius
	• **(collisions)**— Number of times a network collision was encountered
	• **(drops)**— Number of times packets were dropped during the transfer
	• **(errors)**— Number of errors encountered
	• **(lostCarrier)**— Number of times the carrier was lost during transmission
	• **(MB)**— Megabytes
	• **(noCarrier)**— Number of times no carrier could be found
	• **(packets)**— Number of packets transferred
	• **(pause)**— Number of pauses encountered during data transmission
	• **(resets)**— Number or resets encountered during data transmission
	• **(V)**—Volts
	• **(W)**— Watts
	• (blank**)**

Name	Description
Avg column	The average value for the counter.
	Note For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter.
	Note For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter.
	Note For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**
- Change the statistics displayed on the chart by selecting **Configure Chart**
- Print the chart by selecting **Print**

Launch Cisco UCS Manager PSU Statistics

You can launch Cisco UCS Manager PSU statistics for a chassis from the **Tools** menu in Cisco UCS Central to view these details for a chassis:

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.

Name	Description
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter. The unit the value is in can be determined by the code appended to the name of the counter: • **(A)**—Amperes • **(babbles)** • **(bytes)**—Number of bytes • **(©)**—Celsius • **(collisions)**—Number of times a network collision was encountered • **(drops)**—Number of times packets were dropped during the transfer • **(errors)**—Number of errors encountered • **(lostCarrier)**—Number of times the carrier was lost during transmission • **(MB)**—Megabytes • **(noCarrier)**—Number of times no carrier could be found • **(packets)**—Number of packets transferred • **(pause)**—Number of pauses encountered during data transmission • **(resets)**—Number or resets encountered during data transmission • **(V)**—Volts • **(W)**—Watts • **(blank)**

Name	Description
Avg column	The average value for the counter. **Note** For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter. **Note** For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter. **Note** For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**
- Change the statistics displayed on the chart by selecting **Configure Chart**
- Print the chart by selecting **Print**

Launch Cisco UCS Manager Fabric Interconnect IO Module Left Statistics

You can launch Cisco UCS Manager **Fabric Interconnect IOM Left** statistics from the **Tools** menu in Cisco UCS Central to view these details for the IO module:

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.

Name	Description
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter. The unit the value is in can be determined by the code appended to the name of the counter: • **(A)**—Amperes • **(babbles)** • **(bytes)**—Number of bytes • **(©)**—Celsius • **(collisions)**—Number of times a network collision was encountered • **(drops)**—Number of times packets were dropped during the transfer • **(errors)**—Number of errors encountered • **(lostCarrier)**—Number of times the carrier was lost during transmission • **(MB)**—Megabytes • **(noCarrier)**—Number of times no carrier could be found • **(packets)**—Number of packets transferred • **(pause)**—Number of pauses encountered during data transmission • **(resets)**—Number or resets encountered during data transmission • **(V)**—Volts • **(W)**—Watts • **(blank)**

Name	Description
Avg column	The average value for the counter. **Note** For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter. **Note** For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter. **Note** For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**

- Change the statistics displayed on the chart by selecting **Configure Chart**

- Print the chart by selecting **Print**

Launch Cisco UCS Manager Fabric Interconnect IO Module Right Statistics

You can launch Cisco UCS Manager **Fabric Interconnect IOM Right** statistics from the **Tools** menu in Cisco UCS Central to view these details for the IO module:

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.

Name	Description
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart.
	System statistics for fabric interconnects and FEX are available. These include:
	• CPU usage
	• Memory usage, including low kernel memory
	Note A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB.
	• ECC errors
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter.
	The unit the value is in can be determined by the code appended to the name of the counter:
	• **(A)**—Amperes
	• **(babbles)**
	• **(bytes)**—Number of bytes
	• **(©)**—Celsius
	• **(collisions)**—Number of times a network collision was encountered
	• **(drops)**—Number of times packets were dropped during the transfer
	• **(errors)**—Number of errors encountered
	• **(lostCarrier)**—Number of times the carrier was lost during transmission
	• **(MB)**—Megabytes
	• **(noCarrier)**—Number of times no carrier could be found
	• **(packets)**—Number of packets transferred
	• **(pause)**—Number of pauses encountered during data transmission
	• **(resets)**—Number or resets encountered during data transmission
	• **(V)**—Volts
	• **(W)**—Watts
	• (blank**)**

Name	Description
Avg column	The average value for the counter. **Note** For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter. **Note** For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter. **Note** For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**

- Change the statistics displayed on the chart by selecting **Configure Chart**

- Print the chart by selecting **Print**

Storage Chassis View

The Storage Chassis page allows you to manage and monitor all Cisco UCS S3260 Storage Servers in a Cisco UCS domain.

You can view the following information on the selected chassis and its components:

- **Basic**—Displays the overall status and an overview of all the components within the selected chassis, fault summary, configuration errors and hardware details.

- **System IO Controllers**—Displays overall status and detailed information about the shared adapter.

- **Servers**—Displays overall status, hardware, and firmware details of the server associated with this chassis. If you select a server, the page redirects to the server detail view page.

- **SAS Expanders**—Displays the overall status, configuration, and hardware for each SAS expander associated with this chassis.

- **Storage Enclosures**—Displays the overall status and configuration of the storage enclosures associated with this chassis by enclosure or by slot.

- **Storage**—Displays list of the storage in the selected server. Select a disk to view the current overall status, hardware, and controller details.

- **Fans**—Displays a list of fans in the chassis. Select a fan to view information related to its module, overall status and hardware details.

- **PSUs**—Displays a list of all the PSUs in the chassis. Select a PSU to view information related to its fault summary, overall status, and other property details.

You can also perform the following tasks:

- Acknowledge and decommission a chassis.

- Turn on or turn off the Locator LED for a chassis.

- Modify the discovery policy for the selected chassis.

- Launch Cisco UCS Manager for the specific Cisco UCS domain.

Note	- Your browser must have pop-ups enabled.
	- For Cisco UCS Manager release 3.1(2) or later, this launches the HTML5 GUI. If the Cisco UCS Manager credentials match the credentials for your Cisco UCS Central login, then the system will automatically log in to the Cisco UCS Manager GUI without prompting for the login information.
	- For Cisco UCS Manager release 3.1(1) or previous, this launches the Java-based GUI.

FEX

The **All FEX** page displays the following information for each FEX associated with a registered Cisco UCS domains:

FEX	Hardware	Configuration	Status
This column displays the following information for a FEX: • The associated domain name and FEX ID • Domain group location • Fabric Side	This column displays the following hardware information for a FEX: • Model number • Serial number • Number of ports available	This column displays the following configuration for a FEX: • Configuration status • Configuration error count	This column displays the following status for a FEX: • Overall status • Worst fault level • Power status • Thermal status • Decommissioned FEX. You can recommission the FEX by specifying a valid FEX ID. You can also remove a decommissioned FEX and delete all data about the FEX from the **Delete** option in the System Tools submenu.

FEX Main View

You can view the following information related to the FEX and its components within a registered Cisco UCS domain:

- **Basic**—Displays fault summary, overall status and hardware details of the FEX within UCS domain.

- **IOM**—Displays fault summary, overall status, and properties of the IOM.

- **Servers**—Displays number of rack servers connected to the FEX. Select a server to view more information on overall status, firmware and hardware details of the server.

- **Fans**—Displays a list of fans in the FEX. Select a fan to view more information related to the module number, overall status and hardware details.

- **PSUs**— Displays a list of all the PSUs in the FEX. Select a PSU to view details on fault summary, status, properties, and status of power supply units.

You can also perform the following tasks:

- Acknowledge, decommission, and recommission a FEX.

- Turn on or turn off Locator LED for FEXes.

- Launch Cisco UCS Manager for the specific Cisco UCS domain.

![Note icon]

Note	• Your browser must have pop-ups enabled.
	• For Cisco UCS Manager release 3.1(2) or later, this launches the HTML5 GUI. If the Cisco UCS Manager credentials match the credentials for your Cisco UCS Central login, then the system will automatically log in to the Cisco UCS Manager GUI without prompting for the login information.
	• For Cisco UCS Manager release 3.1(1) or previous, this launches the Java-based GUI.

Launch Cisco UCS Manager FEX Statistics

You can launch Cisco UCS Manager FEX statistics from the **Tools** menu in Cisco UCS Central to view these details:

Name	Description
Toggle History Table button	Splits the right-hand pane vertically and displays the **History** table in the bottom portion of the pane. When you select a counter in the top portion of the pane, the **History** table displays the information recorded each time the data from that counter was collected.
Modify Collection Policy button	Open the **General** tab for the selected counter, which enables you to specify the collection and reporting intervals for the counter. **Note** This option is only available if a counter is selected.
Name column	A tree view showing the system components for which statistical counters are available. To view the counters associated with a component, expand that part of the navigation tree. To view all counters, click + (plus sign) at the top of the chart. System statistics for fabric interconnects and FEX are available. These include: • CPU usage • Memory usage, including low kernel memory **Note** A major fault is raised on the fabric interconnect if the available kernel memory is less than 100 MB. • ECC errors

Name	Description
Value column	For the top-level component, this column shows the date and time the counter was last updated. For the actual counters, this column shows the current value of the counter. The unit the value is in can be determined by the code appended to the name of the counter: • **(A)**—Amperes • **(babbles)** • **(bytes)**—Number of bytes • **(©)**—Celsius • **(collisions)**—Number of times a network collision was encountered • **(drops)**—Number of times packets were dropped during the transfer • **(errors)**—Number of errors encountered • **(lostCarrier)**—Number of times the carrier was lost during transmission • **(MB)**—Megabytes • **(noCarrier)**—Number of times no carrier could be found • **(packets)**—Number of packets transferred • **(pause)**—Number of pauses encountered during data transmission • **(resets)**—Number or resets encountered during data transmission • **(V)**—Volts • **(W)**—Watts • **(**blank**)**
Avg column	The average value for the counter. **Note** For aggregated counters, this is the average delta within the reporting interval.
Max column	The maximum recorded value for the counter. **Note** For aggregated counters, this is the maximum delta within the reporting interval.
Min column	The minimum recorded value for the counter. **Note** For aggregated counters, this is the minimum delta within the reporting interval.
Delta column	The largest change recorded for the counter.

Chart Subtab

If you already created a chart during this session, the **Chart** tab displays that chart. Otherwise, when you navigate to the **Chart** tab, Cisco UCS Manager GUI displays the **Select Statistics** dialog box. This dialog box enables you to select one or two statistics to view as a line graph.

If you right-click the chart, you can access a pop-up menu with additional options. This menu enables you to:

- Change the appearance of the chart by selecting **Properties**
- Change the statistics displayed on the chart by selecting **Configure Chart**
- Print the chart by selecting **Print**

Domains Table View

The **Domains Table View** page displays the following information related to the domains registered with Cisco UCS Central:

Domain	Hardware	Configuration	Status
This column displays the following information for a registered domain: • The associated domain name and site • Domain group location • Management IP address • Owner	This column displays the following hardware information for a registered domain: • Fabric interconnect model number and cluster state (HA or Standalone) • Number of chassis and FEX • Number of blade and rack servers • Number of blade servers available for storage	This column displays the following configuration for a registered domain: • Platform family • Firmware version • Firmware status	This column displays the following status for a registered domain: • Overall status • Worst fault level • Trial expiry or status

Domain Group Details

From the **Domain Group** page, you can view information about the entities associated with a domain group. This includes the following:

- **Backup**
- **Settings**
- **Inventory**
- **Domain IDs**
- **Policies**

- **VLANs**

- **VSANs**

If you click the **Settings** icon, you can perform the following tasks:

- Create a system profile or system policy.

- Manage users, authentication, SNMP, and Call Home settings.

- Edit the domain group, and delete any user-created domain group.

> **Note** The domain group root cannot be deleted.

Domains Main View

The **Cisco UCS Domain** page displays the following information related to a selected Cisco UCS domain:

- **Basic**—Displays information related to the overall status, firmware, resources available, fault summary and management details of the selected Cisco UCS domain.

  Also, you can suspend and acknowledge a Cisco UCS Central subscription, and re-evaluate the membership of the domain. The **Firmware Upgrade Validation Status** field displays Failure to indicate that upgrade has failed. You must resolve the faults before you use the **Force Deploy** option to continue with the upgrade.

- **FI**—Displays the number of Fabric Interconnects (FI) associated with a domain, overall status, hardware, and firmware details of the FI.

  If you want to view more information on the status of the components in the FI, click on an FI from the list.

- **Chassis**—Displays the number of chassis associated with a domain, overall status, hardware, and configuration details of the chassis. For more information on the status of the components in the chassis, click on a chassis from the list.

- **FEX**—Displays the number of FEX associated with a domain, overall status, hardware, and configuration details of the FEX. For more information on the status of the components in the FEX, click on an FEX from the list.

- **Servers**—Displays the number of servers in a domain and the number of available servers. For more information on overall status, hardware, and configuration details of the server, click **Go to Servers Table**.

- **Pin Groups**—Displays the list of all pin groups in a domain and the details of each pin group.

- **FC Zone Profiles**—Displays list of FC Zone Profiles created in the Domain.

- **Diagnostics** — Launch Cisco UCS Central Diagnostic tests.

On the **Cisco UCS Domain** page, you can do the following:

- Launch Cisco UCS Manager GUI for the selected Cisco UCS Domain. Beginning Cisco UCS Central release 2.0, you can sign-on to a Cisco UCS Domain with the same user credentials that you provide for logging on to Cisco UCS Central. However, you will be prompted to specify the new password if the

passwords are different. In order to log in as a remote user, you must authenticate the user role in the **Manage UCS Central Authentication** window. After you authenticate the user, you need not provide the credentials again to sign-on to the Cisco UCS Domain. You can also create local user roles and define permissions, authentication servers, locales, and domain groups and sign-on to the Cisco UCS Domain from Cisco UCS Central without specifying the credentials again.

Note Single sign-on is supported on Cisco UCS manager release 3.1(2) and later.

- Activate UCS Central subscription when the overall status of a domain is suspended.

- Re-evaluate membership

- Assign Domain to Domain Group

- Create Pin Group — Create a LAN or SAN Pin Group.

- Create FC Zone Profile

- Domain Configuration Settings

- Suspend UCS Central Subscription (when the overall status of a domain is OK).

- Reapply Configuration

ID Universe

The **ID Universe** displays the collections of identities, or physical or logical resources, that are available in the system. All pools increase the flexibility of service profiles and allow you to centrally manage your system resources. Pools that are defined in Cisco UCS Central are called Global Pools and can be shared between Cisco UCS domains. Global Pools allow centralized ID management across Cisco UCS domains that are registered with Cisco UCS Central. By allocating ID pools from Cisco UCS Central to Cisco UCS Manager, you can track how and where the IDs are used, prevent conflicts, and be notified if a conflict occurs. Pools that are defined locally in Cisco UCS Manager are called Domain Pools.

Note The same ID can exist in different pools, but can be assigned only once. Two blocks in the same pool cannot have the same ID.

You can pool identifying information, such as MAC addresses, to preassign ranges for servers that host specific applications. For example, you can configure all database servers across Cisco UCS domains within the same range of MAC addresses, UUIDs, and WWNs.

From the **ID Universe** page, you can view the total number IDs for each type of pool, and how many of the total are **Available**, **In Use**, or have a **Conflict**. If you click on a **Resource**, you can view detailed information about that ID and where it is used.

All Pools

Display a complete list of ID pools in the system. You can use filter to sort by **Utilization Status**, **Org** or ID **Type** to view availability and usage.

Exporting Inventory Lists

You can export data to CSV, XLS, and PDF formats from table views in Cisco UCS Central.

Procedure

Step 1 Click the **Browse Tables** icon and choose an inventory view, for example **Domains**, **Servers**, or **Templates**.

> **Note**   This does not apply to **ID Universe**.

Step 2 In an inventory view, click the icon that corresponds to your selected export format.

If there are more than 500 rows to be exported, you are given the opportunity to filter your results before downloading.

Viewing Configuration Status

Procedure

Step 1 Click the **Browse Tables** icon and choose a hardware option such as: **Servers**, **Chassis**, **Fabric Interconnects**, or **FEX**.

Step 2 Click on an object to select it.

Step 3 On the detail view page, click the **Tools** icon and select **Configuration Status**.

The **Configuration Status** page displays.

Step 4 Click **Close** to close the window.

Inventory Faults

You can view faults from each individual inventory page. Click the **Browse Tables** icon and choose a physical inventory type. Click your selection to open the inventory page, and then click the **Faults** icon to view the following information:

- **Filters**—Filter the data in the table by severity, fault type, and timestamp.

- **Code**—Unique identifier associated with the fault.

- **Timestamp**—Day and time at which the fault occurred.

- **Cause**—Brief description of what caused the fault.

- **Affected Object**—The name and location of the component that this issue affects, and the domain name where it is found.

- **Fault Details**—More information about the log message.

- **Severity**—Displays an icon denoting the fault severity. The icon key displays below the table.

- **Action**—Whether user acknowledgment is required.

Toggling Locator LEDs

You can toggle the locator LEDs on and off for servers, chassis, fabric interconnects, and FEXes.

Procedure

Step 1	Click the **Browse Tables** icon and choose a hardware option such as: **Servers**, **Chassis**, **Fabric Interconnects**, or **FEX**.
Step 2	Click on an object to select it.
Step 3	On the detail view page, click the **Tools** icon and select **Toggle Locator LED**.

The Locator LED status is located at the top of the **Basic** tab.

About End-to-End Diagnostics

With Cisco UCS Central, you can initiate end-to-end diagnostics in an integrated fashion with Cisco UCS Manager, in order to troubleshoot hardware issues and conduct burn-in tests on your environments.

Note Cisco UCS Central does not fully support end-to-end diagnostics. For task-based information on conducting end-to-end diagnostics refer to the Cisco UCS Manager documentation. This feature also excludes policies in Cisco UCS Central. Also, Cisco UCS Central does not report instances of bad memory.

Note Initiating the end-to-end diagnostic process causes a system reboot. Also, if the process should stop mid-execution, a fault message is captured and displays the stage in which the fault occurred. You can manually restart the diagnostic process.

Note The connectivity to a Cisco UCS Domain can temporarily show **Lost Connectivity** status. This happens when Cisco UCS Manager gets extremely busy processing the job at hand and may not be able to respond to HeartBeat messages from Cisco UCS Central. The system will recover to normal connectivity after the Cisco UCS Domain completes the job.

Feature	Functions
Remote diagnostic capability	Remotely diagnose your Cisco UCS Manager hardware components and environments.

Feature	Functions
Trigger the diagnostic process (start/stop) from Cisco UCS Central	Initiate the diagnostic process from within Cisco UCS Central and then let Cisco UCS Manager continue with the full diagnostic process.
Diagnoses multiple servers simultaneously	Cisco UCS Central can identify multiple servers to diagnose.
Dynamically assign diagnostic policy changes to Cisco UCS Manager	Policy changes can be pushed from Cisco UCS Central to Cisco UCS Manager.

Displaying the Results of an End-to-End Diagnostic Test

Before you begin

Initiate the process.

Procedure

	Command or Action	Purpose
Step 1	UCSC(resource-mgr)/domain-mgmt/ucs-domain/chassis/server/diag # **show detail** server-name	Shows the details of the server diagnostic process.
Step 2	UCSC(resource-mgr)/domain-mgmt/ucs-domain/chassis/server/diag* # **show result**	Displays the server diagnostic results.
Step 3	UCSC(resource-mgr)/domain-mgmt/ucs-domain/chassis/server/diag # **scope result** *result-number*	Enters into the results information and assigns a number to the output.
Step 4	UCSC(resource-mgr)/domain-mgmt/ucs-domain/chassis/server/diag # **show detail**	Displays the server diagnostic results.

Example

The following example shows how to create a end-to-end diagnosis and display the operation's details:

```
UCSC(resource-mgr)# scope org /
UCSC(resource-mgr) /domain-mgmt/ucs-domain/chassis/server/diag* # show detail

Server Diagnostics:
 Oper State: Failed
 Error Descr: Diagnostic operation Failed
 Diag Overall Progress: 100
 Current Diag Policy Name: BBB
 Scheduled Diag Policy Name:
 Current Task:
UCSC(resource-mgr) /domain-mgmt/ucs-domain/chassis/server/diag* # show result

Server Diag Results:
 Id Status Descr Result Progress
 --- ----------- --------------------------------------------- ------- --------
 1 Completed Test passed Pass 100
UCSC(resource-mgr) /domain-mgmt/ucs-domain/chassis/server/diag* # show result 1
```

```
UCSC(resource-mgr) /domain-mgmt/ucs-domain/chassis/server/diag/result* # show detail

Server Diag Results:
 Id: 1
 Status: Completed
 Descr: Test passed
 Result: Pass
 Progress: 100
UCSC(resource-mgr) /domain-mgmt/ucs-domain/chassis/server/diag/result* #
```

Dynamic Searches

Cisco UCS Central enables you to save a dynamic search query that includes filters such as name, label, tag, ID, and PID. Unless you delete a query, it is retained when background processes are restarted or when the system is rebooted. Your search results are dynamically updated with current data when you select and execute a saved query.

Saving Dynamic Search Queries

Procedure

Step 1 Click the **Browse Tables** icon and choose a view such as **Domains**, **Policies**, **Schedules** from the navigation menu.

Step 2 In the **Filters** panel, select parameters for your search such as Fault level status or Platform name.
When you make selections, a save icon appears at the right of **Filters**.

Step 3 Click the save icon and enter a context-sensitive name for the search query you want to create.

Step 4 Click **Save this filter**.
The query you created is listed under **Saved Searches** in the **Filters** panel.

Executing a Saved Search Query

Procedure

Step 1 In the **Filters** panel under **Saved Searches**, select a query that you previously saved.

Step 2 Verify that the filters you selected when you created the query are checked.

The search results are dynamically updated.

Deleting a Saved Search Query

Procedure

Step 1 In the **Filters** panel under **Saved Searches**, select a query that you previously saved.

Step 2 Click the trash can icon at the right of the query name.

The search query immediately disappears.