



# Server Lifecycle

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- [Server Discovery and Actions, on page 1](#)
- [Servers Table View, on page 4](#)
- [Server Details View, on page 7](#)
- [Server Inventory View, on page 8](#)
- [Server Topology View, on page 12](#)
- [Server Metrics View, on page 12](#)
- [Compliance with Hardware Compatibility List \(HCL\), on page 12](#)

## Server Discovery and Actions

After a chassis or FEX is discovered, the blade servers connected to the chassis or the rack servers connected to the FEX are automatically claimed and discovered. *Chassis and FEX Discovery and Operations* provides information about this process. For servers to be claimed and discovered, they must be in the factory default state.

For rack servers that are directly attached to the Fabric Interconnect, do the following after the Fabric Interconnect is claimed:

1. Connect the server ports to both Fabric Interconnects. For example, ports 1 and 2 to FI-A and ports 3 and 4 to FI-B.
2. Configure the server ports on both Fabric Interconnects.

The servers that are discovered appear on the **Servers** page.

### Server Actions

The server actions enable you to manage the server. In Cisco Intersight, when you click on Servers, the Servers Table view is displayed. In Servers Table view page, click the Ellipsis (...) icon to perform server actions.

**Server Actions:** You can perform the following operations to manage a server:

- **Power**
  - **Power On/Off**—Turns on/off the power of the server.
  - **Power Cycle**—Turns off and on for the server.
  - **Hard Reset**—Reboots the server.

- **Shut Down OS**—Shuts down the server if supported by an operating system.

- **System**

- **Turn On/Off Locator**—Turns on/off the LED Locator.
- **Reset CMOS**—Resets the BIOS configuration settings to the original state hence helps in recovery when the server is not in a healthy state. The option to reset CMOS appears only when the server is powered off. For the reset to complete, the server must be powered on. There is an additional option to power on the server using the toggle button present in the Reset CMOS confirmation window.




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**Note** This option is available only for Intersight Managed Mode servers.

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- **Lock Front Panel**—Locks the physical power button on the server. For a server that already has the front panel locked, this option appears as **Unlock Front Panel**.




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- **Rediscover**—Rediscovered the server and all endpoints in that server.
- **Decommission**—Decommissions the server and removes the server from the Cisco UCS configuration. However, the server hardware physically remains in the Cisco UCS instance.
- **Reboot Cisco IMC**—Reboots the Cisco IMC.
- **Certificate:**
  - **Set KMIP Client Certificate**—To Configure a KMIP client certificate to ensure secure communication between the KMIP server and Cisco IMC.
  - **IMC certificates**—To configure the certificate and private key on the server from a third-party managed Certificate Authority(CA). This option is available only for Intersight Managed Mode servers.
- **Set Asset Tag**—Enables to set the custom asset tag.
- **Set User Label**—Allows you to set, update, or delete user labels for the selected server. It must be between 1 and 64 alphanumeric characters, containing only the following special characters: ! # \$ % & \* + , ( ) [ ] { } | / . ? @ \_ ; : ~
- **Download System Event Log**—Downloads the system event logs of a selected server. These logs record server-related events, such as over and under voltage, temperature, and fan events.
- **Clear System Event Log**—Clears the system event logs of a selected server.
- **Install Operating System**—Perform an unattended OS installation on one a Cisco UCS C-Series Standalone servers from your centralized data center through a simple process.
- **Upgrade Firmware**—Perform a firmware upgrade. For more information, see the [Firmware Upgrade](#).

- **Launch IMC**—Cross-launch Cisco Integrated Management Controller (CIMC) UI from Intersight. This action is available only for C-Series Standalone servers.



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**Note** *Generate Technical Support Data for Local Download* and *Download Hardware Inventory Data to Local Download* options are not supported in the cross-launched CIMC interface.

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- **Launch Virtual KVM**—Launch the virtual keyboard, video, and mouse (KVM) console directly for Fabric Interconnect-attached and Standalone server. Local network connectivity to the endpoint/server is required.
- **Launch Tunneled vKVM**—Tunneled vKVM works by tunneling the KVM traffic through Intersight. You can launch Tunneled vKVM sessions for all servers in Intersight Managed Mode, Cisco UCS C-Series M4, M5, M6, and M7 servers, UCS S-Series, and Hyperflex HX-Series Edge Standalone M4 and M5 servers.
- **Open TAC Case**—Open a case to report an issue with the server.
- **Set License Tier**—Update the server to a new license tier. Updating license tier is not allowed on server(s) with an associated server profile. To move the license to another tier, unassign the profile from one or more selected servers and try again.
- **Collect Tech Support Bundle**—Collect the tech support bundle. An account administrator can select the device and collect the tech support bundle file for the selected device. The downloaded file can be accessed by navigating to Admin > Tech Support Bundles section. This file can be shared with the TAC team for troubleshooting any issue.

### Bulk Server Actions

On the **Servers** table page, you can perform the following operations to manage more than one server.

- **Power**
  - **Power On**—Power on for one or more servers.
  - **Power Off**—Turn power off for one or more servers.
  - **Power Cycle**—Turns power off and on for one or more servers.
  - **Hard Reset**—Reboot the server.
  - **Shut Down OS**—Shuts down the server if supported by an operating system.
- **System**
  - **Turn On Locator**—Turn on the LED Locator.
  - **Turn Off Locator**—Turn off the LED Locator.
  - **Reset CMOS**—Resets the BIOS configuration settings to the original state hence helps in recovery when the server is not in a healthy state. The option to reset CMOS appears only when the server is powered off. For the reset to complete, the server must be powered on. There is an additional option to power on the server using the toggle button present in the Reset CMOS confirmation window.




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**Note** This option is available only for Intersight Managed Mode servers.

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- **Lock Front Panel**—Locks the physical power button on the server. For a server that already has the front panel locked, this option appears as **Unlock Front Panel**.




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**Note** This option is available only for Intersight Managed Mode servers.

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- **Reboot Cisco IMC**—Reboots the Cisco IMC.
- **Install Operating System**—Perform an unattended OS installation on one or more Cisco UCS C-Series Standalone servers from your centralized data center through a simple process.
- **Upgrade Firmware**—Perform a firmware upgrade.
- **Set License Tier**—Update one or more servers to a new license tier. Updating license tier is not allowed on server(s) with an associated server profile. To move the license to another tier, unassign the profile from one or more selected servers and try again.

## Servers Table View

From the **Service Selector** drop-down list, select **Infrastructure Service**. Navigate to **Operate > Servers**, to launch the Server Table view. From this page, you can launch device endpoints, perform bulk server actions, and navigate to the server details page. Click the **Settings** icon (the gear icon representation), and select the columns that you want in the Table view.

You can add specific columns or custom tags to the Servers Table view to sort and filter.

Each column in the Servers Table view except **Organization** can be sorted with the **Sort** option and you can also add filter based on any columns using **Add Filter** option to view and explore server inventory.

### Servers Table Summary Dashboard

The following widgets are available in the Servers table view:




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**Note** Except **Server Profiles** all other widgets are dynamic based on the **Add Filter** option that you choose.

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- **Health**—The pie chart provides a visual representation of the health of the servers.
- **Power**—The badges display the number of servers powered off or on.
- **HCL Status**—The badges display the HCL status for the servers.
- **Bundle Version**—The pie chart displays the total number of servers distributed by the bundle version.
- **Firmware Version**—The pie chart displays the total number of servers distributed by the firmware version.

- **Models**—The pie chart displays the total number of servers distributed by server models.
- **Contract Status**—The badges display the status of the service contract of the managed UCS and HyperFlex servers distributed by the current validity of their associated contracts.
- **Profile Status**—The pie chart displays the total number of servers distributed by the status of the server profile deployment.
- **Requests(last 24h)**—The pie chart displays the number of completed and failed tasks for the last 24 hours.
- **Alarm Suppression**—The badges display the number of servers categorized by their alarm suppression status: active (Yes) or inactive (No).

You can view the following details in the Servers Table view:

- **Name**—Displays the name of the server.




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#### Important

- For standalone server, the name is a combination of server model and server serial number.
  - For UCSM Managed Mode (UMM) and Intersight Managed Mode (IMM) B-Series servers, the name is a combination of UCS domain name, chassis ID, and server ID. The server ID is auto-assigned depending on the order in which the servers are discovered.
  - For C-Series servers, the name is a combination of the UCS domain name, and server ID. To configure the server ID, decommission the server and recommission it. During recommission, you can assign the server an ID of your choice.
  - The power icon displays the server power status **ON/OFF**.
  - The connection icon displays the server connection status.
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- **Health**—Displays the server health state, which corresponds to the server's alarm indicators. The server health status can be Healthy, Warning, or Critical. You can hover over the health status to view the top three active alarms. An icon next to the Health status indicates that the server's alarm notifications are currently suppressed. For more information, see [Alarm Suppression](#).
  - **Contract Status**—Displays the status of service contract for the managed UCS and HyperFlex servers based on the current validity of their associated contracts. You can identify the SmartNet Contract ID details of the server, and cross launch the [Cisco Commerce Software Subscriptions and Service Portal](#).
  - **Alarm Suppression**—Displays the alarm suppression status on the server as *Yes* for active or *No* for inactive. For more information, see [Alarm Suppression](#).
  - **Management IP**—Each server in Cisco UCS instance must have a management IP address assigned to its Cisco Integrated Management Controller (CIMC) or to the profile associated with the server. Cisco UCS Manager uses this IP address for external access that terminates in the CIMC.
  - **Model**—Displays the server model.

- **CPU Capacity (GHz)**—The aggregated speed of the CPUs on this server. CPU Capacity is calculated as the Number of CPU Sockets x Enabled Cores x Speed.
- **Memory Capacity (GB)**—The amount of RAM installed on the server in Gigabytes.
- **UCS Domain**—Displays the name of the UCS Domain the server belongs to. For standalone server, this column is not applicable.
- **HX Cluster**—Displays the name of the HyperFlex cluster the server belongs to.
- **HCL Status**—Displays the compliance status with the Hardware Compatibility List (HCL) after checking the compatibility of the server model, processor, firmware, adapters, operating system and drivers. For more information, see [Compliance with Hardware Compatibility List \(HCL\)](#).
- **Management Mode**—Displays the management mode of the server (Standalone, Intersight, UCSM)
- **Server Profile**—Displays the server profile that is associated with the server.
- **Utility Storage**—Displays the storage utility that is associated with the server and whether it is in the OK state.
- **Bundle Version**—Displays the firmware bundle version to which the server was upgraded.
- **Firmware Version**—Displays the running server firmware version at the endpoint.
- **Serial**—Displays the host ID/serial number of the server.
- **User Label**—Displays the assigned user label that helps in identification of the server.
- **License Tier**—Displays the current license on the server. You can update one or more servers to a new license tier. From the ellipsis (...) on the far right column for a server, you can choose a new license tier from the drop-down. For updating multiple servers at once, select the desired servers, click the ellipsis (...) at the top left of the table and select **Set License Tier**. For more information, see [Multiple Licensing Tiers](#).




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**Note** **Set License Tier** action is not permitted if there is a server profile assigned to the server you wish to update. Once you have unassigned the server profile, then the **Set License Tier** action is available on that server to move to a new license tier.

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- **Asset Tag**—A tag that identifies the server. The tag must have the serial number and other identifiers as required. The serial number is required to track the server in case of a service or replacement request.
- **CPU**—Displays the number of CPUs in the server.
- **CPU Cores**—Displays the number of CPU cores in the server.

### Properties

The **Properties** area displays a graphical view of the Server. The **Health Overlay** function enables you to monitor the health of the ports on the Server.

- **CPUs**—The number of CPUs in the server.
- **CPU Cores**—The number of CPU cores in the server.

- **Memory Speed (MHz)**—The speed of memory in the server in MHz.
- **Organizations**—Lists the organizations to which the server is assigned.
- **Lightning Icon**—Click the ellipsis (...) icon for operations that include Firmware Upgrade, OS Install, launch Tunneled vKVM, and Set License Tier. You can also perform Bulk Server Actions including power cycle, hard reset, and reboot IMC. For more information, see the Bulk Server Actions section in [Server Discovery and Actions](#).

### Alarms

Intersight provides fault monitoring capabilities to track alarms for all managed UCS and HyperFlex systems. For more information, see [Alarms](#).

## Server Details View

- **General**—The server dashboard provides a centralized overview where users can assess the server's health, configuration, and properties. It allows for easy monitoring of the server's status and components. The dashboard also displays events associated with the server, including configuration changes, hardware events, and system messages. For detailed information on health status, properties, and a list of current alarms, see [Alarms](#).
- **Inventory**—Provides details such as server summary, server properties, and an inventory of subsystems on your server such as CPU, memory, power supplies, fans, IO devices, storage, BIOS, and Cisco IMC. Inventory is updated through events as and when they are received from endpoints. In addition, inventory is updated on a daily basis for claimed devices and on a weekly basis for unclaimed devices. For more information, see [Servers Inventory View](#).
- **Server Profile**—Displays the associated Server Profile configuration status, server health, last updated time, and server availability. This tab appears only when you activate the Intersight Essentials license. For more information, see [Server Profiles](#).
- **HCL**—Displays the hardware compliance status of your Cisco UCS and HyperFlex systems. This tab appears only when you activate the Intersight Essentials license. You can view recommendations for driver versions based on the server model, adapters, and the server firmware version for a selected operating system. For more information, see [Servers HCL View](#).
- **Statistics**—Displays the power state and power consumption telemetry of servers. This tab appears only when you activate the Intersight Essentials license. You can select the time period for which you need to view the telemetry data. The selected time period can be up to six months.



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**Note** The feature is supported only in the cloud environment.

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- **Power State**—The telemetry data is updated every five minutes. A green block indicates that the server is powered ON, a red block indicates that the server is powered OFF, and a blank block indicates that the server is unclaimed.
- **Power Consumption**—The power consumption in Watts for X-Series servers can be viewed numerically and graphically.

- **Current Consumption** of power is updated every five minutes. An info button is present beside the current consumption value that shows the time stamp for the latest available data.
  - **Max Consumption** indicates the maximum power that has been consumed in the selected time period.
  - **Min Consumption** indicates the minimum power consumed in the selected time period.
  - **Average Consumption** indicates the average power consumed over the selected time period.
- **Topology**—Displays a detailed view of the connections from a single C-Series server, including visibility to internal ports. For more information, see [Viewing Server Topology](#).

In addition to the **Actions** listed in the **Server Actions** and **Bulk Server Actions** section, you can perform the following operations from the **Server** details page:

- **Launch Tunneled vKVM**
- **Launch KVM**
- **Launch Cisco IMC**
- **Add/ Edit Asset Tags**
- **Add/Edit User Label**
- **Start/Stop Alarm Suppression**
- **Open TAC Case**
- **Download System Event Log**
- **Clear System Event Log**




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**Note** Standalone HyperFlex M4 and M5 Servers support only Launch KVM.

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## Server Inventory View

After a server is discovered, an inventory of all its components is made available. When you select a server in the **Server** table view, you can view the inventory of its components on the **Inventory** tab.

For the selected server, you can view details of each of the following components:

- **Boot**—You can see the actual boot order of the devices configured on the server. The boot order displays the details that include device name, device type, configuration details such as Boot Mode (Legacy or UEFI), and Secure Boot Mode (Enabled or Disabled). A device configured in the server profile of Boot Order Policy may not appear in the actual boot order, if the server BIOS does not detect the device during server boot.
- **Management Controller**—You can view the firmware version, a summary of the out-band management access, hardware details, and server certificate details. Also, you can view or copy the latest server certificate from the Certificate section.





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**Note** The Server Certificate operations for UCS B-series (M5, M6) and X-Series (M6, M7) servers in Intersight Managed Mode (IMM) are supported only on Server Firmware 4.2 and later versions. However, there are no limitations with Server Firmware version for UCS C-Series (M5, M6, M7) servers.

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- **CPUs**—You can see details about the processors, including the architecture, model, socket designation, and vendor. Expanding **CPUs** displays the state and a summary of the hardware and resource details of each processor.
- **Memory**—You can see a summary of the memory cards, including their location, ID, capacity, and Clock Speed. Expanding **Memory** displays the state and hardware details of each memory card.
- **Network Adapters**—You can see details about the network adapter cards, including the slot to which they are connected, model, serial, vendor, and the interfaces to which they are connected. Expanding **Network Adapters** displays the firmware version, interface details(DCE/NIC/HBA), hardware details, and a list of alarms pertaining to each adapter.
- **GPUs**—You can see a list of GPUs. Expanding GPUs displays the GPU Inventory details that include General and GPU Controllers information for each GPU.

- **General**

- **Main**—You can view the Slot ID, Model, Serial Number, Vendor, Number of GPUs, and Firmware version.
- **PCIe Enclosure**—You can view the Slot ID, Model, Serial Number, and Vendor information.
- **GPU Controllers**—You can view the GPU Controller Name and PCI Address information.

Any change operation including insert, remove, or replace operation to the GPU requires you to trigger the rediscovery. Thus the rediscovery enables to discover the changes and update the server inventory.

- **PCIe Devices**—You can see a list of PCIe devices. Expanding PCIe Devices displays the configuration and hardware information of each device.
  - **Configuration**—You can view the firmware version of the device.
  - **Hardware**—You can view the Slot ID, Product Name, Serial Number, and Vendor information of the device.
- **Storage Controllers**—You can see a list of storage controllers, their ID, and their type. Expanding **Storage Controllers** displays the firmware version and hardware details for each storage controller.

You can perform the following operations to manage one or more storage controllers.

- **Physical Drives**—Enables a single physical drive or multiple physical drives to switch between **Unconfigured Good** and **JBOD** drive states.
- **Virtual Drives**—Enables you to select and remove the unused virtual drive to reclaim the used space in the RAID controller. Removing the virtual drive destroys all information on the file systems and deletes the virtual drive from the RAID controller.



**Note** This is the only storage operation supported in Cisco Boot Optimized M.2 RAID Controller.

#### • Storage Controller and Physical Drive Operations

The following table describes the supported SED drive operations.

Storage Controller and Physical Drive Operations	Description
<b>Secure Erase</b>	Use this option to delete the Key Encryption Key and erase the stored data in an SED.  The <b>Actions</b> menu next to a physical drive displays this option.
<b>Import Foreign Configuration</b>	Use this option to clear the user configuration on the physical drive and delete the Virtual Drives.  The <b>Actions</b> menu next to a Controller displays this option.
<b>Clear Foreign Configuration</b>	Use this option to clear or erase all the data stored on the physical drives or the virtual drives.  The <b>Actions</b> menu next to a Controller displays this option.
<b>Clear Configuration</b>	Use this option to delete the Virtual Drives, or to clear any user configurations on the storage controller and reuse the controller, when a server is not associated with a server profile.  The <b>Actions</b> menu next to a Controller displays this option.
<b>Disable Security</b>	Use this action to disable the security on a controller.  The <b>Actions</b> menu next to a Controller displays this option.
<b>Modify Security</b>	Use this option to modify the Key Encryption Key after security has already been enabled on a controller.  The <b>Actions</b> menu next to a Controller displays this option.
<b>Unlock Disks</b>	Use this option to unlock a drive to access its data when an encrypted drive is inserted from another server.  The <b>Actions</b> menu next to a Controller displays this option.

- **Hybrid Storage Slots**—Hybrid Slots indicate whether the RAID controller can handle U.3 drives in SAS/SATA mode or not. You can view the Slot ID, Requested Mode and Current Mode. The applicable values are RAID and Direct.
- **TPM**—Trusted Platform Module (TPM) enables protection to data and hardware components of the claimed server. TPM also enables you to view the state of the key identifiers and a summary of hardware details.

TPM configuration can also be cleared or reset by using the **Clear TPM** option from the **Actions** button in the right corner of the server inventory view.

**Caution:**

**Clear TPM** is meant for disaster recovery and data loss operation. Do not use it unless it is necessary.

Before using the **Clear TPM** action, you must ensure the following:

- Server Profile is configured.
- Operating System is installed.
- Server is in the power off state.




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**Note** TPM Clear action is supported only for Cisco UCS B-Series and C-Series M5 and above servers and the Firmware Version 4.2(2a) and above.

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You can view the following components of TPM:

- Key identifiers
  - **Activation Status**—Shows the TPM is in Activated/Deactivated state. When the TPM configuration is cleared/reset, the activation status shows Deactivated.
  - **Enabled State**—Shows the TPM is in Enabled/Disabled state. When the TPM configuration is cleared/reset, the Enabled state shows Disabled.
- Hardware
  - **Ownership**—Shows the ownership status as Owned/Unowned. When the TPM configuration is cleared/reset, the ownership status shows Unowned. To regain the ownership at anytime, you must switch on the Power Cycle Server.




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**Note** These properties can be viewed only for TPM 1.2 version. For 2.0, the Activation Status, Enabled State, and the Ownership Status can be viewed in the operating system.

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- Version
- Model
- Vendor
- Serial

- Firmware Version



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**Note** This property can be viewed only for TPM 2.0 version.

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## Server Topology View

For more information, see [Viewing Server Topology](#).

## Server Metrics View

For more information, see [Server Metrics](#).

## Compliance with Hardware Compatibility List (HCL)

Cisco Intersight provides the capability to evaluate and mitigate the impact of service issues from running non-validated combinations of firmware, server model, processor, adapters, operating system, and driver versions. Intersight evaluates the compatibility of your Cisco UCS systems, HyperFlex systems, Intersight Managed Mode (IMM) servers, and Cisco UCS S-Series servers to check if the hardware and software have been tested and validated by Cisco or Cisco partners. Intersight reports validation issues after checking the compatibility of the server model, processor, firmware, adapters, operating system and drivers, and displays the compliance status with the Hardware Compatibility List (HCL). **This feature requires a Cisco Intersight Essentials or above license.**

You can use Cisco UCS Tools, a host utility vSphere Installation Bundle (VIB), or OS Discovery Tool, an open source script to collect OS and driver information to evaluate HCL compliance. For more information about Hardware Compatibility Status, a detailed description and instructions on how to download Cisco UCS Tools, and for instructions on how to use the OS Discovery Tool, see [Compliance with Hardware Compatibility List \(HCL\)](#) in Resources.