# Cisco UCS Platform Emulator User Guide, Release 3.1 (2ePE1)

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# Preface


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## Audience

This guide is intended primarily for data center administrators with responsibilities and expertise in one or more of the following:

- Server administration
- Storage administration
- Network administration
- Network security

## Conventions

| Text Type | Indication |
|---|---|
| GUI elements | GUI elements such as tab titles, area names, and field labels appear in **this font**.<br>Main titles such as window, dialog box, and wizard titles appear in **this font**. |
| Document titles | Document titles appear in *this font*. |
| TUI elements | In a Text-based User Interface, text the system displays appears in `this font`. |
| System output | Terminal sessions and information that the system displays appear in `this font`. |

| Text Type | Indication |
|---|---|
| CLI commands | CLI command keywords appear in **this font**.<br>Variables in a CLI command appear in *this font*. |
| [ ] | Elements in square brackets are optional. |
| {x \| y \| z} | Required alternative keywords are grouped in braces and separated by vertical bars. |
| [x \| y \| z] | Optional alternative keywords are grouped in brackets and separated by vertical bars. |
| string | A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks. |
| < > | Nonprinting characters such as passwords are in angle brackets. |
| [ ] | Default responses to system prompts are in square brackets. |
| !, # | An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line. |

**Note** Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the document.

**Tip** Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.

**Timesaver** Means *the described action saves time*. You can save time by performing the action described in the paragraph.

**Caution** Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

**Warning** IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS

# Related Cisco UCS Documentation

### Documentation Roadmaps

For a complete list of all B-Series documentation, see the *Cisco UCS B-Series Servers Documentation Roadmap* available at the following URL: http://www.cisco.com/go/unifiedcomputing/b-series-doc.

For a complete list of all C-Series documentation, see the *Cisco UCS C-Series Servers Documentation Roadmap* available at the following URL: http://www.cisco.com/go/unifiedcomputing/c-series-doc.

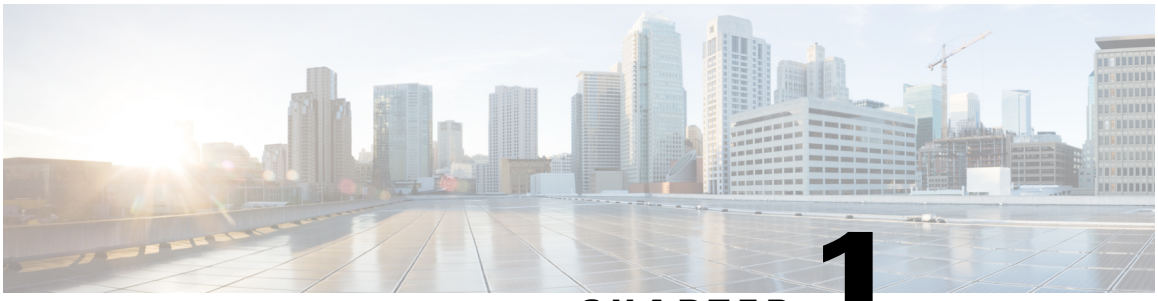
For information on supported firmware versions and supported UCS Manager versions for the rack servers that are integrated with the UCS Manager for management, refer to Release Bundle Contents for Cisco UCS Software.

### Other Documentation Resources

Follow Cisco UCS Docs on Twitter to receive document update notifications.

# Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to ucs-docfeedback@cisco.com. We appreciate your feedback.



CHAPTER 1

# New and Changed Information

This chapter includes the following sections:


- New and Changed Information, page 1


## New and Changed Information

The following tables provide an overview of the significant new features and behavioral changes to the Cisco UCS Platform Emulator. The tables do not provide an exhaustive list of all changes or of the new features in each release.

*Table 1: New Features and Significant Behavioral Changes in Cisco UCS, Release 3.1(2bPE1)*

| New or Changed Feature | Description |
|---|---|
| New Hardware support | Following new hardware features are added:<br>**1** Chassis:<br>**1** Cisco UCS C3260 system<br>**2** Storage Servers:<br>**a** UCSC-C3X60-SVRNB<br>**b** UCSC-C3K-M4SRB<br>**3** Blade Server:<br>**1** UCSB-EX-M4-3<br>**4** Rack Servers:<br>**1** HX220C-M4S<br>**2** HX240C-M4SX<br>**5** Storage Controllers:<br>**1** UCSC-C3X60-HBA<br>**2** UCSC-C3X60-R4GB<br>**3** UCSC-C3K-M4RAID<br>**6** NVMe-based PCIe storage options:<br>**1** HGST HH-HL PCIe cards<br>**2** Intel HH-HL PCIe cards<br>**3** HGST 2.5” PCIe SSDs<br>**4** Intel 2.5” PCIe SSD |

| New or Changed Feature | Description |
|---|---|
| New software features | Following new software features are added:<br>**1** Disk Zoning<br>**2** Chassis Profile<br>**3** Storage Profile for C3260 system<br>**4** New Templates:<br>• C3K M4SRB High<br>• C3X60 SVRNB High<br>• HX220C M4S Medium<br>• HX240C M4SX Medium<br>**5** Chassis level Templates (Pre-configured chassis with servers and other components on the control panel):<br>• UCSC-C3X60-BASE - 2 servers<br>• UCSC-C3X60-BASE - server and HDD Expansion tray<br>• UCSC-C3X60-BASE - IO Expander and UCSC-C3K-M4SRB<br>**6** Chassis peer device (Option to select the peer device for C3260 chassis - Fabric Extender or Fabric Interconnect) |
| Changes and limitations | Removed support for UCSME-4308 system. |

***Table 2: New Features and Significant Behavioral Changes in Cisco UCS, Release 3.1(1ePE1)***

| New or Changed Feature | Description |
|---|---|
| New Features | Following new features are added:<br>**1** Emulation of full scale setup<br>**2** Dynamic insertion, removal and modification of components that requires no restarting of Cisco UCS Platform Emulator.<br>**3** Unified release supporting all platforms and components such as Classic, UCS Mini, UCS Modular Servers |

| New or Changed Feature | Description |
|---|---|
| New Graphic User Interface Features | Following new GUI features are added:<br>**1** Summarized view of configured inventory helps in viewing exhaustive settings<br>**2** Focus view for each device with filtered catalog to configure components easily<br>**3** New menu bar<br>**4** Configure topology with Manage links module to configure customized and automatic connections<br>**5** Import connectivity and cluster information from saved configuration and Live UCS<br>**6** Easy to duplicate new devices (Chassis, Fex and Servers) and quickly create extensive set-ups<br>**7** Easy to add pre-configured devices using templates<br>**8** Inserting and removing of all devices in a single instance<br>**9** Navigation pane for quick and easy access<br>**10** Configure all devices to insert automatically upon restart<br>**11** Add components for devices in bulk using range inputs |
| Changes and limitations | **1** Customize statistics for devices with fixed/random/incrementing values<br>**2** Set clock and NTP server from UCSPE CLI<br>**3** SmartPlay Bundle Configurations are not supported<br>**4** Removed loading configuration from a startup URL<br>**5** Removed SD Card and TPM support<br>**6** Removed Dynamic Fault Injection feature |

*Table 3: New Features and Significant Behavioral Changes in Cisco UCS, Release 2.5(2aPE1)*

| New or Changed Feature | Description |
|---|---|
| New Hardware support | Following new hardware features are added:<br>1 Compute Modular Servers:<br>1 Cisco UCSME-1414 1 Socket Server<br>2 Cisco UCSME-2814 2 Socket Server<br>2 CPUs:<br>a UCS-CPU-E31231D<br>b UCS-CPU-E31241D<br>c UCS-CPU-E31271D<br>d UCS-CPU-E31281D<br>e UCS-CPU-E52630D<br>f UCS-CPU-E52640D<br>g UCS-CPU-E52650D<br>h UCS-CPU-E52660D<br>3 DIMMS:<br>1 UCS-MR-1X081RU-A<br>2 UCS-MR-1X162RU-A |
| New software features | Following new software features are added:<br>1 Templates (pre-configured cartridges with servers on the control panel) for New Modular Servers<br>• ME1414 High<br>• ME2814 Medium<br>• ME2814 High<br>2 Added TPM/TXT support for the new modular servers UCSME-1414 and UCSME-2814 |

**Note** Cisco UCS Releases 2.5(2aPE1) and 2.5(1aPE1) support configuration only for the UCS chassis UCSME-4308 and its components.

*Table 4: New Features and Significant Behavioral Changes in Cisco UCS, Release 2.5(1aPE1)*

| New or Changed Feature | Description |
|---|---|
| New Hardware support | Following new hardware features are added:<br>1 UCS Chassis - UCSME-4308 is a new chassis for modular servers which supports resource sharing such as adaptors and storage. It has a single IOM (UCSME-4308).<br>2 Compute Modular Server -Cisco UCSME-142-M4 Socket Server ( UCSME-142-M4)<br>3 DIMM - UCS-MU-1X082RY-F<br>4 Storage Disks:<br>1 UCS-SD240G0KS2-EV<br>2 UCS-SD480G0KS2-EV<br>3 UCS-SD960G0KS2-EV<br>4 UCS-SD400G0KS2-EP<br>5 UCS-SD800G0KS2-EP<br>6 UCS-SD16T12S2-EP<br>5 CPUs:<br>1 UCS-CPU-E31220LD<br>2 UCS-CPU-E31240LD<br>3 UCS-CPU-E31275LD<br>6 Storage controller - Cisco 12G SAS Modular Raid Controller (UCSME-MRAID12G) |
| Changes to the Cisco UCS Platform Emulator VM console | 1 Modifications to the VM Console login<br>2 Modifications to the VM Console Options Menu<br>3 Modifications to the Network Settings<br>4 Modifications to the System Settings<br>5 More details added to the Status Summary display |

| New or Changed Feature | Description |
|---|---|
| New software features | Following new software features are added:<br>1 Templates (pre-configured cartridges with servers on the control panel) for New Modular Servers<br>• ME142 M4 Low<br>• ME142 M4 Medium<br>• ME142 M4 High<br>2 New tab for modular servers<br>3 Support for storage profile operations:<br>• Creation of a Logical Unit Number (LUN)<br>• Deletion of a LUN<br>• Modification to a LUN<br>• Hot Spare addition<br>• Removal of Hot Spares |

***Table 5: New Features and Significant Behavioral Changes in Cisco UCS, Release 2.2(5aPE1)***

| New or Changed Feature | Description |
|---|---|
| New Hardware support | Added Haswell CPUs to the catalog. |
| New Software support | Added support for time zone management. |
| New Blade Server support | Added support for the following Blade servers:<br>• UCSB-B420-M4<br>• Cisco UCS Scalable M4 Blade Module for UCSB-EX-M4-2 Blade Server |
| New network adapter support | Added support for the UCSC-PCIE-Q8362 network adapter. |
| Scaled mode servers | The UCSB-EX-M4-2 Blade Server can be added in scaled (4S) or non-scaled (2S) mode. |

| New or Changed Feature | Description |
|---|---|
| New templates | Added the following templates for UCSB-B420-M4, UCSC-C460-M4 , UCSB-EX-M4-1 and UCSB-EX-M4-2 servers:<br>**1** B420M4High<br>**2** C460M4High<br>**3** ExM4ScaledHigh<br>**4** ExM4NonScaledHigh<br>**5** ExM42ScaledHigh<br>**6** ExM42NonScaledHigh |

***Table 6: New Features and Significant Behavioral Changes in Cisco UCS, Release 2.2(4bPE1)***

| New or Changed Feature | Description |
|---|---|
| New Network Adapter support | Added support for the following network adapters:<br>• UCSC-MLOM-C10T-02<br>• UCSB-MEZ-BRC-02<br>• UCSC-PCIE-C10T-02 |
| New Fabric Extender Support | **1** Added support for N2K-C2232TM-E-10GE<br>**2** New tab **Rack Integration** in the navigation pane of UCS Platform Emulator control panel. It allows to select the desired FEX model and change the modes of Direct Connect Rack and Single Wire Management.<br>**3** Added notes on Single Wire Management and Direct Connect Rack mode regarding newly added supported UCS C-series adapters and FEX. |

| New or Changed Feature | Description |
|---|---|
| New Software Features | **1** Added support for the following storage profile operations:<br>• Creation of a Logical Unit Number (LUN)<br>• Deletion of a LUN<br>• Modification to a LUN<br>• Hot Spare addition<br>• Removal of Hot Spares<br>**2** Added notes on Storage Controller and Adapter addition.<br>**3** Added the following new templates containing UCSC-MLOM-C10T-02 and UCSC-PCIE-C10T-02 adapters:<br>• C220M4LMedium<br>• C240M4LMedium<br>**4** Added notes on templates, importing from XML and loading a saved hardware configuration |
| Changes to the Cisco UCS Platform Emulator VM console | **1** Modifications to the VM Console login<br>**2** Modifications to the VM Console Options Menu<br>**3** Modifications to the Network Settings<br>**4** Modifications to the System Settings<br>**5** More details added to the Status Summary display |

***Table 7: New Features and Significant Behavioral Changes in Cisco UCS, Release 2.2(3aPE1)***

| New or Changed Feature | Description |
|---|---|
| New blade server support | Added support for the Cisco UCSB-B200-M4 Blade Server |

| New or Changed Feature | Description |
|---|---|
| New rack-mount server support | Added support for the following Rack Servers:<br>**1** Cisco UCSC-C220-M4S<br>**2** Cisco UCSC-C220-M4L<br>**3** Cisco UCSC-C240-M4S<br>**4** Cisco UCSC-C240-M4L<br>**5** Cisco UCSC-C240-M4S2<br>**6** Cisco UCSC-C240-M4SX |
| New network adapter support | Added support for the following network adapters:<br>**1** UCSB-MLOM-40G-03<br>**2** UCSC-MLOM-CSC-02<br>**3** UCSB-VIC-M83-8P |
| Configure IOM links | Provides additional flexibility to configure the connectivity between IOM and Fabric Interconnect. You have to configure the port numbers. It also supports Direct Connect Rack feature. |
| Change of DB persistence | Whenever you perform a configuration change on the control panel, the DB persistence gets automatically set to **reset DB**. |
| Extended direct connect Rack | UCSPE from release 2.2(3aPE1) onwards allows configuration of multiple and different adapters on a rack server. |
| Default Configuration Change | Default Hardware configuration contains a mix of M3 and M4 blade and rack servers. |

| New or Changed Feature | Description |
|---|---|
| New templates | Added the following new templates for UCSB-B200-M4, UCSC-C240-M4L/M4S/M4S2/M4SX, and UCSC-C220-M4L/M4S servers:<br>**1** B200M4Large<br>**2** B200M4Low<br>**3** B200M4Medium1<br>**4** B200M4Medium2<br>**5** B200M4Medium3<br>**6** B200M4Medium4<br>**7** C220M4SHigh<br>**8** C220M4SMedium1<br>**9** C220M4SMedium2<br>**10** C240M4SXMedium<br>**11** C240M4SXHigh1<br>**12** C240M4SXHigh2 |

***Table 8: New Features and Significant Behavioral Changes in Cisco UCS, Release 2.2.(2cPE1)***

| New or Changed Feature | Description |
|---|---|
| New blade server support | Added support for the Cisco UCS Scalable M4 Blade Module for the UCSC-B260-M4 or UCSC-B460-M4 Blade Server |
| New rack-mount server support | Added support for the Cisco UCSC-C460-M4 Rack Server |
| New storage accelerator support | Supports the following storage accelerators:<br>**1** Cisco UCS UCSB-F-LSI-400S storage accelerator<br>**2** Cisco UCS UCSB-F-LSI-800S storage accelerator<br>**3** Cisco UCS UCSB-F-FIO-785M storage accelerator<br>**4** Cisco UCS UCSB-F-FIO-365M storage accelerator |
| Scriptable vMedia | Creates mounting points on the Cisco IMC. Mounts are only configured and not actually mounted. |
| Storage controllers | Added a new tab called **Storage Controllers** under **Startup Inventory**. You can drag and drop the storage controllers on the rack-mounted servers or blade servers. |

| New or Changed Feature | Description |
|---|---|
| Scaled mode servers | The Cisco UCS Scalable M4 Blade Module can be added in scaled (4S) or non-scaled (2S) mode. |
| Default configuration | The default configuration is changed to M3 blade and rack-mounted servers. |

***Table 9: New Features and Significant Behavioral Changes in Cisco UCS, Release 2.2.(1bPE1)***

| New or Changed Feature | Description |
|---|---|
| Direct connect rack | Connecting rack servers to the switch in **Direct Connect Rack** mode is now supported.<br>Added a new tab called **Direct Connect Rack** under the **Navigation Pane** of the **UCS Platform Emulator Control Panel.** |
| Stripped-down firmware image | From release UCS PE 2.2 (1bPE1) onwards, download of only the stripped-down version of UCS firmware is supported. The stripped-down version is approximately 50 KB in size with essential firmware upgrade information. |
| Download from local file system | Download of UCS Manager firmware from a local file system is now supported. |
| SmartPlay bundles | Supports the following SmartPlay Bundles:<br>**1** B200_Entry_Plus_UCS_SP7_B200EP<br>**2** B200_Entry_UCS_SP7_B200E<br>**3** B200_Performance_UCS_SP7_B200P<br>**4** B200_Value_Plus_UCS_SP7_B200VP<br>**5** B200_Value_UCS_SP7_B200V<br>**6** B420_Value_UCS_SP7_b420v<br>**7** SWM_C220_Value_Plus_UCS_SP7_c220VP<br>**8** SWM_C220_Value_UCS_SP7_C220V<br>**9** SWM_C240_Performance_UCS_SP7_C240P<br>**10** SWM_C240_Value_UCS_SP7_C240P |
| Random statistics generation | Statistics are generated for the following component:<br>**1** Compute servers—motherboard temperature stats, motherboard power stats, and processor environment stats |

| New or Changed Feature | Description |
|---|---|
| SD card support | SD card slot in Compute servers is now supported. You can now upgrade the SD card firmware. |
| Dynamically inducing and clearing faults | Inducing and clearing faults using Command Line Interface (CLI) and observing the fault behavior in the Cisco UCS Manager GUI is now supported. |
| Second-level boot order support | The Second-level boot order feature is now supported. You can specify this feature in the service profile of the UCS servers during association. |
| user-space NIC (usNIC) | The user-space NIC (usNIC) feature is now supported. You can specify this feature in the service profile of the UCS servers during association. |

***Table 10: New Features and Significant Behavioral Changes in Cisco UCS, Release 2.1(2aPE1)***

| New or Changed Feature | Description |
|---|---|
| Auto Install feature supported | Firmware download and upgrade is now supported. New firmware can be downloaded either from the Cisco Developer Network or any other source and installed on the Platform Emulator. Upgrade of installed firmware is supported only for B-Series and C-Series components such as bios, adapter, Cisco IMC, and storage controller. Installation can also be done using Host Firmware Pack and Auto Install feature. |
| Single Wire Management | Added new tab called **Single Wire Management** under the **Navigation Pane** of the **UCS Platform Emulator Control Panel** |
| Templates | Added new tab called **Templates** under **Hardware Catalog** of the **Emulator Settings** tab. Templates are pre-configured blade and rack servers with loaded equipments. You can drag and drop the templates on either a rack box or chassis. The templates merge with the present configuration and fail only when:<br>**1** There is an overflow of connections for FEXs<br>**2** The template configuration is unable to occupy the slot in the chassis |
| Adding multiple objects in a single instance | Options to add multiple objects in a single drag and drop instance of equipments. |

| New or Changed Feature | Description |
|---|---|
| Range of slot numbers | Option to enter slot range while adding:<br>**1** DIMM, HDD, CPU, or PSU on rack servers and chassis<br>**2** Fans on chassis |
| Secure import of configuration supported | Import of a configuration from a live-UCS system using https is supported. |
| Random statistics generation | Statistics are randomly for the following components:<br>**1** Fabric Interconnect—envstats, Psu input-stats, sysstats, Network stats<br>**2** Chassis—Fan Stats, Psu input-stats<br>**3** FEX—envstats |
| New rack-mount server support | Added support for the following rack-mount servers:<br>**1** Cisco UCS C260 M2 Rack Server<br>**2** Cisco UCS C460 M2 Rack Server<br>**3** Cisco UCS C420 M3 Rack Server |
| New blade server support | Added support for Cisco UCS B-420 M3 Blade Server |
| New network adapter support | Added support for the following network adapters:<br>**1** Cisco UCS CNA M73KR-E Emulex Adapter<br>**2** Cisco UCS CNA M73KR-Q Qlogic Adapter |
| SmartPlay bundles | Added a new icon under the working pane of **Startup Inventory** page. |
| **Moved Hardware Inventory Menu Tab** | Moved **Hardware Inventory** Menu Tab from the **Navigation Pane** to **Emulator Settings** Menu Tab |

***Table 11: New Features and Significant Behavioral Changes in Cisco UCS, Release 2.1(1aPE1) and Release 2.1(1aPE2)***

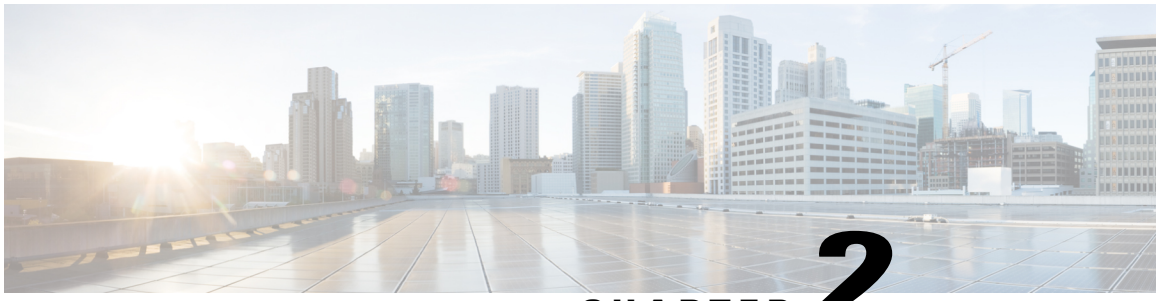
| New or Changed Feature | Description |
|---|---|
| Cluster support | Added cluster support with dual-fabric interconnects simulated on the same virtual machine. |
| Validation option | Added a validate configuration option in the GUI. |

| New or Changed Feature | Description |
|---|---|
| Backup and Restore | Added backup and restore configuration options. |
| Unified port support | Added unified port support for the Cisco UCS 6248UP and Cisco 6296UP fabric interconnects. |
| New rack-mount server support | Added support for the following rack-mount servers:<br>**1** Cisco UCS C200 M1 High-Density Rack-Mount Server<br>**2** Cisco UCS C200 M2 High-Density Rack-Mount Server<br>**3** Cisco UCS C210 M1 General-Purpose Rack-Mount Server<br>**4** Cisco UCS C210 M2 General-Purpose Rack-Mount Server<br>**5** Cisco UCS C250 M1 Extended-Memory Rack-Mount Server<br>**6** Cisco UCS C250 M2 Extended-Memory Rack-Mount Server<br>**7** Cisco UCS C220 Rack Server<br>**8** Cisco UCS C240 Rack Server<br>**9** Cisco UCS C22 Rack Server<br>**10** Cisco UCS C24 Rack Server |
| New blade server support | Added support for the following blade servers:<br>**1** Cisco UCS B-22 Blade Server<br>**2** Cisco UCS B-250 Blade Server<br>**3** Cisco UCS B-440 Blade Server |
| New network adapter support | Added support for the following network adapters:<br>**1** Cisco UCS VIC M828P Virtual Interface Card<br>**2** Cisco UCS VIC 1240 Virtual Interface Card<br>**3** Cisco UCS VIC 1225 Virtual Interface Card<br>**4** Emulex OCe11102-F Converged Network Adapter<br>**5** Qlogic QLE8242 Converged Network Adapter<br>**6** Broadcom NetXtreme II |

| New or Changed Feature | Description |
|---|---|
| New Fabric Extender (FEX) support | Added support for the Cisco Nexus 2232PP Fabric Extender.<br>Added an automatic rack server to fabric extender configuration. |
| VM Console | Added information to use the vm console to change network settings and to change the cluster status. |
| Database Persistence Settings | Added requirement to use the Cisco UCS Platform Emulator GUI only to change the persistent settings for the database (to reset or to preserve the database upon a restart). |
| Launching UCSPE | Added information to launch UCSPE using VMplayer, VMfusion, VMware vSphere Hypervisor (ESXi) , and Microsoft Hyper-V - on Windows or Linux. |
| System Requirements | Updated requirements. |
| Known Issues | Removed limitation about high availability mode. |

***Table 12: New Features and Significant Behavioral Changes in Cisco UCS, Release 2.0(2s)***

| New or Changed Feature | Description |
|---|---|
| Enhanced fabric interconnect high availability support | Added an option to switch between standalone and cluster modes for the emulated fabric interconnects. |
| New blade server | Added support for the Cisco UCS B200 M3. |
| New fabric interconnects | Added support for the Cisco UCS 6248 and 6296 fabric interconnects. |
| New I/O module | Added support for the Cisco UCS 2208XP I/O module. |
| Enhanced connectivity between I/O modules and fabric interconnects | Added support for 1, 2, 4, or 8 uplinks from an I/O module to a fabric interconnect. |



CHAPTER 2

# Overview

This chapter includes the following sections:


- Information About Cisco UCS Platform Emulator, page 17
- Cisco UCS Platform Emulator Control Panel, page 17


# Information About Cisco UCS Platform Emulator

Cisco UCS Platform Emulator is the Cisco UCS Manager application bundled into a virtual machine (VM). The VM includes software that emulates hardware communications for the Cisco Unified Computing System (Cisco UCS) hardware that is configured and managed by Cisco UCS Manager.

For example, you can use Cisco UCS Platform Emulator to create and test a supported Cisco UCS configuration, or to duplicate an existing Cisco UCS environment for troubleshooting or development purposes.

**Note** For the latest hardware and software feature information, prerequisites, limitations, and caveats, see the release notes for Cisco UCS Platform Emulator.

# Cisco UCS Platform Emulator Control Panel

## Navigation Pane

The **Navigation** pane displays on the left side of the Cisco UCS Platform Emulator Control Panel. This pane enables you to navigate to all components in the Cisco UCS Platform Emulator.

### INVENTORY Menu Tab

The items in this menu tab appear in the form of Equipment hierarchy and enable you to access and configure settings for Chassis, Fabric Extenders, Rack Servers, and Fabric Interconnects in Cisco UCS Platform Emulator.

# Work Pane

The **Work** pane displays on the right side of Cisco UCS Platform Emulator Control Panel. The **Work** pane includes a content area that displays information related to the menu item selected in the **Navigation** pane. This comprises the **Menu** bar that contains the icons and the **Hardware Inventory Dashboard** that contains the list of chassis, rack servers, fabric extenders, fabric interconnects, blade servers and modular servers. You can view and modify information in the **Work** pane.

## Hardware Inventory Dashboard

The inventory of supported hardware components is stored and displayed in the Hardware Inventory dashboard. It contains the inventory of the supported components that you can use to build a chassis in Cisco UCS Platform Emulator, including servers, fabric interconnects, and fabric extenders.

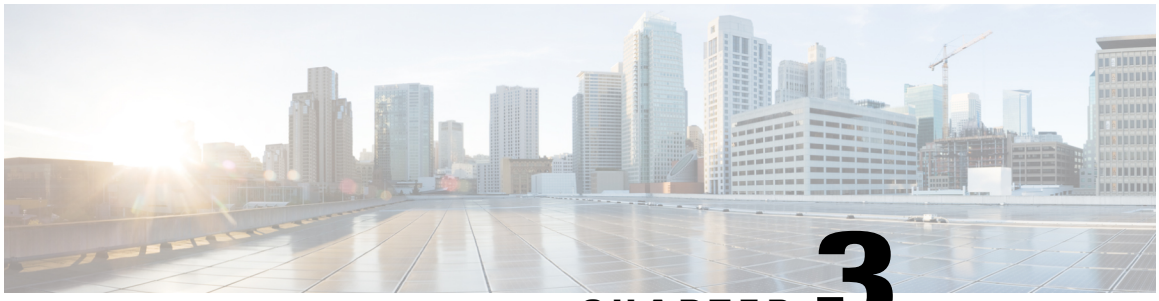
### Hardware Inventory Menu and Dashboard Icons

The following table contains the icons above the **Dashboard** area and the icons used to perform functions such as editing and removing a device, duplicating a device and adding a new device.

| Icon | Function | Description |
|---|---|---|
| | Add New Device | Adds a chassis, rack server or fabric extender. |
| | Duplicate | Duplicates the selected device. |
| | Edit Device | Opens the hardware inventory focus page where you can edit or modify the device you selected. |
| | Delete Device | Removes a device from the Emulator. |
| | Add New Template | Adds a template to create a chassis or a rack server. |

| Icon | Function | Description |
|---|---|---|
| | Load from a Saved XML | Loads a previously saved hardware inventory configuration. After you restart Cisco UCS Platform Emulator, this configuration overwrites and replaces the current hardware inventory. You can also perform the following using this icon:<br>• **Load from a File —** Import an XML file that contains hardware inventory configuration data from a file on the local disk.<br>• **Import from a Live UCS—** Imports the hardware inventory configuration from a live Cisco UCS Domain. |
| | Restart Cisco UCS Platform Emulator | Restarts Cisco UCS Platform Emulator to enable the emulated Cisco UCS Manager to discover the new hardware inventory configuration. You can also perform the following using this icon:<br>• **Factory Reset —** Resets all settings to original configuration.<br>• **Reboot UCSPE—** Reboot Cisco UCS Platform Emulator.<br>• **Shut down UCSPE—** Shut down Cisco UCS Platform Emulator. |
| | Save the Configuration | Saves the current hardware inventory configuration. A file with this name displays in the **Load previously saved configuration** list. You can also perform the following using this icon:<br>• **Export Configuration as XML File —** Exports the current hardware inventory configuration as an XML file then opens a new browser tab and displays the contents of the XML file. |
| | Validate the present Configuration | Validates the configuration by checking if the device (chassis, fabric expander, rack/blade/modular server and so on) is fully equipped with the required components, and reports the missing components of all the configured devices. |
| | Hardware Catalog | Allows you to view the hardware components supported in Cisco UCS Platform Emulator. |
| | Status Summary | Displays the current status and a summary of the Cisco UCS Platform Emulator settings. These settings are updated when you modify any of the Cisco UCS Platform Emulator settings. |

| Icon | Function | Description |
|---|---|---|
| | Managed Object Browser | Displays the Managed Object Browser, or Visore, that you can access through Cisco UCS Platform Emulator to get a graphical view of the managed objects in the XML database. You can also perform the following using this icon:<br>• **API Model Documentation —** Allows you to access the Cisco UCS Manager XML API Documentation.<br>• **UCS PowerTool Download —** Allows you to integrate, automate, and orchestrate all aspects of Cisco UCS management within the data center.<br>• **UCS CDN —** Provides information, documentation, and support resources for developers working with Cisco UCS.<br>• **Online Help —** Allows you to view the online help for Cisco UCS Platform Emulator. |
| | Settings | Allows you to modify the UCS high availability Settings and fabric interconnect selection. |
| | Open UCS Manager | Opens Cisco UCS Manager. |
| | Configure Statistics | Allows you to configure statistics for component usage in Cisco UCS Platform Emulator. |



CHAPTER 3

# Installing and Running Cisco UCS Platform Emulator Using the VM Console

This chapter includes the following sections:


- IP Address for Cisco UCS Platform Emulator, page 21
- Installing and Launching Cisco UCS Platform Emulator, page 22
- Launching Cisco UCS Platform Emulator Using Hypervisors, page 22
- Viewing System Settings Using VM Console, page 25
- Modifying System Settings Using VM Console, page 26
- Modifying Network Settings Using the VM Console, page 26
- Restarting and Rebooting Cisco UCS Platform Emulator Using the VM Console, page 27
- Starting the Cisco UCS Manager CLI Using the VM Console, page 28


## IP Address for Cisco UCS Platform Emulator

Cisco UCS Platform Emulator supports both DHCP and static IP. By default, Cisco UCS Platform Emulator is configured to use the local network to obtain an IP address via DHCP. If your network does not include a DHCP server, you must assign a static IP address to Cisco UCS Platform Emulator.

After the initial installation completes, Cisco UCS Platform Emulator displays the management IP address in the VM console. If you assign a static IP address, the IP address persists across VM reboots. If the IP address was assigned by DHCP server, the IP address persists across VM reboots for the duration of the lease.

**Note** When connecting to the UCS Platform Emulator VM Console through the SSH, we recommend that you keep open a single session.

# Installing and Launching Cisco UCS Platform Emulator

**Note** The VM performs a one-time installation process the first time it starts up. Allow the installation to complete before you reboot the VM.

### Procedure

**Step 1** Extract the Cisco UCS Platform Emulator .zip file and .ova file to a folder.

**Step 2** Open or import the unzipped Cisco UCS Platform Emulator into a supported hypervisor, as required by the hypervisor.
Do not continue with the next step until the VM has finished booting.

**Step 3** (Optional) If you have a DHCP server setup, the Cisco UCS Platform Emulator requests for the IP addresses from the DHCP server during startup (three IP addresses are requested) and the IP assigned is displayed on the login screen. Enter this IP address in a supported Mozilla-based web-browser to open the home screen of Cisco UCS Platform Emulator.

**Step 4** (Optional) If you want to assign a static IP address to Cisco UCS Platform Emulator, do the following (you are required to enter three IP addresses as described in step **e**):

a) In the VM console window, at the **ucspe login** prompt, enter **ucspe** and press **Enter**.
b) At the **Password** prompt, enter **ucspe** and press **Enter**.
c) At the **Select** prompt, enter **n** to change the network settings. A brief overview of current network settings is displayed.
d) At the **Modify Connections** prompt, enter **y** to modify connections.
e) At the **Set Network Mode** prompt, enter **c** to configure custom network.
Repeat the following steps **f.** and **g.** three times, one for each interface.
f) At the **Enter <Interface> IP** prompt, enter the static IP address to configure and press **Enter**.
g) At the **Enter <Interface> Netmask** prompt, enter the Netmask to configure and press **Enter**.
h) At the **Enter Gateway IP** prompt, enter the IP address of the default gateway press **Enter**.

After you enter the default gateway, the network interface reinitializes with your settings and the system becomes accessible through the new IP address. To cancel an entry and return to the menu, press **Ctrl+C**.

# Launching Cisco UCS Platform Emulator Using Hypervisors

You can launch Cisco UCS Platform Emulator using VMplayer, VMfusion, VMware vSphere Hypervisor (ESXi), and Microsoft Hyper-V.

### Launching Cisco UCS Platform Emulator Using Hypervisors With An `.ova` File

Using VMplayer on Microsoft Windows and Linux, Release 5.0:

1. Download the VMware OVF Tool, Release 3.0.1 from VMware. You can download the tool from the website.
2. When the download is complete, open your terminal or command prompt, navigate to where the VMware OVF Tool was installed and run the following to convert the image to a VMX file:
   `ovftool <path_to_ova\UCSPE.ova> <path_to_store_converted_image\UCSPE.vmx>`

   The conversion begins and a progress window is displayed. When finished, you can use VMware player to open the converted image and launch Cisco UCS Platform Emulator.
3. From the File menu on the VMware Player menu bar, select Open a Virtual Machine.
4. Browse to the folder where the VMX file was converted and double-click the VMX file to launch Cisco UCS Platform Emulator.

### Launching Cisco UCS Platform Emulator Using Hypervisors With a `.zip` File

The `.zip` file contains the VMX and VMDK files that can be used directly with VMware Player, VMware Workstation and VMware Fusion.

1. Download the `.zip` file.
2. Extract the `.zip` file to a folder.
3. Click **Open a Virtual Machine** and browse to the extracted files. Select the VMX file and click **Open.**.
4. To install in vSphere, the VMDK files must be processed with VMware Converter Standalone, then deployed to vCenter directly.
5. Open VMware Converter Standalone.
6. In the **Converter** view pane, select **Convert Machine**
7. Set the source type as **VMware Workstation** or **Other Virtual Machine.**
8. Select the VMX file from the folder. Click **Next.**
9. Enter the destination information for the vCenter Server.
10. Select a destination cluster resource, and suitable datastore.
11. Click on **Finish**
12. When the conversion completes successfuly, power on the VM.

### Launching Cisco UCS Platform Emulator Using Microsoft Hyper-V With a `.zip` File

**Note** This task applies to the .zip file only; for example, `Cisco_UCS_Platform_Emulator_3.1(2bPE1).zip`. Cisco UCS Platform Emulator is delivered as an `.ova` file and as a `.zip` file. Each file contains the VMX and VMDK files that can be used directly with VMware Player, VMware Workstation and VMware Fusion.

1. Download the `.zip` file.
2. Extract the `.zip` file to a folder.

3 Download the StarWind V2V converter from www.starwindsoftware.com. Install the converter in Microsoft Windows.

4 Launch the StarWind converter and convert the UCSPE.vmdk file into VHD or VHDX format. Use the Microsoft Virtual PC growable image or VHDX as the destination image format.

5 Once you have a .vhd or .vhdx image for the platform emulator you would like to use, you can create a new VM. On Windows 2012 R2, if you are using the Hypervisor Manager to create a VM, you can select **New** > **Virtual Machine** from the **Actions** pane to launch the VM Wizard and configure the VM with the following settings:

   1 Specify a name of your choice for the VM. Optionally, specify a different location to store your VM.

   2 Specify **Generation 1**.

   3 Set the startup memory to 1024 MB. Disable the use of dynamic memory..

   4 Choose an available Virtual Switch.

**Note** Hypervisor switch settings should be configured before you configure the VM. There are options for external, internal, and private switch configurations. If you wish to use internally configured IPs and NAT, we recommend you refer to the Hyper-V NAT Configuration Document for more information. Additionally, note that NAT is an available option on Windows build 14295 and later (Windows/Hyper-V Server 2012 and Windows 10).

   5 Under **Connect Virtual Hard Disk**, select **Use an existing virtual hard disk** and browse to your .vhd or .vhdx file.

   6 Once you have completed creating a VM, select **Settings** for the new VM, and select **Add Hardware** > **Network Adapter**, and click **Add**.

   7 For the new Network Adapter, select the same virtual switch you used in step number **4** and click **OK**.

   8 Repeat steps **6** and **7**, and add a third network adapter. Verify that the VM is reporting three network adapters on the desired Virtual Switch from the **Networking** summary tab, or by selecting **Settings** again.

   9 Select **Start** to start the VM after verifying the settings, and then select **Connect** to connect to the VM console.

   10 Once the Cisco UCS Platform Emulator boot is complete, you can verify and/or modify IP settings. Cisco UCS Platform Emulator supports both DHCP and static IP, and by default, is configured to use the local network to obtain an IP address through the DHCP. If your network does not include a DHCP server, you must assign a static IP address. To see the version number of Cisco UCS Platform Emulator you are using, see the User Guide.

   11 Once you configure the networking successfully, you can connect to the IP shown in the Cisco UCS Platform Emulator VM console.

### Launching Cisco UCS Platform Emulator Using VMware Fusion on Mac OS X With an .ova File

If you are running VMware Fusion 4 or below, you can use the VMware OVF Tool to convert the image to the VMware runtime file format (.vmx). VMware Fusion 5 can import the .ova image file without conversion.

1 From the File menu on the VMware Fusion menu bar, select Import. The Import Library window displays a dialog box for browsing to the location of the .ovf file.

2 Browse to the .ova file and click Open.

3 Type the name for the imported virtual machine in the Save As text box and indicate where to save it. The default destination is the Virtual Machines folder created by VMware Fusion.

4 Click Import. A status bar indicates the progress of the import process.

When the import is complete, the virtual machine appears in the virtual machine library and in a separate virtual machine window.

### Launching Cisco UCS Platform Emulator Using VMware Workstation on Microsoft Windows and Linux With an .ova File

You can directly import an .ova file into VMware Workstation 8.

1 From the File menu on the VMware Workstation 8 menu bar, select Open.

2 Browse to the .ovf or .ova file and click Open.

3 Type a name for the virtual machine, browse to the directory for the virtual machine files, and click Import.

### Launching Cisco UCS Platform Emulator Using VMware vSphere ESXi 5.0 With an .ova File

Connect to your VMware Vcenter or VMware vSphere ESXi using the vSphere client.

1 From the File menu in the Vcenter or ESXi menu bar, select Deploy OVF Template.

2 Browse to the .ova file and click Open.

# Viewing System Settings Using VM Console

You can use the Cisco UCS Platform Emulator VM console to view system status and configurations.

### Procedure

**Step 1** At the **ucspe login**, enter the username **ucspe** and press **Enter**.

**Step 2** At the **Password** prompt, enter **ucspe** and press **Enter**.
The VM console displays the **Options** menu.

**Step 3** At the **Select** prompt, enter **a** to show the status and press **Enter**.
Multiple system statuses and configurations are displayed:

- The current version of Cisco UCS Platform Emulator is displayed on top.
- The current Network Mode and the Network Interface Configurations are displayed.

# Modifying System Settings Using VM Console

You can use the Cisco UCS Platform Emulator VM console to change some of the UCS Platform Emulator configurations.

### Procedure

**Step 1** At the **ucspe login**, enter the username **ucspe** and press **Enter**.

**Step 2** At the **Password** prompt, enter **ucspe** and press **Enter**.
The VM console displays the **Options** menu.

**Step 3** At the **Select** prompt, enter **t** to modify system settings.

**Step 4** At the **Modify System Settings**, select one of the following options:

a) Enter **h** to modify High-Availability Mode and press **Enter**. The current status of the High Availability Mode is displayed (Stand Alone or Clustered).
- At the **Set High Availability** prompt, enter **s** to change to Stand Alone or **c** to change to Clustered, and press **Enter**. After modification, the Cisco UCS Platform Emulator and Cisco UCS Manager restart.

b) Enter **t** to modify system date/time and press **Enter**. The current date and time is displayed.
At the **Change Date** prompt, press **y** to change the date. If you choose not to change the date and skip to **Change Time** instead, press **n**. Enter the new date in dd/mm/yyyy format and press **Enter**.

At the **Change Time** prompt, press **y** to change the time. If you choose not to change time and exit to the main menu, press **n**. Enter the new time in hh:mm:ss format and press **Enter**.

c) Enter **n** to modify the Network Time Protocol (NTP) server settings.
At the prompt, enter the IP address of a valid Time Server running NTP. Cisco UCS Platform Emulator connects to the Time server and synchronizes its system time with the server.

**Note** If you entered invalid data in the settings, the modification process aborts and the system reverts to the original menu options.

# Modifying Network Settings Using the VM Console

You can use the Cisco UCS Platform Emulator VM console to change some network settings of the VM.

### Procedure

**Step 1** At the **ucspe login**, enter the username **ucspe** and press **Enter**.

**Step 2** At the **Password** prompt, enter **ucspe** and press **Enter**.
The VM console displays the **Options** menu.

**Step 3** At the **Options Select** prompt, enter **n** to modify network settings.
A brief summary of current network settings with the IP address, netmask and hardware address of the interfaces, is displayed.

**Step 4** At the **Modify Connections** prompt, enter **y** and press **Enter**.

**Step 5** At the **Set Network Mode** prompt, choose the network mode by entering **a** for Auto Mode; **d** for DHCP Mode and **c** for Custom Mode.

- Auto Mode—This is the default mode of the Cisco UCS Platform Emulator. In this mode, the Cisco UCS Platform Emulator checks for DHCP servers first as shown below.
- DHCP Mode—In this mode, the Cisco UCS Platform Emulator searches only for an available DHCP Server. Upon obtaining IP addresses for all the interfaces, the Cisco UCS Platform Emulator and Cisco UCS Manager restart automatically.
- Custom Mode— In this mode, the Cisco UCS Platform Emulator skips checking for available DHCP servers and directly uses the custom configuration that the user provides. Complete steps **a** and **b** once if Cluster Mode is Stand Alone, and thrice if Cluster Mode is Clustered.

a) At the **Enter eth[0,1,2] IP** prompt, enter the static IP address for the interface.
b) At the **Enter eth[0,1,2] Netmask** prompt, enter the netmask for the interface.
c) At the **Enter Gateway IP** prompt, enter the default gateway IP address.

The Cisco UCS Platform Emulator and Cisco UCS Manager restarts and come up with the configured IP address.

# Restarting and Rebooting Cisco UCS Platform Emulator Using the VM Console

You can use the Cisco UCS Platform Emulator VM console to restart and reboot UCSPE.

### Procedure

**Step 1** At the **cisco-ucspe login** prompt, type username **ucspe** and press **Enter**.

**Step 2** At the **Password** prompt, type **ucspe** and press **Enter**.
The VM console window displays the Options menu.

a) Press **s** to restart Cisco UCS Platform Emulator processes and press **Enter**. At the **Confirm** prompt, enter **y** and press **Enter**. This restarts all the Cisco UCS Platform Emulator processes including the Cisco UCS Manager process. The Cisco UCS Manager Database resets based on the configuration. (To change this, see the Modifying System Settings Using VM Console, on page 26 section).
**Note** You should perform Cisco UCS Manager backup operations to preserve the Cisco UCS Manager configuration through all the VM reboots.
b) Press **f** to perform a Factory Reset and press **Enter**. At the **Confirm** prompt, enter **y** and press **Enter**. This resets all configurations and settings to the original settings of the Cisco UCS Platform Emulator.
c) Press **r** to reboot the VM and press **Enter**. At the **Confirm** prompt, enter **y** and press **Enter**. This restarts the VM.
d) Press **x** to logout user and press **Enter**. At the **Confirm** prompt, enter **y** and press **Enter**. This logs out the current Cisco UCS Platform Emulator user and takes you back to the login screen.

e) Press **z** to shutdown the VM and press **Enter**. At the **Confirm** prompt, enter **y** and press **Enter**. This shuts down the VM.

# Starting the Cisco UCS Manager CLI Using the VM Console

You can use the supported commands from the Cisco UCS Manager CLI to configure and manage the hardware in your Cisco UCS Platform Emulator environment. The console window for the Cisco UCS Platform Emulator VM supports a single CLI session.

For information about Cisco UCS Manager CLI commands, see the *Cisco UCS Manager CLI Configuration Guide* and the *Cisco UCS Manager CLI Command Reference*. You can access these documents through the *Cisco UCS B-Series Servers Documentation Roadmap* available at the following URL: http://www.cisco.com/go/unifiedcomputing/b-series-doc .

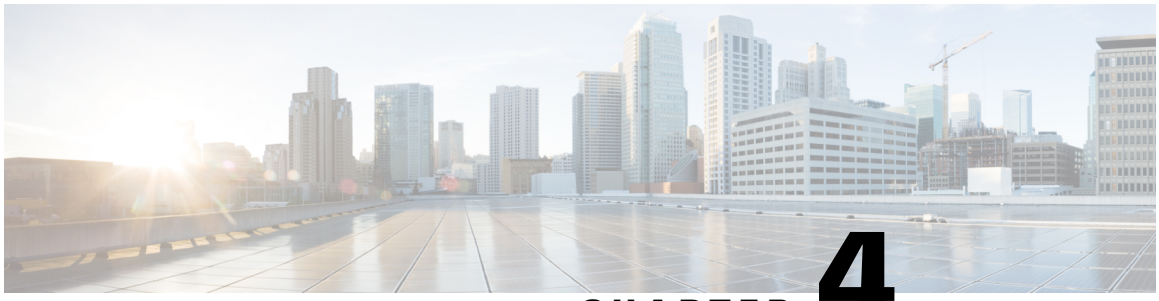
**Note** Cisco UCS Platform Emulator does not support Cisco UCS Manager CLI commands for unsupported features or within the **connect nxos** or **connect local-mgmt** scopes

### Procedure

**Step 1** At the **ucspe login** prompt, type username **ucspe** and press **Enter**.

**Step 2** At the **Password** prompt, type **ucspe** and press **Enter**.
The VM console displays the **Options** menu.

**Step 3** Press **c** to log on to the CLI console and press **Enter**
The VM Console window now displays the **ucspe#** prompt, which is the equivalent of the top-level scope in the Cisco UCS Manager CLI.



CHAPTER 4

# Restarting and Shutting Down Cisco UCS Platform Emulator Using the Control Panel

This chapter includes the following sections:


- Restarting Cisco UCS Platform Emulator, page 29
- Restarting Cisco UCS Platform Emulator and Performing a Factory Reset, page 29
- Rebooting the Cisco UCS Platform Emulator VM, page 30
- Shutting Down the Cisco UCS Platform Emulator VM, page 30


## Restarting Cisco UCS Platform Emulator

### Procedure

**Step 1** In the **Work** pane, click the **Power** icon on the menu bar.

**Step 2** Select **Restart UCSPE**.

**Step 3** For the question **Are you sure you want to restart UCS Emulator with Current Settings now?**, select **Yes** and click the **Restart Cisco UCS Platform Emulator with current settings** button to restart Cisco UCS Emulator, or select **No** and click the **Restart Cisco UCS Platform Emulator with current settings** button to cancel the restart.

## Restarting Cisco UCS Platform Emulator and Performing a Factory Reset

By default, when Cisco UCS Platform Emulator restarts, the database is erased, any hardware that you added to Cisco UCS Manager within Cisco UCS Platform Emulator is deleted, and all configurations and settings are returned to the factory defaults.

### Procedure

**Step 1** In the **Work** pane, click the **Power** icon on the menu bar.

**Step 2** Select **Factory Reset**.

**Step 3** For the question **Are you sure you want to perform Factory Reset now?**, select **Yes** and click the **Perform Factory Reset** button to restart Cisco UCS Platform Emulator with factory defaults, or select **No** and click the **Perform Factory Reset** button to cancel the restart with factory defaults.

# Rebooting the Cisco UCS Platform Emulator VM

Rebooting the VM from the Cisco UCS Platform Emulator ensures a clean shutdown of the Cisco UCS Platform Emulator before the VM reboots.

**Note** If clustering is disabled, you must set a static IP address.

### Procedure

**Step 1** In the **Work** pane, click the **Power** icon on the menu bar.

**Step 2** Select **Reboot VM**.

**Step 3** For the question **Are you sure you want to reboot Virtual Machine now?**, select **Yes** and click the **Reboot Virtual Machine** button to reboot Cisco UCS Platform Emulator, or select **No** and click the **Reboot Virtual Machine** button to cancel the reboot.

# Shutting Down the Cisco UCS Platform Emulator VM

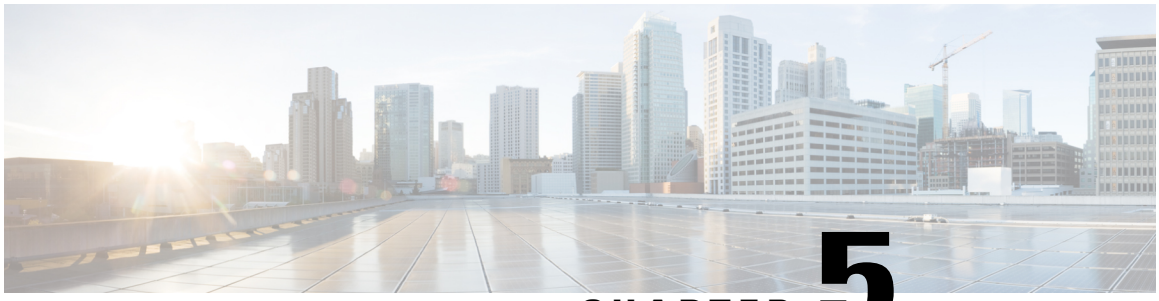
Shutting down the VM from the Cisco UCS Platform Emulator ensures a clean shutdown of the Cisco UCS Platform Emulator.

### Procedure

**Step 1** In the **Work** pane, click the **Power** icon on the menu bar.

**Step 2** Select **Shutdown VM**.

**Step 3** For the question **Are you sure you want to shut down Virtual Machine now?**, select **Yes** and click the **Shut down Virtual Machine** button to shut down Cisco UCS Platform Emulator, or select **No** and click the **Shut down Virtual Machine** button to cancel the shutdown.



CHAPTER 5

# Configuring Cisco UCS Platform Emulator

This chapter includes the following sections:


- Viewing the Cisco UCS Platform Emulator Current Status and Settings, page 31
- Modifying the Cisco UCS Manager High Availability Setting, page 33
- Configuring Statistics in Cisco UCS Platform Emulator, page 34
- Modifying the Fabric Interconnect Emulation Settings, page 34
- Configuring Cisco UCS Platform Emulator Restart Settings, page 35


# Viewing the Cisco UCS Platform Emulator Current Status and Settings

### Procedure

**Step 1** In the Work pane, click the **Status Summary** icon from the menu bar.

**Step 2** View the current status and settings of in the **Status Summary** page.

## Status Summary Page

The **Status Summary** page displays the current status and a summary of the Cisco UCS Platform Emulator settings. These settings are updated when you modify any of the Cisco UCS Platform Emulator settings.

#### Runtime Status Area

This area provides information about the current status of Cisco UCS Platform Emulator. The number in parentheses shows the number of instances of the processes that are running. This example is for a cluster setting. For a non-cluster (standalone setting), everything will be (1) and the SAM Controller will not be running.

| Name | Description |
|---|---|
| **Emulator** field | Running(1) |
| **UCS Manager** field | Running(2) |
| **Blade AG** field | Running(2) |
| **RsdAG** field | Running(2) |
| **PortAG** field | Running(2) |
| **StatsAG** field | Running(2) |
| **NicAG** field | Running(2) |
| **DcosAG** field | Running(2) |
| **HostagentAG** field | Running(2) |
| **ExtvmmAG** field | Running(2) |
| **SAM Controller** field | Running(2) |
| **Available Memory** field | The memory currently available to Cisco UCS Platform Emulator. |
| **Current Mgmt IP** field | The current management IP address. |
| **Netmask** field | The netmask configured for Cisco UCS Platform Emulator. |
| **Gateway** field | The gateway configured for Cisco UCS Platform Emulator. |

### Management IP Settings Area

This area provides details of the management IP address configured for Cisco UCS Platform Emulator.

| Name | Description |
|---|---|
| **Network Mode** field | Customized network mode. |
| **IP Address** field | IP address of the host. |
| **Netmask** field | Specifies the network's subnet. |
| **Default Gateway** field | Node that forwards packets to other networks. |

### Emulator Startup Settings Area

This area provides details of the fabric interconnect configuration for Cisco UCS Platform Emulator.

| Name | Description |
|---|---|
| **High-Availability Mode** field | The number of fabric interconnects configured for Cisco UCS Platform Emulator. This can be one of the following:<br>• On<br>• Off |

### Emulator Hardware Config Area

| Name | Description |
|---|---|
| **Startup Config URL** field | The location where the startup configuration for Cisco UCS Platform Emulator is stored. |

### NTP Settings Area

| Name | Description |
|---|---|
| **NTP Server** field | Synchronizes time stamps of the system. This could be one of the following:<br>• Synchronized<br>• Unsynchronized |
| **System Date/Time** field | Current time and date. |
| **Last NTP Update Log** field | Record of the last NTP updates. |

# Modifying the Cisco UCS Manager High Availability Setting

The High Availability setting determines which of the following configurations is emulated by Cisco UCS Platform Emulator:

- High availability cluster configuration with two fabric interconnects
- Single standalone fabric interconnect

### Procedure

**Step 1** In the **Work** pane, click the **Settings** icon.

**Step 2** Select **Change Cluster State.**

**Step 3** On the **Modify UCS High Availability Settings and FI selection** page, click one of the following radio buttons:

- **Dual Fabric Interconnect, HA**
- **Single Fabric Interconnect, no HA**

**Step 4** Click **Submit**.
This forcefully restarts Cisco UCS Platform Emulator for changes to take effect. Changing the mode resets all the connections.

# Configuring Statistics in Cisco UCS Platform Emulator

### Procedure

**Step 1** In the **Work** pane, click the **Statistics** icon from the menu bar.

**Step 2** From the device hierarchy, select the desired device.
Configured statistics policies are displayed.

**Step 3** To edit the policy of a specific statistic, click the **Edit** icon and select one of the policies:

- Fixed— allows you to set a fixed value.
- Random— allows you to set a random value.
- Increment— allows you to set an incrementing factor.

**Step 4** Enter a value in the text box for the selected policy and click **OK**.
This changes the configuration for the statistics of that device.

**Step 5** Click the **Reset to Default** button to reset the configuration.

# Modifying the Fabric Interconnect Emulation Settings

This setting determines which fabric interconnect is used by Cisco UCS Platform Emulator.

### Procedure

**Step 1** In the **Work** pane, click the **Settings** icon.

**Step 2** Select **Fabric Interconnect**.

**Step 3** On the **Modify UCS Fabric Interconnect Emulation Settings** page, select the desired fabric interconnect model from the **Fabric Interconnect** drop-down list.

**Step 4** Click **Submit**.
This restarts the Cisco UCS Platform Emulator for changes to take effect.

# Configuring Cisco UCS Platform Emulator Restart Settings

The Cisco UCS Platform Emulator Restart Settings allow you to configure settings for actions that are required whenever the Platform Emulator restarts.

**Modifying Insert Device Settings**

You can use this setting when all devices need to be inserted once the Cisco UCS Platform Emulator restarts. If the links of any device are not connected, they are automatically connected and then inserted into the Cisco UCS Manager.

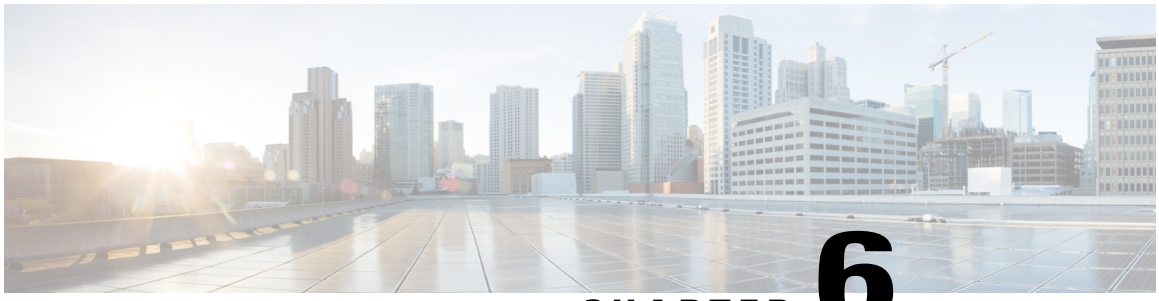
### Procedure

**Step 1** In the **Work** pane, click the **Settings** icon from the menu bar.

**Step 2** Select **UCSPE Restart Settings**.

**Step 3** Click the **Yes** radio button to insert all devices after a restart, or the **No** radio button to cancel the action.

**Step 4** Click **Submit**.



CHAPTER 6

# Configuring the Hardware Inventory

This chapter includes the following sections:


- Viewing the Hardware Catalog, page 37
- Manually Configuring the Hardware Inventory, page 38
- Using Existing Hardware Inventory Configurations, page 47


## Viewing the Hardware Catalog

### Procedure

**Step 1** On the Hardware Inventory Dashboard page, click the **Hardware Catalog** icon.

**Step 2** In the **Work** pane, click one or more of the following tabs to view the components supported in the current release:

- **Fabric Interconnect**
- **Chassis**
- **DIMM**
- **IOM**
- **FEX**
- **Blade Servers**
- **Rack Servers**
- **Modular Servers**
- **CPU**
- **DIMM**
- **Disks**
- **Adaptors**

- **Fans**
- **PSU**
- **Storage Controllers**

# Manually Configuring the Hardware Inventory

You can manually configure the hardware inventory in the **Work** pane using the options listed for hardware components on the **Hardware Inventory Dashboard**.

## Adding a New Chassis

### Procedure

**Step 1** On the **Hardware Inventory Dashboard**, click the **Add Device** icon next to the **Chassis** heading.

**Step 2** In the **Name** field, enter a name for the chassis.

**Step 3** In the **Pid** field, select a server from the drop down list.

**Step 4** Click **Add**.
Cisco UCS Platform Emulator adds a **Chassis** and the following message is displayed below the **Menu** icons:
Successfully created chassis with serial :: <Chassis serial>

**Note** Fabric Model UCS-FI-M-6324 is only supported with the chassis UCSB-5108-AC2 and UCSB-5108-DC2. However, you can connect a secondary chassis N20-C6508 to the UCS Mini chassis. To know how to manage links between devices, see Managing Connectivity of Links Between Devices, on page 45.

## Creating a New Rack Server

### Procedure

**Step 1** On the **Hardware Inventory Dashboard**, click the **Add Device** icon next to the **Rack Server** heading.

**Step 2** In the **Name** field, enter a name for the rack server.

**Step 3** In the **Pid** field, select the type of server from the drop down list.

**Step 4** Click **Add**.
Cisco UCS Platform Emulator adds a **Rack Server** and the following message is displayed below the **Menu** icons:
Successfully created rack server :: <rack server name>, with serial :: <serial number>..

### What to Do Next

Add a new template to the rack server you just created or an existing rack server. Click the **Add New Template** icon next to the **Rack Server** heading, select the rack server from a drop down list and click **Add**.

**Note** When you add a rack server, on the rack server's focus page, you can select the mode with which the rack server connects, that is, it can directly connect to a fabric interconnect (DAS mode) or through a fabric extender (SWM and DWM modes). To know how to manage links between devices, see Managing Connectivity of Links Between Devices, on page 45.

## Creating a New Fabric Extender

### Procedure

**Step 1** On the **Hardware Inventory Dashboard**, click the **Add Device** icon next to the **Fabric Extender** heading.

**Step 2** In the **Name** field, enter a name for the fabric extender.

**Step 3** In the **Side** field, select side **A** or **B** from a drop down list.

**Step 4** In the **Pid** field, select the fabric extender model from the drop down list.

**Step 5** Click **Add**.
Cisco UCS Platform Emulator adds a **Fabric Extender** and the following message is displayed below the **Menu** icons:
Successfully created Fex :: <fabric extender name>, with serial ::<serial number>.

To know how to manage links between devices, see Managing Connectivity of Links Between Devices, on page 45.

## Creating a New Blade Server

You can create a new blade server in the **Chassis** area of the Chassis Focus page. However, a new blade server does not contain any components, such as DIMMs, adapters, or fans. Once you create a new blade server, you may edit the device from the **Dashboard** area to add the individual components.

### Procedure

**Step 1** On the Hardware Inventory Dashboard, click the **Edit Device** icon for a chassis you select from the Chassis list area.

**Step 2** In the hardware catalog table in the Chassis Focus page, click on the blade server and, holding the mouse button down, drag and drop it to the **Chassis** area.

**Step 3** In the **Enter Server Slot** field, enter the number of the empty slot where you want to insert the blade server and press Enter.

**Step 4** (Optional) Click the **Validate** icon on the Dashboard to ensure that all necessary components for a server are added. Missing components are displayed if the component is missing on the server.

**Step 5** Complete the following steps to add the components to the blade server:

a) Click the **Edit Device** icon in the Blade Server area of the dashboard.

b) From the hardware catalog table on the Blade Server Focus page, click the desired component and, holding the mouse button down, drag the component to the **Server Slot** area.

c) Enter the desired slot number for the component when prompted, and press Enter.

d) Repeat Steps a through c until you have added all desired components to the blade server.

**Note** For the UCS C3260 system, the following configurations are additionally supported:

- Server in slot 1 and HDD Expansion Tray in slot 2.
- Server (UCSC-C3K-M4SRB) in slot 2 and IO Expander in slot 1.

To know more about creating an HDD Expansion Tray and IO Expander, see Creating a Hard Disk Drive Expansion Tray, on page 40 and Creating an IO Expander, on page 41.

# Creating a Hard Disk Drive Expansion Tray

You can add a Hard Disk Drive (HDD) expansion tray from the chassis area.

### Procedure

**Step 1** On the **Hardware Inventory** Dashboard, click the **Edit Device** icon for a chassis you select from the Chassis list area.

**Step 2** In the hardware catalog table in the **Chassis** Focus page, click the disk and, holding the mouse button down, drag and drop it to the Chassis area.

**Step 3** In the **Enter Disk Slot** field, enter a slot in the range of 57-60.

**Step 4** Press **Enter**.

Disks with the above range on a C3260 system represent the HDD expansion tray.

**Note** The HDD expansion tray gets added to slot number 2 on the C2360 Chassis if the slot is not already occupied by a server.

# Creating an IO Expander

You can create an IO expander in the Server area.

### Procedure

**Step 1** On the **Hardware Inventory** Dashboard, click the **Edit Device** icon for the UCSC-C3K-M4SRB server in slot 2.

**Step 2** In the hardware catalog table in the **Server** Focus page, click the disk or controller tab and, holding the mouse button down, drag and drop either component to the Server area.

**Step 3** In the **Enter Slot** field, enter a slot in the range 4-6 to add controllers, or enter a slot in the range 4-5 to add disks.

**Step 4** Press **Enter**.
Disks and controllers in the above ranges represent an IO Expander.

**Note** An IO Expander is created only if slot number 1 is empty, with UCSC-C3K-M4SRB in slot 2. It occupies slot 1 of the chassis. Controller slot number 3 is used to connect the IO Expander with the server. Therefore, in order to create an IO Expander, delete any controller in slot number 3.

# Modifying Hardware Components

After you create a chassis, server, or fabric extender, you can modify these components from their individual areas in a dedicated **Focus** page that also includes a **Connectivity** area and the respective **Hardware Catalog** table located below.

You can arrive at the Focus page by clicking the **Edit Device** icon of the individual hardware component from the hardware list on the Hardware Inventory **Dashboard** area.

## Modifying Chassis Components

### Procedure

**Step 1** Click the **Edit Device** icon in the **Chassis** area of the **Hardware Inventory Dashboard**.
The Chassis Focus page is displayed.

**Step 2** From the **Hardware Catalog** table on the **Focus** page, click the row for the desired component, drag the component to the **Chassis** area, and drop it.

**Step 3** When prompted, enter the desired slot number and press **Enter**.

**Step 4** Repeat Steps **3** and **4** until you have added all the desired components.

**Note** On a chassis with PID UCSC-C3X60-BASE, an additional HDD Expansion Tray and IO Expander are supported in a server slot. You may also add PSU and FANs. However, for other chassis PIDs, only PSU and FANs are permitted to be dropped on the chassis.

### Modifying Rack and Blade Server Components

#### Procedure

**Step 1** Click the **Edit Device** icon in the Server area of the **Hardware Inventory** dashboard.

**Step 2** From the hardware catalog table on the **Focus** page, click the row for the desired component, drag the component to the **Server** area and drop it.

**Step 3** When prompted, enter the desired slot number or a slot number range, and press **Enter**.

**Step 4** Repeat Steps **2** and **3** until you have added all desired components.

## Duplicating a Device

You can duplicate a server, fex, or chassis from the Hardware Inventory Dashboard or from the individual component area on the Focus page.

#### Procedure

On the **Hardware Inventory Dashboard**, click the **Duplicate Device** icon in the fex, server, or chassis list areas (tables).
Cisco UCS Platform Emulator duplicates the device and the following message is displayed below the **Menu** icons:
Successfully duplicated <device> ::<serial number> to new <device> ::<serial number>

**Note** When you duplicate a device, Cisco UCS Platform Emulator duplicates all the components under it (blades, DIMMs, disks, controllers and so on) and also assigns each component a unique serial number.

## Inserting a Device into Cisco UCS Manager

You can insert a configured device into Cisco UCS Manager, which results in the discovery of the device. The icons in the **Insert/Remove** column represent toggled status of each device. For example, an existing inserted device is represented through the green icon. You are required to click this icon to remove the device from UCS Manager. For more information on how to delete a device, see .

You can remove a device from two locations:

- From the Hardware Inventory Dashboard.
- From the Focus page of the device.

### Procedure

**Step 1** On the Hardware Inventory Dashboard, click the **Insert/Remove** icon from the desired hardware device's table.

**Step 2** When prompted, click the green **Check Mark** icon or the **Red** icon to remove the device or cancel the action respectively.
Removing the device turns the status of the device to red, and you can insert the device into Cisco UCS Manager.

**Step 3** Return to the Hardware Inventory Dashboard and click the **Edit Device** icon.

**Step 4** On the Focus page of the device, click the **Insert/Remove** icon on top of the page.

**Step 5** When prompted, click the green **Check Mark** icon or the **Red** icon to remove the device or cancel the action respectively.

**Note** Removing the device turns the status of the device to red, and you can insert the device into Cisco UCS Manager. Removal of a device might take some time. We recommend you wait a few minutes before attempting to re-insert. Blade and modular servers are removed when a chassis is removed the Cisco UCS Manager.

# Removing a Device from Cisco UCS Manager

You can remove an inserted configuration from Cisco UCS Manager. The icons in the **Insert/Remove** column represent toggled status of each device. For example, an removed device is represented through the red icon. You are required to click this icon to insert the device into Cisco UCS Manager. For more information on how to insert a device, see Inserting a Device into Cisco UCS Manager, on page 42.

You can remove a device from two locations:

- From the Hardware Inventory Dashboard.
- From the Focus page of the device.

### Procedure

**Step 1** On the Hardware Inventory Dashboard, click the **Insert/Remove** icon from the desired hardware device's table.

**Step 2** When prompted, click the green **Check Mark** icon or the **Red** icon to insert the device or cancel the action respectively.
Inserting the device turns the status of the device to green, and you can remove the device from Cisco UCS Manager.

**Step 3** Return to the Hardware Inventory Dashboard and click the **Edit Device** icon.

**Step 4** On the Focus page of the device, click the **Insert/Remove** icon on top of the page.

**Step 5** When prompted, click the green **Check Mark** icon or the **Red** icon to remove the device or cancel the action respectively.

**Note** Inserting the device turns the status of the device to freen, and you can remove the device from Cisco UCS Manager. Removal of a device might take some time. We recommend you wait a few minutes before attempting to re-insert. Blade and modular servers are removed when a chassis is removed the Cisco UCS Manager.

# Inserting or Removing a Device in Cisco UCS Platform Emulator

You can insert into or remove a configured device from Cisco UCS Manager, resulting in discovery of the device, or removal of the device from Cisco UCS Manager. The icons in the **Insert/Remove** column represent the toggled status of each device. For example, an existing inserted device is represented through the green icon. You are required to click this icon to remove the device from UCS Manager. A removed device is represented through the red icon and you are required to click this icon to insert the device into UCS Manager.

You can insert or remove a device from two locations:

- From the Hardware Inventory Dashboard.
- From the Focus page of the device.

### Procedure

**Step 1** On the Hardware Inventory Dashboard, click the **Insert/Remove** icon from the desired hardware device's table.

**Step 2** When prompted, click the green **Check Mark** icon or the **Red** icon depending on its original status to either insert or remove the device, or cancel the action respectively.

**Step 3** Return to the Hardware Inventory Dashboard and click the **Edit Device** icon.

**Step 4** On the Focus page of the device, click the **Insert/Remove** icon on top of the page.

**Step 5** When prompted, click the green **Check Mark** icon or the **Red** depending on its original status to either insert or remove the device, or cancel the action respectively.

**Note** Removal of a device might take some time. We recommend you wait a few minutes before attempting to re-insert. Blade and modular servers are removed when a chassis is removed the Cisco UCS Manager.

# Inserting or Removing all Devices in Cisco UCS Platform Emulator

From the Hardware Inventory Dashboard, you can perform operations such as inserting or removing all the devices to and from the Cisco UCS Manager. Additionally you can connect or disconnect all the links of the hardware components. If all the links of a device are disconnected, they are automatically connected and then inserted. A generic error message
A few devices could not be inserted. Please attempt to insert them manually
is displayed if device(s) could not be inserted due to various reasons.

Removing devices take some time. However, links of the devices are not deleted.

When you connect all the links of removed FEX, Rack Servers and Chassis, it preserves the current link configuration and attempts to connect only if all the links are disconnected. A generic error message
A few devices could not be connected
is displayed if device(s) could not be connected due to various reasons.

**Note** You can disconnect all the configured links only after the components are removed.

### Procedure

**Step 1** To insert all devices, on the Hardware Inventory dashboard, Click the **Insert all devices** icon on the right corner.

**Step 2** To remove all devices, on the Hardware Inventory dashboard, Click the **Remove all devices** icon on the right corner.

**Step 3** To connect all devices, on the Hardware Inventory dashboard, Click the **Connect all devices** icon on the right corner.

**Step 4** To disconnect all devices, on the Hardware Inventory dashboard, Click the **Disconnect all devices** icon on the right corner.

# Deleting a Device

You can delete a device from Cisco UCS Platform Emulator, from the following two locations:

- From the Hardware Inventory Dashboard.
- From the Focus page of the device.

### Procedure

**Step 1** On the Hardware Inventory Dashboard, click the **Delete Device** icon from the desired hardware device's table.

**Step 2** Return to the Hardware Inventory Dashboard and click the **Edit Device** icon.

**Step 3** On the Focus page of the device, click the **Delete Device** icon on top of the page.

**Note** You can delete a device only when it is removed from the Cisco UCS Manager.

# Managing Connectivity of Links Between Devices

You can manage the links between the source device and peer devices using the **Links** area on the individual **Focus** page of the hardware components in the **Hardware Inventory Dashboard**. You can manage links for chassis, rack servers and fabric extenders.

There are two ways to connect/disconnect links:

- Manually configure the links using the drop-down menu which lists compatible peer devices and unused peer ports.
- Allow Cisco UCS Platform Emulator to connect all links automatically using the **Connect All links of this device** option.

### Procedure

**Step 1** To **manually edit a link**, on the **Hardware Inventory Dashboard** area, click the **Edit Device** icon for the chassis, rack server, or the FEX you want to modify links for.
The individual Focus page is displayed.

**Step 2** In the Links area (for instance, for a chassis it displays **Manage Links of Chassis**), click **Edit Port**.
The break-up ports of scalable port 5 are represented as ports 5, 6, 7, 8. A secondary chassis is discovered only if its IOM links are connected to scalable port of FI-IOM.

**Step 3** Select options from the **Peer Device Type**, **Peer Device Id/Side**, **Peer Slot/Peer Port** drop-down lists.
Links of a rack server vary depending on the mode of the rack server.:

- DAS mode — links (carrying both data and management traffic) are created between adapter ports of the rack server and FI ports.
- SWM mode — links (carrying both data and management traffic) are created between adapter ports of the rack server and Fex ports.
- DWM mode — links (carrying data traffic) are created between adapter ports of the rack server and Fex ports.

  Additionally, links are created between LOM ports of the rack server and Fex ports to carry management traffic.

**Note** Peer Device of a C3260 chassis varies depending on peer device type selected on Chassis box:

- Fabric Interconnect - Chassis' SIOCs are connected to the fabric interconnect with a connectivity ratio of 1:1.
- Fabric Extender - Chassis' SIOCs are connected to the fabric extender with a connectivity ratio of 1:1.

Peer Port drop-down shows list of unused ports on a selected peer device. Appropriate success or error message is displayed on selection of Peer Port.

**Step 4** To **manually delete a link**, return to the **Hardware Inventory Dashboard** area and click the **Edit Device** icon for the chassis, rack server, or the FEX you want to modify links for.
The individual Focus page is displayed.

**Step 5** In the Links area (for instance, for a chassis it displays **Manage Links of Chassis**), click **Delete Link**.

**Step 6** To **automatically connect all the links**, from the **Hardware Inventory Dashboard** area click the **Edit Device** icon for the chassis, rack server, or the FEX you want to modify links for.
The individual Focus page is displayed.

**Step 7** In the Links area (for instance, for a chassis it displays **Manage Links of Chassis**), click **Connect All Links of this Device.**.
A message is displayed - Connect All Links of this Device.

**Step 8** Click the green check mark to connect the links or the red cross icon to cancel the action.

**Step 9** To **automatically disconnect all links**, return to the **Hardware Inventory Dashboard** area and click the **Edit Device** icon for the chassis, rack server, or the FEX you want to modify links for.
The individual Focus page is displayed.

**Step 10** In the Links area (for instance, for a chassis it displays **Manage Links of Chassis**), click **Disconnect all Links of this Device.**.

**Step 11** Repeat step **8**, where a similar message is displayed.

**Note** Error messages are displayed for incompatible connections. For instance, rack servers in the DAS and SWM mode cannot be connected to LOM ports. The **Connect All Links of this device** preserves the current link configuration and attempts to connect only the remaining disconnected ports. In case of failure to find enough ports, an error message is displayed and the current link configuration is preserved.

For a C3260 System, Cisco UCS Platform Emulator does not support breakout cable connections. All links are connected in a 1:1 ratio.

# Using Existing Hardware Inventory Configurations

You can use existing hardware inventory configurations in the **Work** pane using the icons on the menu bar.

## Importing a Hardware Inventory Configuration File

You can import a hardware configuration file that you exported from one Cisco UCS Platform Emulator into another Cisco UCS Platform Emulator. You cannot import a backup file from a Cisco UCS domain. If you want to import the configuration from a Cisco UCS domain, see Importing the Equipment from a Cisco UCS Domain.

### Before You Begin

Changes to this setting do not take effect until you restart Cisco UCS Platform Emulator.

### Procedure

**Step 1** On the **Hardware Inventory Dashboard** page, click the **Load File** icon on the Menu bar.

**Step 2** Click **Browse** and navigate to the file that you want to load into the Cisco UCS Platform Emulator.

**Step 3** Restart Cisco UCS Platform Emulator.

## Importing the Equipment from a Cisco UCS Domain

### Before You Begin

Changes to this setting do not take effect until you restart Cisco UCS Platform Emulator.

**Note** Importing a configuration using HTTPS is now supported. If HTTPS is disabled on a Cisco UCS domain, enable HTTPS redirection.

### Procedure

**Step 1** In the Work pane, click the **Import** icon from the menu bar.

**Step 2** Select **Import From a Live UCS**

**Step 3** In the **Cisco UCS Server** field, enter the web link for the Cisco UCS Manager GUI of the Cisco UCS domain from which you want to import the equipment.

The default web link is `http://UCSManager_IP:port` , where *UCSManager_IP* represents the IP address assigned to Cisco UCS Manager. This IP address can be one of the following:

- Cluster configuration: `UCSManager_IP` represents the virtual or cluster IP address assigned to Cisco UCS Manager. Do not use the IP addresses assigned to the management port on the fabric interconnects.
- Standalone configuration: `UCSManager_IP` represents the IP address for the management port on the fabric interconnect

And where *port* represents the port used to access the Cisco UCS Manager GUI. By default, this port is 80 for HTTP access and 443 for HTTPS access.

**Step 4** Enter a valid user name and password for the Cisco UCS domain.
Any user with read-only or higher privileges can access the hardware inventory configuration.

**Step 5** Click **Load**.

**Step 6** Restart Cisco UCS Platform Emulator. For information on restarting, see Restarting Cisco UCS Platform Emulator, on page 29

# Importing a Saved Hardware Inventory Configuration

**Note** When a XML before 2.2(4bPE1) version is imported to the 2.2(4bPE1) setup, storage controllers might not be added to the rack server if the storage controller slot is same as the adapter slot. If the adapter and storage controller slots are same, insert the storage controller manually.

### Procedure

**Step 1** In the **Work** pane, click the **Import** icon from the menu bar.

**Note** Only a user created configuration file is shown when you try to load a configuration file.

**Step 2** Select **Import from a Saved XML**

**Step 3** In the menu below, click the link for the hardware inventory configuration you want to load into the Cisco UCS Platform Emulator.

**Step 4** Restart Cisco UCS Platform Emulator. For information on restarting, see Restarting Cisco UCS Platform Emulator, on page 29

# Saving the Current Hardware Inventory Configuration

You can save the current hardware inventory configuration from the **Work** pane to use in another Cisco UCS Platform Emulator VM or as a backup for the current VM. The configuration is saved as an XML file.

### Procedure

**Step 1** On the **Hardware Inventory Dashboard** page, click the **Save the Configuration** icon on the menu bar.

**Step 2** In the **File Name** field, enter a name for the configuration file.
The file name must include only alphanumeric chars only, dashes (-) and underscores ( _ ). It cannot include spaces.

**Step 3** Click **Save**.
The configuration file is saved in Cisco UCS Platform Emulator and added to the saved configuration list.

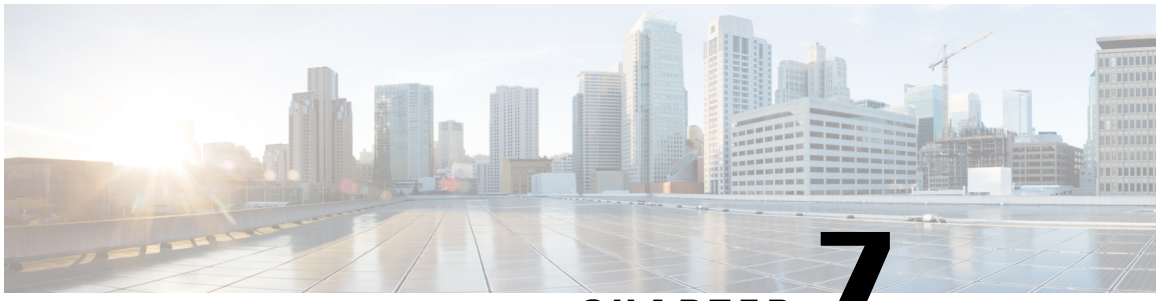
# Exporting the Hardware Inventory Configuration as an XML File

You can save the exported XML file with the hardware inventory configuration and then import it into another Cisco UCS Platform Emulator or place it on a web server to use as a start up configuration.

### Procedure

**Step 1** In the **Work** pane, click the **Export** icon from the menu bar.

**Step 2** Select **Export XML**
Cisco UCS Platform Emulator opens a new browser tab and displays the contents of the hardware inventory configuration as an XML file.



CHAPTER 7

# Accessing Features in Cisco UCS Platform Emulator

This chapter includes the following sections:


- Starting the Cisco UCS Manager GUI from the Cisco UCS Platform Emulator Control Panel, page 51
- Accessing Cisco Developer Network , page 52
- Accessing Cisco UCS PowerTool, page 52


# Starting the Cisco UCS Manager GUI from the Cisco UCS Platform Emulator Control Panel

You can use the Cisco UCS Manager GUI to configure and manage the hardware in your Cisco UCS Platform Emulator environment.

For information about Cisco UCS Manager GUI commands, see the *Cisco UCS Manager GUI Configuration Guide*. You can access this document through the *Cisco UCS B-Series Servers Documentation Roadmap* available at the following URL: http://www.cisco.com/go/unifiedcomputing/b-series-doc .

### Procedure

**Step 1** In the **Work** pane, click the **Open UCS Manager** tab from the menu bar.

**Step 2** Click the **Launch UCS Manager** tab.

**Step 3** If a **Security** dialog box displays, do the following:

a) (Optional) Check the check box to accept all content from the IP address for Cisco UCS Platform Emulator.

b) Click **Yes** to accept the certificate and continue.

**Step 4** In the **Login** dialog box, do the following:

a) In the **User Name** field, enter UCSPE.

b) In the **Password** field, enter UCSPE.

c) Click **Login**.

# Accessing Cisco Developer Network

The Cisco Developer Network provides information, documentation, and support resources for developers working with Cisco UCS. You can also access information and documentation for the Cisco UCS Manager XML API from the Cisco Developer Network .

**Note** Internet access is required in order to access the Cisco UCS Platform Emulator.

**Procedure**

**Step 1** In the **Work** pane, click the **Help** icon from the menu bar.

**Step 2** Select**UCS CDN**.

# Accessing Cisco UCS PowerTool

## Information about Cisco UCS PowerTool

Cisco UCS PowerTool is a Microsoft PowerShell command line toolkit and interface to Cisco UCS. You can use Cisco UCS PowerTool to integrate, automate, and orchestrate all aspects of Cisco UCS management within the data center, including network, storage and hypervisor management.

Cisco UCS includes over 2400 PowerShell command-lets (“cmdlets”) that enable you to integrate and automate Cisco UCS with Microsoft products and many third party products.

## Downloading Cisco UCS PowerTool

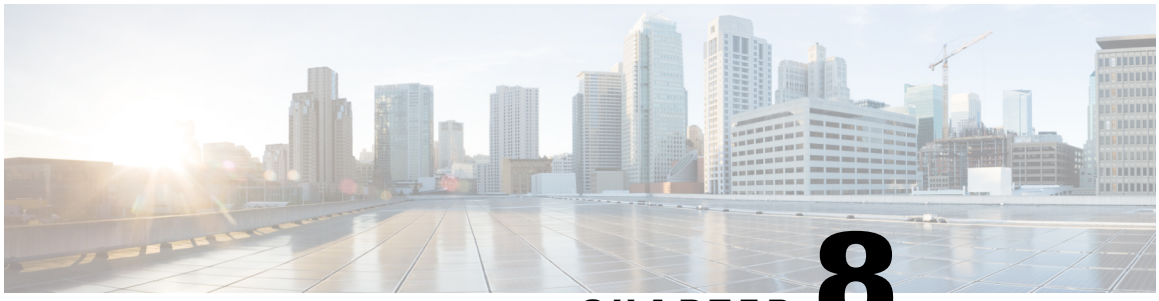
**Note** Cisco UCS Platform Emulator must have access to the internet to download Cisco UCS PowerTool.

**Procedure**

**Step 1** In the **Work** pane, click the **Help** icon from the menu bar.

**Step 2** Select **UCS PowerTool Download**.

**Step 3** In the **Work** pane, review the information and follow the instructions to download Cisco UCS PowerTool.



CHAPTER 8

# Using the Managed Object Browser

This chapter includes the following sections:


- Information About the Managed Object Browser, page 53
- Managed Object Browser Page, page 53
- Running a Query in the Managed Object Browser, page 55


## Information About the Managed Object Browser

The Managed Object Browser, or Visore, that you can access through Cisco UCS Platform Emulator provides you with a graphical view of the managed objects in the XML database. You can also use the Managed Object Browser to find out what type of data Cisco UCS stores in the database for each type of managed object. In addition, since the Managed Object Browser uses the Cisco UCS Manager XML API to query the runtime managed objects and display the results, it also enables you to see the query that was used to obtain the information from the database.

For example, you can use the Managed Object Browser to see which service profiles have been configured and the XML query that was used to access that information in the database. You can also use it to view the type of data stored in the database about servers, such as the number of cores, the type of adapter, or the number of CPUs. You can then use that information when you design or debug a Cisco UCS domain.

**Tip** You can also connect to and run queries with the Managed Object Browser on a running Cisco UCS domain through the following URL: `http://UCSManager_IP/visore.html`.

## Managed Object Browser Page

### Filter Area

The filter form is case sensitive. This area supports all simple Cisco UCS Manager XML API operations.

| Name | Description |
|---|---|
| **Class or DN** field | Object class name or full distinguished name of a managed object. |
| **Property** field | The property of the managed object on which you want to filter the results. If you leave the **Property** field empty, the search returns all instances of the specific class. |
| **Op** drop-down list | Operator for the values of the property on which you want to filter the results. The following are valid operators are:<br>• ==—equal to<br>• **!**=—not equal to<br>• <—less than<br>• >—greater than<br>• ≤—less than or equal to<br>• ≥—greater than or equal to<br>• **between**<br>• **wildcard**<br>• **anybit**<br>• **allbits** |
| **Val1** field | The first value for the property on which you want to filter. |
| **Val2** field | The second value on which you want to filter. |

### Display XML of Last Query Link

The **Display XML of last query** link displays the full Cisco UCS Manager XML API translation of the most recent query run in the Managed Object Browser.

### Results Area

You can bookmark any query results page in your browser to view the results again because the query is encoded in the URL.

**Note** Many of the managed objects are only used internally and are not generally applicable to Cisco UCS Manager program development.

| Name | Description |
|---|---|
| Pink background | Separates individual managed object instances and displays the class name of the object below it. |

| Name | Description |
|---|---|
| Blue or green background | Indicates the property names of the managed object. |
| Yellow or beige background | Indicates the value of a property name. |
| **dn** property | Absolute address of each managed object in the object model. |
| **dn** link | When clicked, displays all managed objects with that dn. |
| **Class name** link | When clicked, displays all managed objects of that class. |
| **Left arrow** | When clicked, takes you to the parent object of the managed object. |
| **Right arrow** | When clicked, takes you to the child objects of the managed object. |
| **Question mark** | Links you to the XML API documentation for the managed object. |

# Running a Query in the Managed Object Browser

### Procedure

**Step 1** In the **Work** pane, click the **Help** icon from the menu bar.

**Step 2** Select **Managed Object Browser**.

**Step 3** In the **Work** pane, In the **Class or DN** field, type the class or DN of the managed object you want to query. This is the only required field in a query. For information about the available classes or DNs, see the Cisco UCS Manager XML API documentation.

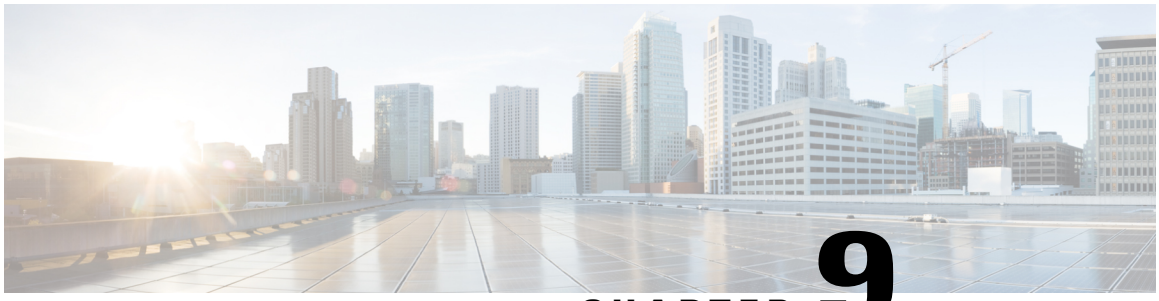
**Example:**
If you want to search on all instances of the blade class in the object model, enter computeBlade in the **Class or DN** field. However, if you want to limit the query to a specific server, such as blade server 1 in chassis 1, enter sys/chassis-1/blade-1.

**Step 4** (Optional) If you want to filter the results of your query, complete the following fields:

| Name | Description |
|---|---|
| **Property** field | Enter a property of the managed object on which you want to filter the results of the search. For example, if you are querying computeBlade, you could enter association. |

| Name | Description |
|---|---|
| **Op** drop-down list | Choose the operator on which you want to filter the values for the property. This can be:<br>==, !=, <, >, ≤, ≥, between, wildcard, anybit, allbits<br>• ==—equal to<br>• **!=**—not equal to<br>• **<**—less than<br>• **>**—greater than<br>• **≤**—less than or equal to<br>• **≥**—greater than or equal to<br>• **between**<br>• **wildcard**<br>• **anybit**<br>• **allbits** |
| **Val1** field | Enter an available value for the property entered in the **Property** field. For example, if you are filtering on the association property, you could enter unassociated. |
| **Val2** field | Enter an available second value for the property entered in the **Property** field. |

**Step 5** Click **Run Query**



CHAPTER 9

# Accessing the Cisco UCS Manager XML API Documentation

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## Information About the Cisco UCS Manager XML API

The Cisco UCS Manager XML API is a programmatic interface to Cisco Unified Computing System (UCS). The API accepts XML documents through HTTP or HTTPS. Developers can use any programming language to generate XML documents that contain the API methods. Configuration and state information for Cisco UCS is stored in a hierarchical tree structure known as the management information tree, which is completely accessible through the XML API.

The Cisco UCS Manager XML API supports operations on a single object or an object hierarchy. An API call can initiate changes to attributes of one or more objects such as chassis, blades, adapters, policies, and other configurable components.

The API operates in forgiving mode. Missing attributes are replaced with applicable default values that are maintained in the internal data management engine (DME). The DME ignores incorrect attributes. When multiple managed objects (MOs) are being configured, the API operation stops if any of the MOs (a virtual NIC, for example) cannot be configured. In that case, the management information tree is rolled back to the prior state that preceded the API operation and an error is returned.

Updates to MOs and properties conform to the existing object model to ensure backward compatibility. If existing properties are changed during a product upgrade, they are managed during the database load after the upgrade. New properties are assigned default values.

Operation of the API is transactional and terminates on a single data model. Cisco UCS is responsible for all endpoint communication, such as state updates. Users cannot communicate directly to endpoints, which relieves developers from administering isolated, individual component configurations.

The API model includes the following programmatic entities:

- Classes—Define the properties and states of objects in the management information tree.

- Methods—Actions that the API performs on one or more objects.
- Types—Object properties that map values to the object state (for example, `equipmentPresence`).

A typical request comes into the DME and is placed in the transactor queue in FIFO order. The transactor gets the request from the queue, interprets the request, and performs an authorization check. After the request is confirmed, the transactor updates the management information tree. This complete operation is done in a single transaction.

Full event subscription is enabled. After subscribing, any event notification is sent along with its type of state change.

# Information About the Cisco UCS Manager XML API Documentation

The Cisco UCS Manager XML API documentation that you can access through the Cisco UCS Platform Emulator provides information about the Cisco UCS Manager information model

When you view the XML API documentation, the navigation frames on the left list the following information:

- Managed objects
- Methods
- Types
- Fault rules
- Finite State Machine (FSM) rules

For more information about the Cisco UCS Manager XML API, see the Cisco UCS Manager XML API Programmer's Guide.

# Accessing the Cisco UCS Manager XML API Documentation

The XML API docs are displayed in the **Work** pane. The links provide navigation through the information model.

### Procedure