New and Changed Information

This chapter includes the following sections:

New and Changed Information for this Release

The following table provides an overview of the significant changes to this guide for this current release. The table does not provide an exhaustive list of all changes made to the configuration guides or of the new features in this release. For information about new supported hardware in this release, see the *Cisco UCS B-Series Servers Documentation Roadmap* available at the following URL: http://www.cisco.com/go/unifiedcomputing/b-series-doc.

Table 1: New Features and Changed Behavior in Cisco UCS, Release 2.2(1)

Feature	Description	Where Documented
Cisco UCS C-Series Server Integration through Direct Connect	Enables you to directly connect Cisco UCS C-Series rack servers to the fabric interconnect without using a FEX.	This feature is documented in *Cisco UCS C-Series Server Integration with Cisco UCS Manager 2.2*. The C-Series integration guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-c-series-rack-mount-ucs-managed-server-software/products-installation-and-configuration-guides-list.html

Feature	Description	Where Documented
Activating board controller firmware on Cisco UCS C-Series M3 Rack Servers	Cisco UCS C-Series M3 rack servers have board controller firmware which controls many server functions such as eUSBs and I/O connectors. You can activate board controller firmware on these rack servers.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI Firmware Management Configuration Guide* • *Cisco UCS B-Series CLI Firmware Management Configuration Guide* The firmware configuration guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html
Firmware Automatic Synchronization Server policy	Enables you to determine when and how firmware versions on recently discovered servers must be upgraded. With this policy, you can upgrade firmware versions of recently discovered unassociated servers to match with the firmware version specified in the default host firmware pack. You can also specify if the firmware upgrade process should run immediately after the server is discovered or at a later point in time.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI Firmware Management Configuration Guide* • *Cisco UCS B-Series CLI Firmware Management Configuration Guide* The firmware configuration guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html

Feature	Description	Where Documented
IPv6 Addressing	Enables you to configure the following with IPv6 addresses: • Access services • Fabric Interconnects • External clients • SNMP traps • Certificate requests • IP pools and address blocks • VLAN groups • LDAP, RADIUS, and TACACS+ provider groups • Blade and rack server static IPs • Service profiles and service profile templates • Backup and restore operations	IPv6 Compliance
Inband Management Support	Enables you to configure inband addresses, two IPv4 and two IPv6, for each CIMC. Enables you to configure inband VLAN groups, service profiles and service profile templates.	Inband Management Support
Enhanced Boot Order	Enables you to select either legacy or UEFI boot mode. With UEFI boot mode on Cisco UCS M3 blade and rack servers, you can add second-level devices to your boot order, and enable secure boot.	Configuring Server Boot

Feature	Description	Where Documented
Local Storage Monitoring	Enables you to monitor status information on local storage that is physically attached to a blade or rack server. This includes RAID controllers, physical drives and drive groups, virtual drives, RAID controller batteries (BBU), Transportable Flash modules (TFM) and super-capacitors, FlexFlash controllers, and SD cards.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI System Monitoring Guide* • *Cisco UCS B-Series CLI System Monitoring Guide* The system monitoring guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html
Local SD Card Monitoring and FlexFlash Support	Enables support for internal Secure Digital (SD) memory cards. You can enable FlexFlash in a local disk policy, configure new SD cards in a RAID pair with a FlexFlash scrub policy, and boot from the HV partition on an SD card.	FlexFlash Support
TPM Inventory	Enables monitoring of Trusted Platform Module (TPM), including whether TPM is present, enabled, or activated.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI System Monitoring Guide* • *Cisco UCS B-Series CLI System Monitoring Guide* The system monitoring guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html
UDLD Support	Enables UniDirectional Link Detection (UDLD) that monitors the physical configuration of the cables and detects when a unidirectional link exists.	Understanding UDLD

Feature	Description	Where Documented
VMQ Connection Policy	Enables you to configure a VMQ connection policy for a vNIC. VMQ provides improved network performance to the entire management operating system.	VMQ Connection Policy
DIMM Blacklisting Support	Monitors memory test execution messages, and blacklists any DIMMs that encounter memory errors in the DIMM SPD data. This allows the host to map out any DIMMs that encounter uncorrectable ECC errors.	DIMM Blacklisting
DIMM Correctable Error Handling	Enables you to reset the correctable and uncorrectable memory errors on all the DIMMs in a server.	DIMM Correctable Error Handling
Two-factor Authentication	Enables you to configure more secure access to Cisco UCS Manager by implementing a password plus token login scheme for RADIUS and TACACS+ provider groups when coupled with third-party authentication software.	Two-Factor Authentication
KVM Direct Access	Enables users to directly access blade and rack servers using a web browser. Only out-of-band IPv4 management interface addresses are supported for KVM Direct access.	KVM Direct Access

Feature	Description	Where Documented
VM-FEX Integration for Hyper-V SRIOV	Cisco UCS Manager and Microsoft SCVMM integration extends the VM-FEX technology to the Microsoft virtualization platform. The architecture allows Cisco UCS Manager to configure the networking objects that Microsoft SCVMM uses to set up its networking stacks. Microsoft SCVMM consumes the networking objects that are created by Cisco UCSM and deploys them on the Microsoft Hyper-V host that hosts the VMs. Hyper-V uses SR-IOV technology to deploy virtual connections. SR-IOV support in Release 2.2 enriches the management plane integration with Microsoft SCVMM and provides a centralized VM network management for the Hyper-V hosts. The deployment leverages the SR-IOV technology that is available on the Cisco UCS VIC adapters and enables the fabric interconnects to be VM-aware.	This feature is documented in the following configuration guides: • *Cisco UCS Manager VM-FEX for Hyper-V GUI Configuration Guide* • *Cisco UCS Manager VM-FEX for Hyper-V CLI Configuration Guide* The VM-FEX configuration guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html

Table 2: New Features and Changed Behavior in Cisco UCS, Release 2.2(2)

Feature	Description	Where Documented
Netflow Monitoring	Enables you to collect IP traffic data from netflow capable routers.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI System Monitoring Guide* • *Cisco UCS B-Series CLI System Monitoring Guide* The system monitoring guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html

Feature	Description	Where Documented
LACP	Enables you to use the link aggregation control protocol (LACP) policy to provide additional control over link aggregation groups.	LACP Policy
Wear Level Monitoring	Enables you to monitor the life span of solid state drives on certain Cisco UCS blade servers.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI System Monitoring Guide* • *Cisco UCS B-Series CLI System Monitoring Guide* The system monitoring guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html
CIMC Security Enhancements	Enables you to restrict remote connectivity and use vMedia encryption.	CIMC Security Policies
Graphics Card Monitoring	Enables you to view the properties of graphics cards and controllers on certain Cisco UCS rack servers.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI System Monitoring Guide* • *Cisco UCS B-Series CLI System Monitoring Guide* The system monitoring guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html

Feature	Description	Where Documented
Auto Install Firmware Enhancements	Enables you to view a list of warnings and potential issues before upgrading.	This feature is documented in the following configuration guides: • *Cisco UCS Manager VM-FEX for Hyper-V GUI Configuration Guide* • *Cisco UCS Manager VM-FEX for Hyper-V CLI Configuration Guide* The VM-FEX configuration guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html
KVM Enhancements	Redesign of virtual KVM console now allows menu access to all functions, including virtual media.	Virtual KVM Console
Scriptable vMedia Support	Enables you to mount virtual media from a remote file location and is available through CLI and WebGUI CIMC interfaces. This feature supports multiple share types including NFS, CIFS, HTTP and HTTPS.	CIMC Mounted vMedia
Community VLAN Support	Enables you to create community VLANs on Fabric Interconnects and maintain multiple community VLANs under a given primary VLAN. Also provides support for promiscuous access and truck modes along with community access for server vNICs.	Community VLANs

Table 3: New Features and Changed Behavior in Cisco UCS, Release 2.2(3)

Feature	Description	Where Documented
Anonymous Reporting	Enables you to retrieve anonymous reports from the SMTP server. This feature can be enabled even when call home is disabled.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI System Monitoring Guide* • *Cisco UCS B-Series CLI System Monitoring Guide* The system monitoring guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html
DIMM Blacklisting Support	Now supports Cisco C-Series rack server.	DIMM Blacklisting
C-Direct Rack Licenses	Now C-Direct rack licenses are supported on the ports that are connected to the rack servers.	C-Direct Rack Licensing Support
CIMC Secure Boot	Allows only Cisco signed firmware images to be installed and run on the Cisco C-Series rack servers.	CIMC Secure Boot
UEFI Secure Boot	Now supports Cisco C-Series rack server.	Configuring Server Boot
FX3S Controller	Updated controller for SD cards allows you to reset the controller, format the SD cards, and enable automatic synchronization of your paired SD cards.	FlexFlash FX3S Support
Stateless offload for Overlay Networks (NVGRE)	Enables you to create Ethernet adapter policies for checksum offloads using NVGRE.	Configuring an Ethernet Adapter Policy to Enable Stateless Offloads with NVGRE
Stateless offloads for Overlay Networks (VXLAN)	Enables you to create Ethernet adapter policies for checksum offloads using VXLAN.	Configuring an Ethernet Adapter Policy to Enable Stateless Offloads with VXLAN

Table 4: New Features and Changed Behavior in Cisco UCS, Release 2.2(4)

Feature	Description	Where Documented
RDMA over Converged Ethernet (RoCE) Support for Microsoft SMB Direct.	Enables communication between any two hosts in the same Ethernet broadcast domain. RoCE delivers superior performance compared to traditional network socket implementations because of lower latency, lower CPU utilization and higher utilization of network bandwidth. Microsoft SMB Direct with RoCE is supported only on Windows 2012 R2.	RDMA Over Converged Ethernet for SMB Direct
LLDP Support for Fabric Interconnect vEthernet Interfaces	When using Cisco ACI, LAN uplinks are connected to ACI leaf nodes. Cisco UCS Manager Release 2.2.4 allows you to enable and disable LLDP on a vEthernet interface.	Configuring Link Layer Discovery Protocol for Fabric Interconnect vEthernet Interfaces
Policy-Based Port Error Handling	If Cisco UCS Manager detects any errors on active NI ports, and if the error-disable feature is enabled, Cisco UCS Manager automatically disables the respective FI port that is connected to the NI port that had errors.	Policy-Based Port Error Handling
Advanced Local Storage Configuration	This enhancement enabled you to do the following: • Configure multiple virtual drives. • Create and use storage profiles to allow flexibility in defining the number of storage disks, roles and usage of these disks, and other storage parameters. • Specify a local LUN or a JBOD disk as the primary boot device for a storage controller. • Configure local storage on multiple controllers. • Configure out-of-band local storage.	Storage Profiles

Feature	Description	Where Documented
Automatic Internal Backup	Creates an automatic, full state, internal backup file when the infrastructure firmware is being upgraded.	This feature is documented in the following configuration guide: • *Cisco UCS B-Series CLI Firmware Management Configuration Guide* The firmware configuration guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html
Fabric Interconnect Traffic Evacuation	During upgrade, enables you to evacuate a Fabric Interconnect to ensure that there is no traffic flowing through the Fabric Interconnect from all servers attached to it through an IOM or FEX.	Fabric Evacuation
IOM Acknowledgment	Enables you to acknowledge specific IOMs in a chassis.	Acknowledging an IO Module
Trusted Platform Module (TPM) Support	Allows you to enable and disable TPM and TXT. Cisco UCS M4 blade and rack-mount servers include support for TPM and TXT.	Trusted Platform Module
Consistent Device Naming (CDN) Support	Allows Ethernet interfaces to be named in a consistent manner. CDN is supported only on Windows 2012 R2.	Consistent Device Naming
Scriptable vMedia Enhancements	Variable mapped file name—Enables you either manually specify the file name of the vMedia mount image or automatically assign it the name of the service profile with which the vMedia policy is associated. CIFS authentication protocol support—Enables you to select the protocol to be used for authentication when you use CIFS as the protocol for communicating with the remote server.	Creating a vMedia Policy

Feature	Description	Where Documented
SNMP Host Name Enhancement	Enables the use of a fully qualified domain name of an IPv4 address as the SNMP host name while creating an SNMP trap.	Creating an SNMP Trap
Server Pool Policy Qualification Enhancement	Enables you to specify the storage disk type as HDD, SSD or unspecified when creating a server pool policy qualification.	Creating Server Pool Policy Qualifications
Support for Service Profile Migration with UEFI Boot Mode	When a service profile is migrated from one server to another server, the BIOS on the destination server continues to load the boot loader information and boot in UEFI boot mode.	UEFI Boot Parameters
NVGRE with IPv6 and VMQ Support	Provides the ability to enable VMQ and NVGRE offloading on the same vNIC.	Enabling VMQ and NVGRE Offloading on the same vNIC
usNIC Support with Intel MPI	Provides the environment setup and installation guidance to use Cisco usNIC with Open and Intel® MPI technologies.	This feature is documented in the following configuration guides: • *Cisco usNIC Deployment Guide for Cisco UCS B-Series Blade Servers* • *Cisco usNIC Deployment Guide for Cisco UCS C-Series Rack-Mount Standalone Servers* The usNIC deployment guides can be found here: • http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html • http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-c-series-rack-mount-standalone-server-software/products-installation-and-configuration-guides.html

Table 5: New Features and Changed Behavior in Cisco UCS Release 2.2(7)

Feature	Description	Where Documented
Firmware Upgrade Checks the VIF/Interface Status After Fabric Interconnect Reboot	Cisco UCS Manager displays any service that is not re-established after the last reboot of a fabric interconnect.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI Firmware Management Configuration Guide* • *Cisco UCS B-Series CLI Firmware Management Configuration Guide* The firmware configuration guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html
vNIC Redundancy Pair	Supports two vNICs/vHBAs that are being configured with a common set of parameters through the vNIC/vHBA template pair.	vNIC Template
Locator LED support for server hard-disks	Identifies the location a specific disk inserted in a blade or rack server using the local locator LED.	Local Disk Locator LED Status
Reset Peer I/O Modules to Factory Defaults	Enables reboot of an I/O module that is unreachable through its peer I/O module.	Resetting an I/O Module
vNIC template CDN Source	Enables selection of the Consistent Naming Device (CDN) Source as the vNIC Name, which in turn can either be customized or derived from the vNIC instance.	vNIC Template
PCH SSD Controller Definition	Cisco UCS Manager Platform Controller Hub (PCH) Solid State Drive (SSD) Controller Definition provides a local storage configuration in storage profiles where you can configure all the disks in a single RAID or in a JBOD disk array.	PCH SSD Controller Definition

Feature	Description	Where Documented
Host Firmware Package Enhancement	Allows exclusion of the firmware of specific components from a host firmware package either when creating a new host firmware package or when modifying an existing host firmware package.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI Firmware Management Configuration Guide* • *Cisco UCS B-Series CLI Firmware Management Configuration Guide* The firmware configuration guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html
EFI Shell as a Boot Device	Enables creation of a boot policy with an EFI Shell as the boot device. Booting from an EFI Shell prevents loss of data and provides more options to script, debug, and control various booting scenarios. EFI Shell is supported as a boot device only in the Uefi boot mode.	Configuring an EFI Shell Boot for a Boot Policy
Multicast Hardware Hash	Enables all links between the IOM and the fabric interconnect in a port channel to be used for multicast traffic when multicast hardware hashing is enabled.	Chassis/FEX Discovery Policy

Table 6: New Features and Changed Behavior in Cisco UCS Release 2.2(8)

Feature	Description	Where Documented
Next Boot	The maintenance policy now provides an On Next Boot option. This option is used in combination with either User Ack or Timer Automatic.	Maintenance Policy

Feature	Description	Where Documented
Graceful shutdown	When you acknowledge a server reboot using the graceful shut down options or a change in the service profile that requires the server reboot, Cisco UCS Manager waits until the time specified time in the maintenance policy before performing a hard shut down.	Maintenance Policy
Health monitoring of end points	Provides enhanced health monitoring of end points for fabric interconnects, IOMs, FEXes, blade servers, and rack servers.	This feature is documented in the following configuration guides: • *Cisco UCS B-Series GUI System Monitoring Guide* • *Cisco UCS B-Series CLI System Monitoring Guide* The system monitoring guides can be found here: http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-manager/products-installation-and-configuration-guides.html
Power synchronization between servers and their associated service profiles	Provides a global (default) power sync policy to synchronize the power state between the associated service profiles and the servers when the desired power state of the service profile differs from the actual power state of the server.	Power Sync Policy
Factory reset of blade servers	You can now reset a blade server to its factory settings. By default, the factory reset operation does not affect storage drives and flexflash drives. This is to prevent any loss of data.	Resetting a Blade Server to Factory Default Settings
Support for 160 LDAP group maps	Cisco UCS Manager now supports a maximum of 160 LDAP group maps.	LDAP Group Mapping