Overview

This chapter includes the following sections:

Cisco UCS E-Series Servers Overview

The Cisco UCS E-Series Servers (E-Series Servers) are the next generation of Cisco UCS Express servers. E-Series Servers are a family of size, weight, and power efficient blade servers that are housed within the Generation 2 Cisco Integrated Services Routers (ISR G2). These servers provide a general purpose compute platform for branch-office applications deployed either as bare-metal on operating systems, such as Microsoft Windows or Linux; or as virtual machines on hypervisors, such as VMware vSphere Hypervisor™, Microsoft Hyper-V, or Citrix XenServer.

E-Series Servers reside in the Cisco 2900 series or 3900 series ISR G2. The following E-Series Servers are supported:

- UCS-E140S—Single-wide E-Series Server

- UCS-E140D—Double-wide E-Series Server, 4 core CPU

- UCS-E160D—Double-wide E-Series Server, 6 core CPU

- UCS-E140DP—Double-wide E-Series Server, 4 core CPU, with PCIe

- UCS-E160DP—Double-wide E-Series Server, 6 core CPU, with PCIe

Note   For information about the maximum number of E-Series Servers that can be installed per ISR G2, see the "Server Hardware" section in the *Getting Started Guide for Cisco UCS E-Series Servers*.

Server Software

E-Series Servers require three major software systems:

- CIMC Firmware
- BIOS Firmware
- Operating System or Hypervisor

CIMC Firmware

Cisco Integrated Management Controller (CIMC) is a separate management module built into the motherboard. A dedicated ARM-based processor, separate from the main server CPU, runs the CIMC firmware. The system ships with a running version of the CIMC firmware. You can update the CIMC firmware, but no initial installation is needed.

CIMC is the management service for the E-Series Servers. You can use a web-based GUI or SSH-based CLI to access, configure, administer, and monitor the server.

BIOS Firmware

BIOS initializes the hardware in the system, discovers bootable devices, and boots them in the provided sequence. It boots the operating system and configures the hardware for the operating system to use. BIOS manageability features allow you to interact with the hardware and use it. In addition, BIOS provides options to configure the system, manage firmware, and create BIOS error reports.

The system ships with a running version of the BIOS firmware. You can update the BIOS firmware, but no initial installation is needed.

Operating System or Hypervisor

The main server CPU runs on an operating system, such as Microsoft Windows or Linux; or on a Hypervisor. You can purchase an E-Series Server with pre-installed Microsoft Windows Server or VMware vSphere Hypervisor™, or you can install your own platform.

The following platforms have been tested on the E-Series Servers:

- Microsoft Windows:
    - Windows Server 2008 R2 Standard 64-bit
    - Windows Server 2008 R2 Enterprise 64-bit

- Linux:
    - Red Hat Enterprise Linux 6.2
    - SUSE Linux Enterprise 11, service pack 2
    - Oracle Enterprise Linux 6.0, update 2

- Hypervisor:
    - VMware vSphere Hypervisor™ 5.0, update 1
    - Hyper-V (Windows 2008 R2)

◦ Citrix XenServer 6.0

CIMC Overview

The Cisco Integrated Management Controller (CIMC) is the management service for the E-Series Servers. CIMC runs within the server. You can use a web-based GUI or the SSH-based CLI to access, configure, administer, and monitor the server.

You can use CIMC to perform the following server management tasks:

- Power on, power off, power cycle, reset and shut down the server
- Configure the server boot order
- Manage RAID levels
- View server properties and sensors
- Manage remote presence
- Create and manage local user accounts, and enable remote user authentication through the Active Directory
- Configure network-related settings, including NIC properties, IPv4, VLANs, and network security
- Configure communication services, including HTTP, SSH, IPMI Over LAN, and SNMP
- Manage certificates
- Configure platform event filters
- Update CIMC firmware
- Update BIOS firmware
- Install the host image from an internal repository
- Monitor faults, alarms, and server status
- Collect technical support data in the event of server failure

Almost all tasks can be performed in either the GUI interface or CLI interface, and the results of tasks performed in one interface are displayed in another. However, you cannot do the following:

- Cannot use the CIMC GUI to invoke the CIMC CLI
- Cannot view a command that has been invoked through CIMC CLI in the CIMC GUI
- Cannot generate CIMC CLI output from the CIMC GUI

CIMC GUI

The CIMC GUI is a web-based management interface for E-Series Servers. You can launch the CIMC GUI and manage the server from any remote host that meets the following minimum requirements:

- Java 1.6 or later

• HTTP and HTTPS enabled

• Adobe Flash Player 10 or later

Logging Into the CIMC GUI

Before You Begin

• Make sure that you have configured the IP address to access CIMC. See the *Configuring CIMC Access* chapter in the *Getting Started Guide for Cisco UCS E-Series Server Modules*.

• If not installed, install Adobe Flash Player 10 or later on your local machine.

Procedure

Step 1 In your web browser, enter the IP address that you configured to access CIMC during initial setup.

Step 2 If a security dialog box displays, do the following:

a) (Optional) Check the check box to accept all content from Cisco.

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

Step 3 In the log in window, enter your username and password.

Tip When logging in for the first time to an unconfigured system, use **admin** as the username and **password** as the password.

Step 4 Click **Log In**.
The **Change Password** dialog box appears.

Note The **Change Password** dialog box only appears the first time you log into CIMC. It does not appear for subsequent reboots.

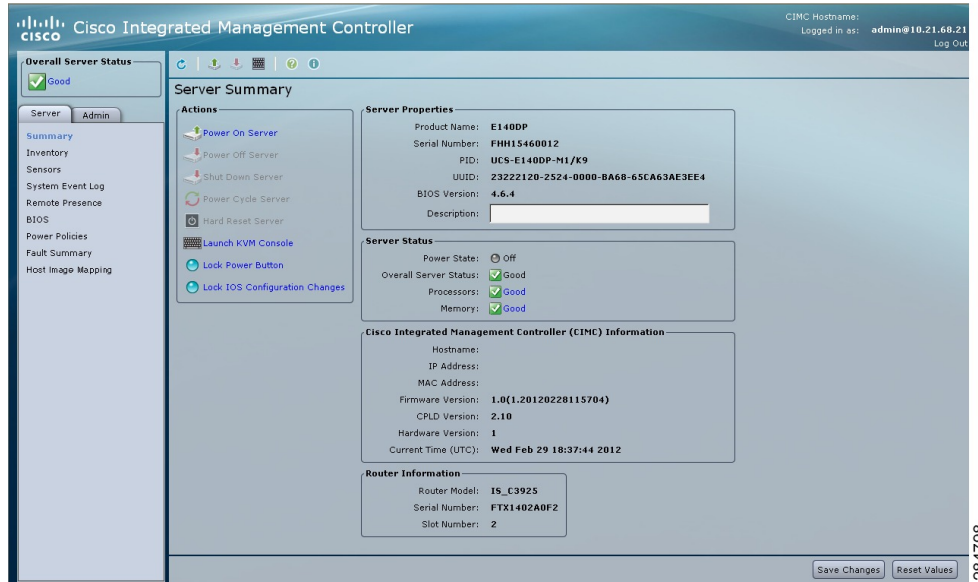**Step 5** In the **New Password** field, enter your new password.

Step 6 In the **Confirm Password** field, enter the password again to confirm it.

Step 7 Click **Save Changes**.
The **Server Summary** page appears, which is the CIMC home page. See CIMC Home Page.

CIMC Home Page

The following figure shows the CIMC home page.

Navigation Pane

The Navigation pane displays on the left side in the CIMC user interface. Clicking links on the **Server** or **Admin** tabs in the **Navigation** pane displays the selected pages in the **Work** pane on the right side of the CIMC user interface.

The following table describes the elements in the **Navigation** pane:

Element Name	Description
Overall Server Status area	The **Overall Server Status** area is found above the **Server** and **Admin** tabs. Click this area to refresh the **Server Summary** page.
Server tab	The **Server** tab is found in the **Navigation** pane. It contains links to the following pages: • **Summary** • **Inventory** • **Sensors** • **System Event Log** • **Remote Presence** • **BIOS** • **Power Policies** • **Faults Summary** • **Host Image Mapping**

Admin tab	The **Admin** tab is found in the **Navigation** pane. It contains links to the following pages:
	• **User Management**
	• **Network**
	• **Communications Services**
	• **Certificate Management**
	• **CIMC Log**
	• **Event Management**
	• **Firmware Management**
	• **Utilities**

Work Pane

The **Work** pane displays on the right side of the UI. Different pages appear in the **Work** pane, depending on what link you click on the **Server** or **Admin** tab.

The following table describes the elements and pages in the **Work** pane.

Page or Element Name	Description
Summary	There are four areas on this page:
	• **Actions**—Use this area to control server power, reset the server, launch the KVM console, or control the locator LED.
	• **Server Properties**—Use this area to view the general server properties and assign a server description.
	• **Server Status**—Use this area to view the overall status of the major server subsystems.
	• **CIMC Information**—Use this area to view the server management name, network addresses, firmware version, and current date and time.
	• **Router Information**—Use this area to view the model and serial number of the router, and the slot number of the router in which the server is installed.

Inventory	There are five tabs on the page: • **CPUs**—Use this tab to view information about the CPU. • **Memory**—Use this tab to view information about memory. • **Power Supplies**—Use this tab to view information about power supplies. • **Storage**—Use this tab to view information about storage and to configure, modify, and clear RAID configuration. • **PCI Adapters**—Use this tab to view information about PCI adapters.
Sensors	There are six tabs on the page: • **Temperature**—Use this tab to view the temperature sensor. • **Voltage**—Use this tab to view the voltage sensor. • **LEDs**—Use this tab to view the state and color of the LEDs. • **Storage**—Use this tab to view the state of the storage devices.
System Event Log	Use this page to view the system event log.
Remote Presence	There are three tabs on the page: • **Virtual KVM**—Use this tab to set vKVM properties. • **Virtual Media**—Use this tab to set virtual media properties. • **Serial over LAN**—Use this tab to set serial over LAN properties.
BIOS	There are three areas on this page: • **Actions**—Use this area to configure BIOS, configure the server boot order, clear the BIOS CMOS, clear the BIOS password, and activate the backup BIOS. • **Firmware Actions**—Use this area to install the BIOS firmware from a client browser or TFTP server. • **Last Firmware Install**—Use this area to view the status of the last firmware installation. • **BIOS Properties**—Use this area to view the running version of the BIOS. • **Boot Order**—Use this area to view the configured and actual boot order.
Power Policies	Use this page to view power statistics.

Fault Summary	There are two areas on this page: • **Discrete Sensors**—Use this area to view the state of discrete sensors. • **Threshold Sensors**—Use this area to view the state of threshold sensors.
Host Image Mapping	There are three areas on this page: • **Existing Image Info**—Use this area to view information about the installed image. • **Install Pane**—Use this area to download, map, unmap, or delete a host or diagnostic image. • **Host Image Update**—Use this area to view the status of the last image that was mounted on the server and the type of boot device.
Network	There are two tabs on the page: • **Network Settings**—Use this tab to set network properties. • **Network Security**—Use this tab to set up network security.
Communications Services	There are two tabs on the page: • **Communications Services**—Use this area to set HTTP, SSH, and IPMI over LAN properties. • **SNMP**—Use this area to set SNMP properties and SNMP Trap Settings.
Certificate Management	There are two areas on the page: • **Actions**—Use this area to generate and upload a certificate. • **Current Certificate**—Use this area to view the current certificate for the server.
CIMC Log	There are two tabs on the page: • **CIMC Log**—Use this tab to view the CIMC Log. • **Remote Logging**—Use this tab to configure the sending of log messages to remote syslog servers.
Event Management	There is one tab on the page: • **Platform Event Filters**—Use this tab to set up platform event filters.

Firmware Management	There are three areas on this page:
	• **Actions**—Use this area to install CIMC firmware from a client browser or TFTP server, or to activate installed CIMC firmware.
	• **CIMC Firmware**—Use this area to view the status of the running, backup, and boot-loader versions of the firmware.
	• **Last Firmware Install**—Use this area to view information about the last firmware update.
Utilities	There are three areas on this page:
	• **Actions**—Use this area to export technical support data, export or import the CIMC configuration, reset the CIMC to factory default, and reboot the CIMC.
	• **Last Technical Support Data Export**—Use this area to view information about the last technical support data export.
	• **CIMC Configuration Import/Export**—Use this area to view the action type and its status.

Toolbar

The toolbar displays above the **Work** pane.

Element Name	Description
Refresh	Refreshes the current page.
Power On Server	Powers on the server.
Power Off Server	Powers off the server.
Launch KVM Console	Launches the KVM console.
Help	Launches help.
Info	Displays CIMC information.

CIMC Online Help

The CIMC user interface is divided into two main sections, a **Navigation** pane on the left and a **Work** pane on the right. To access online help for a page, do the following:

• In a particular tab in the user interface, click the **?** icon. The **?** icon is located on the toolbar above the **Work** pane.

• In a dialog box, click the **?** icon in that dialog box.

Logging Out of CIMC GUI

Procedure

Step 1 In the upper right of CIMC, click **Log Out**.
Logging out returns you to the CIMC log in page.

Step 2 (Optional) Log back in or close your web browser.