Overview

This chapter includes the following sections:

Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine Overview

The Cisco UCS E-Series Servers (E-Series Servers) and Cisco UCS E-Series Network Compute Engine (NCE) are a family of size-, weight-, and power-efficient blade servers that are housed within the Generation 2 Cisco Integrated Services Routers (Cisco ISR G2) and the Cisco ISR 4000 series. 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.

The E-Series Servers are purpose-built with powerful Intel Xeon processors for general purpose compute. They come in two form factors: single-wide and double-wide. The single-wide E-Series Server fits into one service module (SM) slot, and the double-wide E-Series Server fits into two SM slots.

The NCEs are price-to-power optimized modules that are built to host Cisco network applications and other lightweight general-purpose applications. They come in three form factors: SM, NIM, and EHWIC. The SM E-Series NCE fits into one SM slot, the NIM E-Series NCE fits into one NIM slot, and the EHWIC E-Series NCE fits into two EHWIC slots.

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> **Note**
> - The EHWIC E-Series NCE can be installed in the the Cisco ISR G2 only.
> - The NIM E-Series NCE can be installed in the Cisco ISR 4000 series only.
> - The Cisco ISR 4331 has one SM slot. The Cisco ISR 4321 and the Cisco ISR 4431 have no SM slots.
> - Citrix XenServer is supported on the E-Series Servers only.

> **Note**
> For information about the supported E-Series Servers and NCE, and the maximum number of servers that can be installed per router, see the "Hardware Requirements" section in the *Hardware Installation Guide for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine*.

Server Software

E-Series Servers and NCE 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 of the E-Series Server or NCE. 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 and NCE. 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 or NCE with a preinstalled Microsoft Windows Server or VMware vSphere Hypervisor, or you can install your own platform.

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Note For information about the platforms that have been tested on the E-Series Servers or NCE, see the "Software Requirements" section in the *Release Notes for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine*.

CIMC Overview

The Cisco Integrated Management Controller (CIMC) is the management service for the E-Series Servers and the NCE. 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

   Note The RAID feature is applicable to E-Series Servers and the SM E-Series NCE. The RAID feature is not applicable to the EHWIC E-Series NCE and the NIM E-Series NCE.

 • 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*:

 • Use the CIMC GUI to invoke the CIMC CLI

 • View a command that has been invoked through the CIMC CLI in the CIMC GUI

• Generate CIMC CLI output from the CIMC GUI

CIMC GUI

The CIMC GUI is a web-based management interface for E-Series Servers and the NCE. 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 In to 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**.
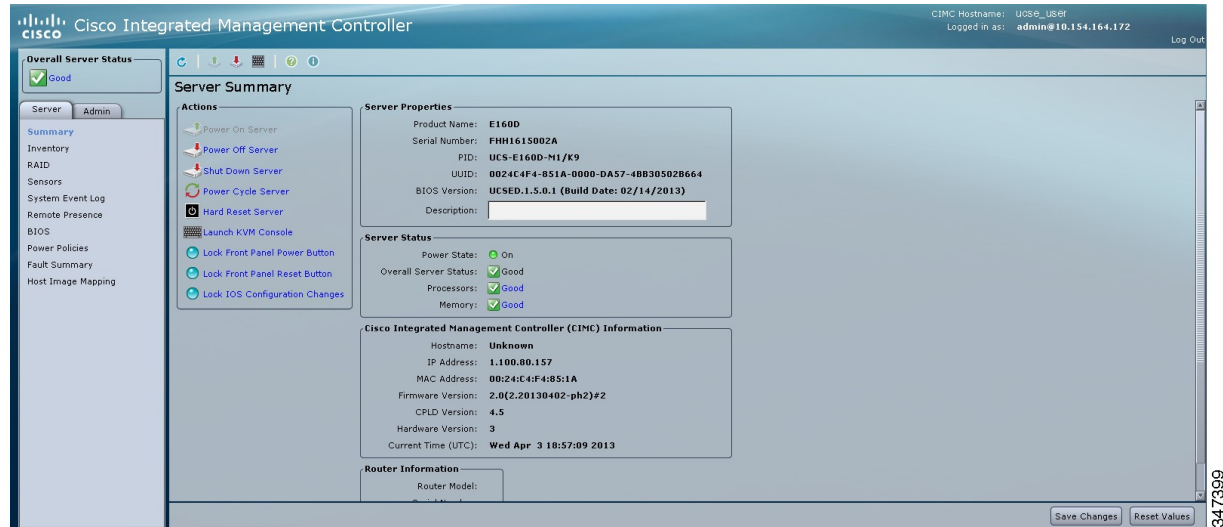
The **Server Summary** page appears, which is the CIMC home page. See .

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CIMC Home Page

Figure 1: CIMC Home Page

Navigation and Work Panes

The **Navigation** pane displays on the left side of the CIMC GUI. Clicking links on the **Server** or **Admin** tabs in the **Navigation** pane displays the associated tabs in the **Work** pane on the right.

The **Navigation** pane has the following areas:

- **Server** tab
- **Admin** tab

Server Tab

Each node in the **Server** tab leads to one or more tabs that display in the **Work** pane. These tabs provides access to the following information:

Server Tab Node Name	Work Pane Tabs Provide Information About...
Summary	Server properties, status, BIOS version, CIMC firmware version, IP address, and MAC address.
Inventory	Installed CPUs, memory cards, power supplies, and PCI adapters.
RAID	Storage adapters and cards.
Sensors	Temperature, voltage, LEDs, and storage sensor readings.
System Event Log	System event messages.

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Server Tab Node Name	Work Pane Tabs Provide Information About...
Remote Presence	KVM, virtual media, and Serial over LAN settings.
BIOS	The installed BIOS firmware version and the server boot order.
Power Policies	Power policy settings.
Fault Summary	Fault sensor readings.
Host Image Mapping	Host image mapping status and image information.

Admin Tab

Each node in the **Admin** tab leads to one or more tabs that display in the **Work** pane. These tabs provides access to the following information:

Admin Tab Node Name	Work Pane Tabs Provide Information About...
User Management	Locally-defined user accounts, Active Directory settings, and current user session information.
Network	NIC, IPv4, VLAN, and LOM properties, along with network security settings.
Communication Services	HTTP, SSH, XML API, IPMI over LAN properties.
Certificate Management	Security certificate information and management.
CIMC Log	CIMC log messages.
Event Management	Platform event filters.
Firmware Management	CIMC firmware information and management.
Utilities	Technical support data collection and system configuration import and export options.

Toolbar

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

Element Name	Description
Refresh	Refreshes the current page.
Power On Server	Powers on the server.

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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 the 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.

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