



## Special Considerations for Integrated Servers

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### Overview

When you connect the C-Series servers in Cisco UCS system, make sure to review the following information:

- [Updating Cisco UCS P81E VIC Firmware and uboot Image in Integrated Servers](#)
- [Integrated Server Power States vs Service Profile Power States, on page 4](#)
- [Cautions and Limitations for Adapter Cards, on page 4](#)
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### Supported FEX-to-FI Uplink Cable SFP Types

The C-Series UCSM integration requires six 10-Gb SFP cables for the following purposes:

- Linking the data traffic paths between server and 2232PP FEX - 2 cables
- Uplinks from the 2232PP FEXes to the FIs - 4 cables

Each of the four uplinks from the FEXes to the FIs can use either a Cisco 10-Gb twinax cable, or one of the following SFP types:

- SFP-10GE-SR
- FET-10GE

**Caution**

Do not mix SFP types on an uplink. If you mix SFP types on an uplink, you will get **Discovery failed** errors.

## Upgrading the C-Series Server Firmware

If your server CIMC release version does not meet the requirement for integration with Cisco UCS Manager, make sure to upgrade the server firmware before connecting the server with Cisco UCS domain. For more information on upgrading the C-Series server firmware, see the host upgrade utility quick start guide for your release [http://www.cisco.com/en/US/products/ps10493/products\\_user\\_guide\\_list.html](http://www.cisco.com/en/US/products/ps10493/products_user_guide_list.html)

### Procedure

- Step 1** Find the Host Upgrade Utility ISO file download for your server online and download it to a temporary location on your workstation:
- See the following URL: <http://www.cisco.com/cisco/software/navigator.html>
  - Click **Unified Computing and Servers** in the middle column.
  - Click **Cisco UCS C-Series Rack-Mount Standalone Server Software** in the right-hand column.
  - Click your model of server in the right-hand column.
  - Click **Unified Computing System (UCS) Server Firmware**.
  - Click the release number that you are downloading.
  - Click **Download Now** to download the ISO file.
  - Verify the information on the next page, then click **Proceed With Download**.
  - Continue through the subsequent screens to accept the license agreement and then browse to a location where you will save the ISO file.

- Step 2** Prepare the ISO. For local upgrade, on a local media and for remote upgrade, as a virtual device:

Option	Description
Local upgrade	<p>Perform the steps before going to Step 3:</p> <ol style="list-style-type: none"> <li>1 Burn the ISO image onto a writable DVD.</li> <li>2 Connect a VGA monitor and USB keyboard to the Cisco C-Series server.</li> <li>3 Insert the DVD into the DVD drive of the Cisco C-Series server or an external DVD drive.</li> </ol>

Option	Description
Remote upgrade	<p>Perform the steps before going to Step 3:</p> <ol style="list-style-type: none"> <li>1 Use a browser to connect to the CIMC Manager software on the server that you are upgrading.</li> <li>2 Enter the CIMC IP address for that server in the address field of the browser, then enter your user name and password.</li> <li>3 Launch a KVM Console window (click the KVM keyboard icon).</li> <li>4 When the Virtual KVM Console window launches, select <b>Tools &gt; Launch Virtual Media</b>.</li> <li>5 In the Virtual Media Session window, click <b>Add Image</b> and navigate to the utility ISO file and select it. Navigate to the location where you downloaded the ISO. The ISO image is displayed in the <b>Client View</b> area.</li> <li>6 In the <b>Virtual Media Session</b> window, select the check box in the <b>Mapped</b> column for the ISO file that you added, and then wait for mapping to complete. Observe the progress in the <b>Details</b> area.</li> </ol> <p>Now the ISO image is mapped to the remote device.</p>

**Step 3** Boot the server and press F6 when prompted to open the Boot Menu screen.

**Step 4** On the Boot Menu screen, select the device where you prepared the ISO in Step 2:

- If you are upgrading locally, select the physical CD/DVD device and then press Enter (for example, SATA5:TSScorp CDDVDW TS-L633C).
- If you are upgrading remotely, select Cisco Virtual CD/DVD and then press Enter.

The server is rebooted from the device you choose.

**Step 5** A screen appears with the server BIOS and CIMC firmware versions. Answer the prompt, Have you read the Cisco EULA (end user license agreement)?

- Press y to accept the EULA and continue the update.
- Press n to read the EULA. The EULA is displayed and you are prompted to press y to continue the update, or n to cancel. If you press n, the server will reboot without updating.
- Press q to exit without updating. This selection reboots the server.

The **Host Upgrade Menu** screen displays.

**Step 6** Upgrade all the firmware by entering the number for the **All the above** menu item at the Enter Choice prompt:

The utility selects the correct firmware components for your server and then upgrades the firmware. Watch your console screen until you see confirmation that the upgrades were successful, then go to Step 7.

**Step 7** In **Host Upgrade Menu**, at the Enter Choice prompt, enter the number for the **Reboot (Configures CIMC to UCSM mode—default factory settings)** menu item to reboot the server with UCSM mode settings. The utility reboots the server with UCSM mode settings. This mode allows integration with the Cisco UCS environment.

**Note**

- The new CIMC firmware is activated automatically during this reboot.
- These UCSM mode settings enable DHCP, Active-Active NIC redundancy, and Shared LOM NIC mode, which enables CIMC control through the 1-Gb LOM ports, rather than the management port. Any static IP addresses and the management port are disabled, so you lose connection with the CIMC.

**What to Do Next**

After upgrading the server to the compatible server release version, you must establish the physical connection for the server to make it a part of Cisco UCS domain. To connect the server to your Cisco UCS FEXes and FIs, see [Connecting the C-Series Server with Cisco UCS Domain in Cluster Setup](#).

## Integrated Server Power States vs Service Profile Power States

Using the power button or Cisco UCS Manager, if you set the desired power status to Down for an integrated C-Series server's associated service profile, when you try to rest the server to the desired power state, the server becomes out of sync with the actual power state. This may cause the server to shut down unexpectedly at a later time.

Use the Boot Server action in Cisco UCS Manager to safely reboot a server from a power-down state.

The following table shows how the physical server power states can differ from the Cisco UCS Manager service profile power states when the power button on the server is used.

**Table 1: Difference in Server Power State and Service Profile Power State**

Initial Service Profile Power State	Server Initial Power State	Action From Physical Power Button	Actual Server Power State After the Action	Power State Under UCSM Equipment Tab	Desired Power State Under Service Profile
Down	Off	Push button to turn on	On	On	Down
Up	On	Push button to turn off	Off	Off	Up

## Cautions and Limitations for Adapter Cards

Make sure to consider the following when using the adapter cards in Cisco UCS C-Series server integration with Cisco UCS Manager:

- Cisco UCS Manager supports only four UCS managed adapter cards in the integrated Cisco UCS C-series servers, even if the server has more than four PCI slots. If you have more than four adapter cards in the server, after integration, the rack server discovery fails in Cisco UCS Manager.
- When you add, remove, or replace an adapter card in a UCS-managed server, you must first decommission the server in Cisco UCS Manager. After the operation, you must then recommission the server.

- If an integrated server contains two Cisco UCS P81E Virtual Interface Cards, the vNICs/vHBAs on Adapter 1 might have a higher PCI order in Cisco UCS Manager than the vNICs/vHBAs on Adapter 2.

Acknowledged Links between 2232PP FEX and FI	Maximum vNIC+vHBA for VIC adapter with 6100 FI	Maximum vNIC+vHBA for VIC adapter with 6200 FI
1	1	13
2	4	28
4	10	58
8	22	118



**Note** The available vNIC can be failover or non-failover vNIC.

- In C200 or C210 servers, BIOS version 1.4(3c) and later, you have an option to enable or disable SR-IOV/ARI (single-root I/O virtualization/alternative routing-ID interpretation) bus reservation. Whenever you change the SR-IOV/ARI bus reservation settings on a UCS-managed server, you must re-acknowledge the server.

## FEX Considerations

### Re-acknowledge Attached Servers After a 2232PP FEX Is Decommissioned/Recommissioned

Whenever you decommission or recommission a Cisco UCS 2232PP FEX, all the servers that are connected to that FEX must be re-acknowledged in UCS Manager.

