Cisco UCS B-Series Servers Upgrade Guide for Intel E5-2600/E5 2400 v2 Series CPUs

Caution You must follow the procedures in this guide when upgrading an existing server to use Intel E5-2600/E5-2400 v2 Series CPUs. Failure to follow these procedures might result in a non-bootable server.

This document describes the process for successfully upgrading a Cisco UCS B-Series server to use Intel E5-2600/E5-2400 v2 Series CPUs. Downgrade scenarios are also covered.

The procedures in this guide support the following servers:

- Cisco UCS B200 M3 blade server
- Cisco UCS B22 M3 blade server

Note Cisco UCS B200 Server Generation M2 does not support the Intel E5-2600 v2 Series CPUs.

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Cisco UCS Blade Server

This section contains the following topics:

Minimum Software and Firmware Requirements

Cisco UCS B200 M3 Requirements

The minimum software and firmware versions required for the Cisco UCS B200 M3 server to support Intel E5-2600 v2 Series CPUs are as follows:

Table 1 Cisco UCS B200 M3 Minimum Software and Firmware Requirements

Software or Firmware	Minimum Version
Cisco UCS Manager	2.1(3a)
Server CIMC	2.1(3a)
Server BIOS	2.1(3a)
Board controller firmware	8.0

Cisco UCS B22 M3 Requirements

The minimum software and firmware versions required for the Cisco UCS B22 M3 server to support Intel E5-2400 v2 Series CPUs are as follows:

Table 2 Cisco UCS B22 M3 Minimum Software and Firmware Requirements

Software or Firmware	Minimum Version
Cisco UCS Manager	2.2(2c)
Server CIMC	2.2(2c)
Server BIOS	2.2(2c)
Board controller firmware	13.0

Upgrading the B200 M3 Server to Intel E5-2600 v2 Series CPUs

Note These upgrade procedures require server downtime.

This section contains the following topics:

Upgrade Scenario 1: UCSM and BIOS Earlier Than Version 2.1(3a), CPU Earlier Than Intel E5-2600 v2

This scenario assumes the following conditions:

- The Cisco UCS Manager software is at a version earlier than 2.1(3a).
- The server is at a BIOS/CIMC version earlier than 2.1(3a).
- The server is using CPUs earlier than Intel E5-2600 v2 Series.

In this case, use the following procedure to upgrade the server and CPUs.

Step 1 Upgrade the Cisco UCS Manager software to version 2.1(3a) or later. The required server CIMC and BIOS are also included with the 2.1(3a) download bundle.

Use the procedures in the appropriate upgrade guide for Release 2.1 (depending on your current software version): Release 2.1 Upgrade Guides.

Step 2 Use Cisco UCS Manager 2.1(3a) to upgrade and activate the server CIMC to version 2.1(3a) or later.

Use the procedures in the GUI or CLI Firmware Management Guide, Release 2.1.

Step 3 Use Cisco UCS Manager 2.1(3a) to upgrade and activate the server BIOS to version 2.1(3a) or later.

Use the procedures in the GUI or CLI Firmware Management Guide, Release 2.1.

Step 4 Disassociate the server in Cisco UCS Manager.

Step 5 Power off the server.

Step 6 Replace the CPUs with the Intel E5-2600 v2 Series CPUs.

Use the procedures in the Blade Server Installation and Service Note for your server.

Step 7 Reinsert the server to the chassis.

Step 8 Wait for Cisco UCS Manager to automatically discover the server.

Note At this point, the Health LED of the server shows a critical fault and Cisco UCS Manager reports a generic error message: `WILL_BOOT_FAULT: Sensor failure asserted`. This is because a board controller activation is required, as described in the next step.

Step 9 Perform a board controller activation by using the Cisco UCS Manager CLI interface. Use the following sequence of commands:

Note The **`show image`** command in the sequence below lists the board controller versions available for the server. Always activate the latest board controller image version when you use the **`activate firmware`** command.

Note The server automatically reboots after the **`commit-buffer`** command is executed.

```
# scope server <chassis/server>
# scope boardcontroller
# show image
# activate firmware <boardcontroller version>.0 force
# commit-buffer
```

See also Sample Board Controller Activation Command Sequence, page 15.

Step 10 Do not continue with the next step until the board controller activation completes. Verify whether the activation is complete by using the **show version** command.

As shown in the example below, wait until the Activate-Status returns Ready. This process takes a few minutes before the Activate-status is successfully completed and returns Ready.

```
# show version
BoardController:
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Ready
```

Step 11 Clear the WILL_BOOT_FAULT by using the Cisco UCS Manager GUI to reset the server CIMC:

a. In the **Navigation** pane, click the **Equipment** tab.

b. On the **Equipment** tab, expand **Equipment > Chassis >** ***Chassis number*** **> Servers**, then choose your server.

c. In the **Work** pane, click the **General** tab.

d. In the **Actions** area, click **Recover Server**.

e. In the Recover Server dialog, click **Reset CIMC (Server Controller)**, then click **OK**.

Wait for CIMC to reboot and for Cisco UCS Manager to do a shallow discovery of the server. This takes two to three minutes. At the end of this process the WILL_BOOT_FAULT is cleared.

Upgrade Scenario 2: UCSM and BIOS at Version 2.1(3a) or Later, CPU Earlier Than Intel E5-2600 v2

This scenario assumes the following conditions:

- The Cisco UCS Manager software is at version 2.1(3a) or later.
- The server is already using BIOS/CIMC version 2.1(3a) or later.
- The server is using CPUs earlier than Intel E5-2600 v2 Series CPUs.

In this case, the server already has the software and firmware prerequisites. Use the following procedure to upgrade the CPUs:

Step 1 Disassociate the server in Cisco UCS Manager.

Step 2 Power off the server.

Step 3 Replace the CPUs with the Intel E5-2600 v2 Series CPUs.

Use the procedures in the Blade Server Installation and Service Note for your server.

Step 4 Reinsert the server to the chassis.

Step 5 Wait for Cisco UCS Manager to automatically discover the server.

Note At this point, the Health LED of the server shows a critical fault and Cisco UCS Manager reports a generic error message: **WILL_BOOT_FAULT: Sensor failure asserted**. This is because a board controller activation is required, as described in the next step.

Step 6 Perform a board controller activation by using the Cisco UCS Manager CLI interface. Use the following sequence of commands:

Note The server automatically reboots after the **commit-buffer** command is executed.

Note The **show image** command in the sequence below lists the board controller versions available for the server. Always activate the latest board controller image version when you use the **activate firmware** command.

```
# scope server <chassis/server>
# scope boardcontroller
# show image
# activate firmware <boardcontroller version>.0 force
# commit-buffer
```

See also Sample Board Controller Activation Command Sequence, page 15.

Step 7 Do not continue with the next step until the board controller activation completes. Verify whether the activation is complete by using the **show version** command.

As shown in the example below, wait until the Activate-Status returns Ready. This process takes a few minutes before Activate-status is successfully completed and returns Ready.

```
# show version
BoardController:
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Ready
```

Step 8 Clear the WILL_BOOT_FAULT by using the Cisco UCS Manager GUI to reset the server CIMC:

a. In the **Navigation** pane, click the **Equipment** tab.

b. On the **Equipment** tab, expand **Equipment > Chassis > *Chassis number* > Servers**, then choose your server.

c. In the **Work** pane, click the **General** tab.

d. In the **Actions** area, click **Recover Server**.

e. In the Recover Server dialog, click **Reset CIMC (Server Controller)**, then click **OK**.

Wait for CIMC to reboot and for Cisco UCS Manager to do a shallow discovery of the server. This takes two to three minutes. At the end of this process the WILL_BOOT_FAULT is cleared.

Upgrade Scenario 3: UCSM at Version 2.1(3a) or Later, CPU is Intel E5-2600 v2, BIOS on Spare Earlier Than Version 2.1(3a)

This scenario is unique to a field-service situation in which a server that is already running Intel E5-2600 v2 Series CPUs must be replaced, but the only replacement server available is running a BIOS earlier than 2.1(3a).

This scenario assumes the following conditions:

- The Cisco UCS Manager software is at version 2.1(3a) or later.
- The replacement server is using Intel E5-2600 v2 Series CPUs (after the CPUs are transferred from the old server).
- The replacement server is using BIOS/CIMC version earlier than 2.1(3a).

Use the following procedure to upgrade the replacement server BIOS to the required version:

Step 1 Disassociate the server in Cisco UCS Manager.

Step 2 Power off the server.

Step 3 Transfer the CPUs from the old server to the new replacement server.

Use the procedures in the Blade Server Installation and Service Note for your server.

Step 4 Insert the server into the chassis that is running Cisco UCS Manager 2.1(3a) or later.

Note The server does not boot and discovery of the server hangs waiting for BIOS POST to complete because the BIOS is at an earlier version that does not support E5-2600 v2 Series CPUs.

Step 5 Use the Cisco UCS Manager CLI to upgrade the BIOS. Use the following sequence of commands:

Note The **show image** command in the sequence below lists the firmware versions available for the server. Always activate the latest firmware image version when you use the **update firmware** command.

```
# scope server <chassis/blade>
chassis/server # scope bios
chassis/server/bios # show image
chassis/server/bios # update firmware <server_model>.<firmware version>
chassis/server/bios* # commit-buffer
```

Step 6 Wait for the update to complete. Check the status of the update and wait until the following command returns `Status: Ready`. It takes a few minutes for the Status to return Ready.

```
chassis/server/bios # show update status
Status: Ready
```

Step 7 Activate the new BIOS:

```
chassis/server/bios # activate firmware <server_model>.<firmware version>
Warning: When committed this command will reset the end-point
chassis/server/bios* # commit-buffer
chassis/server/bios # exit
```

Step 8 Power-cycle the server to get discovery out of the hang state:

```
chassis/server # cycle cycle-immediate
chassis/server* # commit-buffer
```

Cisco UCS Manager is now able to complete auto-discovery of the server.

Step 9 Use Cisco UCS Manager 2.1(3a) to upgrade and activate the server CIMC to version 2.1(3a) or later.

Use the procedures in the GUI or CLI Firmware Management Guide, Release 2.1.

Step 10 Wait for the server to be discovered and by Cisco UCS Manager.

Step 11 Perform a board controller activation by using the Cisco UCS Manager CLI interface. Use the following sequence of commands:

Note The server automatically reboots after the **commit-buffer** command is executed.

Note The **show image** command in the sequence below lists the board controller versions available for the server. Always activate the latest board controller image version when you use the **activate firmware** command.

```
# scope server <chassis/server>
# scope boardcontroller
# show image
# activate firmware <boardcontroller version>.0 force
# commit-buffer
```

See also Sample Board Controller Activation Command Sequence, page 15.

Step 12 Do not continue with the next step until the board controller activation completes. Verify whether the activation is complete by using the **show version** command.

As shown in the example below, wait until the Activate-Status returns Ready. This process takes a few minutes before Activate-status is successfully completed and returns Ready.

```
# show version
BoardController:
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Ready
```

Step 13 Clear the WILL_BOOT_FAULT by using the Cisco UCS Manager GUI to reset the server CIMC:

a. In the **Navigation** pane, click the **Equipment** tab.

b. On the **Equipment** tab, expand **Equipment > Chassis > *Chassis number* > Servers**, then choose your server.

c. In the **Work** pane, click the **General** tab.

d. In the **Actions** area, click **Recover Server**.

e. In the Recover Server dialog, click **Reset CIMC (Server Controller)**, then click **OK**.

Wait for CIMC to reboot and for Cisco UCS Manager to do a shallow discovery of the server. This takes two to three minutes. At the end of this process the WILL_BOOT_FAULT is cleared.

Upgrading the B22 M3 Server to Intel E5-2400 v2 Series CPUs

Note These upgrade procedures require server downtime.

This section contains the following topics:

Upgrade Scenario 1: UCSM and BIOS Earlier Than Version 2.2(2c), CPU Earlier Than Intel E5-2400 v2

This scenario assumes the following conditions:

- The Cisco UCS Manager software is at a version earlier than 2.2(2c).
- The server is at a BIOS/CIMC version earlier than 2.2(2c).
- The server is using CPUs earlier than Intel E5-2400 v2 Series.

In this case, use the following procedure to upgrade the server and CPUs.

Step 1 Upgrade the Cisco UCS Manager software to version 2.2(2c) or later. The required server CIMC and BIOS are also included with the 2.2(2c) download bundle.

Use the procedures in the appropriate upgrade guide for Release 2.1 in the UCS Manager Install and Upgrade Guides (depending on your current software version).

Step 2 Use Cisco UCS Manager 2.2(2c) to upgrade and activate the server CIMC to version 2.2(2c) or later.

Use the GUI or CLI procedures in the UCS Manager Install and Upgrade Guides.

Step 3 Use Cisco UCS Manager 2.2(2c) to upgrade and activate the server BIOS to version 2.2(2c) or later.

Use the GUI or CLI procedures in the UCS Manager Install and Upgrade Guides.

Step 4 Disassociate the server in Cisco UCS Manager.

Step 5 Power off the server.

Step 6 Replace the CPUs with the Intel E5-2400 v2 Series CPUs.

Use the procedures in the Blade Server Installation and Service Note for your server.

Step 7 Reinsert the server to the chassis.

Step 8 Wait for Cisco UCS Manager to automatically discover the server.

Note At this point, the Health LED of the server shows a critical fault and Cisco UCS Manager reports a generic error message: `WILL_BOOT_FAULT: Sensor failure asserted`. This is because a board controller activation is required, as described in the next step.

Step 9 Perform a board controller activation by using the Cisco UCS Manager CLI interface. Use the following sequence of commands:

Note The **show image** command in the sequence below lists the board controller versions available for the server. Always activate the latest board controller image version when you use the **activate firmware** command.

Note The server automatically reboots after the **commit-buffer** command is executed.

```
# scope server <chassis/server>
# scope boardcontroller
# show image
# activate firmware <boardcontroller version>.0 force
# commit-buffer
```

See also Sample Board Controller Activation Command Sequence, page 15.

Step 10 Do not continue with the next step until the board controller activation completes. Verify whether the activation is complete by using the **show version** command.

As shown in the example below, wait until the Activate-Status returns Ready. This process takes a few minutes before the Activate-status is successfully completed and returns Ready.

```
# show version
BoardController:
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Ready
```

Step 11 Clear the WILL_BOOT_FAULT by using the Cisco UCS Manager GUI to reset the server CIMC:

a. In the **Navigation** pane, click the **Equipment** tab.

b. On the **Equipment** tab, expand **Equipment > Chassis >** ***Chassis number*** **> Servers**, then choose your server.

c. In the **Work** pane, click the **General** tab.

d. In the **Actions** area, click **Recover Server**.

e. In the Recover Server dialog, click **Reset CIMC (Server Controller)**, then click **OK**.

Wait for CIMC to reboot and for Cisco UCS Manager to do a shallow discovery of the server. This takes two to three minutes. At the end of this process the WILL_BOOT_FAULT is cleared.

Upgrade Scenario 2: UCSM and BIOS at Version 2.2(2c) or Later, CPU Earlier Than Intel E5-2400 v2

This scenario assumes the following conditions:

- The Cisco UCS Manager software is at version 2.2(2c) or later.
- The server is already using BIOS/CIMC version 2.2(2c) or later.
- The server is using CPUs earlier than Intel E5-2400 v2 Series CPUs.

In this case, the server already has the software and firmware prerequisites. Use the following procedure to upgrade the CPUs:

Step 1 Disassociate the server in Cisco UCS Manager.

Step 2 Power off the server.

Step 3 Replace the CPUs with the Intel E5-2400 v2 Series CPUs.

Use the procedures in the Blade Server Installation and Service Note for your server.

Step 4 Reinsert the server to the chassis.

Step 5 Wait for Cisco UCS Manager to automatically discover the server.

Upgrade Scenario 3: UCSM at Version 2.2(2c) or Later, CPU is Intel E5-2400 v2, BIOS on Spare Earlier Than Version 2.2(2c)

This scenario is unique to a field-service situation in which a server that is already running Intel E5-2400 v2 Series CPUs must be replaced, but the only replacement server available is running a BIOS earlier than 2.2(2c).

This scenario assumes the following conditions:

- The Cisco UCS Manager software is at version 2.2(2c) or later.
- The replacement server is using Intel E5-2400 v2 Series CPUs (after the CPUs are transferred from the old server).
- The replacement server is using BIOS/CIMC version earlier than 2.2(2c).

Use the following procedure to upgrade the replacement server BIOS to the required version:

Step 1 Disassociate the server in Cisco UCS Manager.2.2(2c)

Step 2 Power off the server.

Step 3 Transfer the CPUs from the old server to the new replacement server.

Use the procedures in the Blade Server Installation and Service Note for your server.

Step 4 Insert the server into the chassis that is running Cisco UCS Manager 2.2(2c) or later.

Note The server does not boot and discovery of the server hangs waiting for BIOS POST to complete because the BIOS is at an earlier version that does not support E5-2400 v2 Series CPUs.

Step 5 Use the Cisco UCS Manager CLI to upgrade the BIOS. Use the following sequence of commands:

Note The **show image** command in the sequence below lists the firmware versions available for the server. Always activate the latest firmware image version when you use the **update firmware** command.

```
# scope server <chassis/blade>
chassis/server # scope bios
chassis/server/bios # show image
chassis/server/bios # update firmware <server_model>.<firmware version>
chassis/server/bios* # commit-buffer
```

Step 6 Wait for the update to complete. Check the status of the update and wait until the following command returns `Status: Ready`. It takes a few minutes for the Status to return Ready.

```
chassis/server/bios # show update status
Status: Ready
```

Step 7 Activate the new BIOS:

```
chassis/server/bios # activate firmware <server_model>.<firmware version>
Warning: When committed this command will reset the end-point
chassis/server/bios* # commit-buffer
chassis/server/bios # exit
```

Step 8 Power-cycle the server to get discovery out of the hang state:

```
chassis/server # cycle cycle-immediate
chassis/server* # commit-buffer
```

Cisco UCS Manager is now able to complete auto-discovery of the server.

Step 9 Use Cisco UCS Manager 2.2(2c) to upgrade and activate the server CIMC to version 2.2(2c) or later.

Use the GUI or CLI procedures in the UCS Manager Install and Upgrade Guides.

Step 10 Wait for the server to be discovered and by Cisco UCS Manager.

Step 11 Perform a board controller activation by using the Cisco UCS Manager CLI interface. Use the following sequence of commands:

Note The server automatically reboots after the **commit-buffer** command is executed.

Note The **show image** command in the sequence below lists the board controller versions available for the server. Always activate the latest board controller image version when you use the **activate firmware** command.

```
# scope server <chassis/server>
# scope boardcontroller
# show image
# activate firmware <boardcontroller version>.0 force
# commit-buffer
```

See also Sample Board Controller Activation Command Sequence, page 18.

Step 12 Do not continue with the next step until the board controller activation completes. Verify whether the activation is complete by using the **show version** command.

As shown in the example below, wait until the Activate-Status returns Ready. This process takes a few minutes before Activate-status is successfully completed and returns Ready.

```
# show version
BoardController:
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Ready
```

Step 13 Clear the WILL_BOOT_FAULT by using the Cisco UCS Manager GUI to reset the server CIMC:

a. In the **Navigation** pane, click the **Equipment** tab.

b. On the **Equipment** tab, expand **Equipment > Chassis >** ***Chassis number*** **> Servers**, then choose your server.

c. In the **Work** pane, click the **General** tab.

d. In the **Actions** area, click **Recover Server**.

e. In the Recover Server dialog, click **Reset CIMC (Server Controller)**, then click **OK**.

Wait for CIMC to reboot and for Cisco UCS Manager to do a shallow discovery of the server. This takes two to three minutes. At the end of this process the WILL_BOOT_FAULT is cleared.

Downgrading the Cisco B200 M3 Server From Intel E5-2600 v2 Series CPUs

Note This downgrade procedure requires server downtime.

This scenario assumes the following conditions:

- The Cisco UCS Manager software is at version 2.1(3a) or later.
- The server is using BIOS/CIMC version 2.1(3a) or later.
- The server is using the Intel E5-2600 v2 Series CPUs.

Use the following procedure to downgrade to earlier supported CPUs.

Step 1 Disassociate the server in Cisco UCS Manager.

Step 2 Power off the server.

Step 3 Replace the Intel E5-2600 v2 Series CPUs with the earlier supported CPUs.

Use the procedures in the Blade Server Installation and Service Note for your server.

Step 4 Reinsert the server to the chassis.

Step 5 Wait for Cisco UCS Manager to automatically discover the server.

Note At this point, the Health LED of the server shows a critical fault and Cisco UCS Manager reports a generic error message: **`WILL_BOOT_FAULT: Sensor failure asserted`**. This is because a board controller activation is required, as described in the next step.

Step 6 Perform a board controller activation by using the Cisco UCS Manager CLI interface. Use the following sequence of commands:

Note The server automatically reboots after the **`commit-buffer`** command is executed.

Note The **`show image`** command in the sequence below lists the board controller versions available for the server. Always activate the latest board controller image version when you use the **`activate firmware`** command.

```
# scope server <chassis/server>
# scope boardcontroller
# show image
# activate firmware <boardcontroller version>.0 force
# commit-buffer
```

See also Sample Board Controller Activation Command Sequence, page 18.

Step 7 Do not continue with the next step until the board controller activation completes. Verify whether the activation is complete by using the **show version** command.

As shown in the example below, wait until the Activate-Status returns Ready. This process takes a few minutes before Activate-status is successfully completed and returns Ready.

```
# show version
BoardController:
```

```
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Ready
```

Step 8 Clear the WILL_BOOT_FAULT by using the Cisco UCS Manager GUI to reset the server CIMC:

a. In the **Navigation** pane, click the **Equipment** tab.

b. On the **Equipment** tab, expand **Equipment > Chassis >** ***Chassis number*** **> Servers**, then choose your server.

c. In the **Work** pane, click the **General** tab.

d. In the **Actions** area, click **Recover Server**.

e. In the Recover Server dialog, click **Reset CIMC (Server Controller)**, then click **OK**.

Wait for CIMC to reboot and for Cisco UCS Manager to do a shallow discovery of the server. This takes two to three minutes. At the end of this process the WILL_BOOT_FAULT is cleared.

Note The Cisco UCS Manager 2.1(3a) bundle, including the server CIMC and BIOS, is backward-compatible with earlier supported CPUs, so the following firmware downgrade steps are optional.

Step 9 **Optional**: Downgrade your server CIMC.

Use the procedures in the GUI or CLI Firmware Management Guide, Release 2.1.

Step 10 **Optional**: Downgrade your server BIOS.

Use the procedures in the GUI or CLI Firmware Management Guide, Release 2.1.

Sample Board Controller Activation Command Sequence

The following is an example of the commands with sample values.

```
Box-A# scope server 1/4
Box-A /chassis/server # scope boardcontroller
Box-A /chassis/server/boardcontroller # show image
Name                                        Type                 Version
------------------------------------------- -------------------- -------
ucs-b200-m3-brdprog.3.0.gbin                Board Controller     3.0
ucs-b200-m3-brdprog.8.0.gbin                Board Controller 8.0


Box-A /chassis/server/boardcontroller # activate firmware 8.0 force
Warning: When committed this command will reset the end-point
Box-A /chassis/server/boardcontroller* # commit-buffer
```

Note The server automatically reboots after the **commit-buffer** command is executed.

```
Box-A /chassis/server/boardcontroller # show version
BoardController:
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Activating
```

```
Box-A /chassis/server/boardcontroller # show version
BoardController:
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Ready
```

Note When the **show version** command returns `Activate-Status: Activating`, the process is working, but incomplete. When the command returns `Activate-Status: Ready`, the process is complete. The process takes a few minutes.

Downgrading the Cisco B22 M3 Server From Intel E5-2400 v2 Series CPUs

Note This downgrade procedure requires server downtime.

This scenario assumes the following conditions:

- The Cisco UCS Manager software is at version 2.2(2c) or later.
- The server is using BIOS/CIMC version 2.2(2c) or later.
- The server is using the Intel E5-2400 v2 Series CPUs.

Use the following procedure to downgrade to earlier supported CPUs.

Step 1 Disassociate the server in Cisco UCS Manager.

Step 2 Power off the server.

Step 3 Replace the Intel E5-2400 v2 Series CPUs with the earlier supported CPUs.

Use the procedures in the Blade Server Installation and Service Note for your server.

Step 4 Reinsert the server to the chassis.

Step 5 Wait for Cisco UCS Manager to automatically discover the server.

Note At this point, the Health LED of the server shows a critical fault and Cisco UCS Manager reports a generic error message: **`WILL_BOOT_FAULT: Sensor failure asserted`**. This is because a board controller activation is required, as described in the next step.

Step 6 Perform a board controller activation by using the Cisco UCS Manager CLI interface. Use the following sequence of commands:

Note The server automatically reboots after the **`commit-buffer`** command is executed.

Note The **`show image`** command in the sequence below lists the board controller versions available for the server. Always activate the latest board controller image version when you use the **`activate firmware`** command.

```
# scope server <chassis/server>
# scope boardcontroller
# show image
# activate firmware <boardcontroller version>.0 force
# commit-buffer
```

See also Sample Board Controller Activation Command Sequence, page 18.

Step 7 Do not continue with the next step until the board controller activation completes. Verify whether the activation is complete by using the **show version** command.

As shown in the example below, wait until the Activate-Status returns Ready. This process takes a few minutes before Activate-status is successfully completed and returns Ready.

```
# show version
BoardController:
```

```
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Ready
```

Step 8 Clear the WILL_BOOT_FAULT by using the Cisco UCS Manager GUI to reset the server CIMC:

a. In the **Navigation** pane, click the **Equipment** tab.

b. On the **Equipment** tab, expand **Equipment > Chassis >** ***Chassis number*** **> Servers**, then choose your server.

c. In the **Work** pane, click the **General** tab.

d. In the **Actions** area, click **Recover Server**.

e. In the Recover Server dialog, click **Reset CIMC (Server Controller)**, then click **OK**.

Wait for CIMC to reboot and for Cisco UCS Manager to do a shallow discovery of the server. This takes two to three minutes. At the end of this process the WILL_BOOT_FAULT is cleared.

Note The Cisco UCS Manager 2.2(2c) bundle, including the server CIMC and BIOS, is backward-compatible with earlier supported CPUs, so the following firmware downgrade steps are optional.

Step 9 **Optional**: Downgrade your server CIMC.

Use the GUI or CLI procedures in the UCS Manager Install and Upgrade Guides.

Step 10 **Optional**: Downgrade your server BIOS.

Use the GUI or CLI procedures in the UCS Manager Install and Upgrade Guides.

Sample Board Controller Activation Command Sequence

The following is an example of the commands with sample values.

```
Box-A# scope server 1/4
Box-A /chassis/server # scope boardcontroller
Box-A /chassis/server/boardcontroller # show image
Name                                        Type                  Version
------------------------------------------- --------------------- -------
ucs-b22-m3-brdprog.3.0.gbin                 Board Controller     3.0
ucs-b22-m3-brdprog.8.0.gbin                 Board Controller 8.0


Box-A /chassis/server/boardcontroller # activate firmware 8.0 force
Warning: When committed this command will reset the end-point
Box-A /chassis/server/boardcontroller* # commit-buffer
```

Note The server automatically reboots after the **commit-buffer** command is executed.

```
Box-A /chassis/server/boardcontroller # show version
BoardController:
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Activating
```

```
Box-A /chassis/server/boardcontroller # show version
BoardController:
    Running-Vers: 8.0
    Package-Vers:
    Activate-Status: Ready
```

Note When the **show version** command returns `Activate-Status: Activating`, the process is working, but incomplete. When the command returns `Activate-Status: Ready`, the process is complete. The process takes a few minutes.