



Installing the E-Series Server or NCE into the Router

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Basic Workflow for Installing the E-Series Server or NCE into the Router

- 1 Verify that the router, the E-Series Server or NCE, and the Cisco IOS software version that is installed on the router are compatible.
- 2 Install the E-Series Server or NCE into the router.



Important

If you are migrating the E-Series Server from a Cisco ISR G2 into a Cisco ISR 4000 series, you must first update the CIMC firmware image to release 2.0(1.20130626092411) or the latest version and the BIOS firmware image to release 1.5.0.2 or the latest version—while the E-Series Server is still installed in the Cisco ISR G2—and then migrate it into the Cisco ISR 4000 series. For CIMC firmware installation instructions, see the "CIMC Firmware Management" chapter in the *GUI Configuration Guide for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine* on Cisco.com.

- 3 Verify that the E-Series Server or the NCE is correctly detected by the router.

Verifying Compatibility

Verifying the Cisco ISR G2, E-Series Server, NCE, and Cisco IOS Software Release Compatibility

Table 1: Router, E-Series Server, NCE, and Cisco IOS Release Compatibility

Router	Cisco IOS Software Release for Single-Wide E-Series Servers and the SM E-Series NCE	Cisco IOS Software Release for Double-Wide E-Series Servers	Cisco IOS Software Release for the EHWIC E-Series NCE
1921	—	—	15.4(3)M and later releases
1941	—	—	15.4(3)M and later releases
2911	15.2(4)M and later releases	—	15.4(3)M and later releases
2921	15.2(4)M and later releases	15.2(4)M and later releases Note Supports 4-core only	15.4(3)M and later releases
2951	15.2(4)M and later releases	15.2(4)M and later releases Note Supports 4-core only	15.4(3)M and later releases
3925	15.2(4)M and later releases	15.2(4)M and later releases	15.4(3)M and later releases
3925e	15.2(4)M and later releases	15.2(4)M and later releases	15.4(3)M and later releases
3945	15.2(4)M and later releases	15.2(4)M and later releases	15.4(3)M and later releases
3945e	15.2(4)M and later releases	15.2(4)M and later releases	15.4(3)M and later releases

Verifying the Cisco ISR 4000 Series, E-Series Server, NIM, CIMC, and Cisco IOS Software Release Compatibility

Table 2: Cisco ISR 4000 Series, E-Series Server, NIM, CIMC, and Cisco IOS Release Compatibility

Router	Cisco IOS Software Release for Single-Wide E-Series Servers and the SM E-Series NCE	Cisco IOS Software Release for Double-Wide E-Series Servers	Cisco IOS Software Release for NIM E-Series NCE	CIMC
4400 Series	XE 3.12S	XE 3.12S	–	2.2.2 and later releases
	XE 3.13S and later releases	XE 3.13S and later releases	–	2.3.1 and later releases
	–	–	XE 3.15S and later releases	3.0 and later releases
4300 Series	XE 3.13S and later releases	XE 3.13S and later releases	–	2.3.1 and later releases
	–	–	XE 3.15S and later releases	3.0.1 and later releases

Installing the E-Series Server and the NCE into a Router

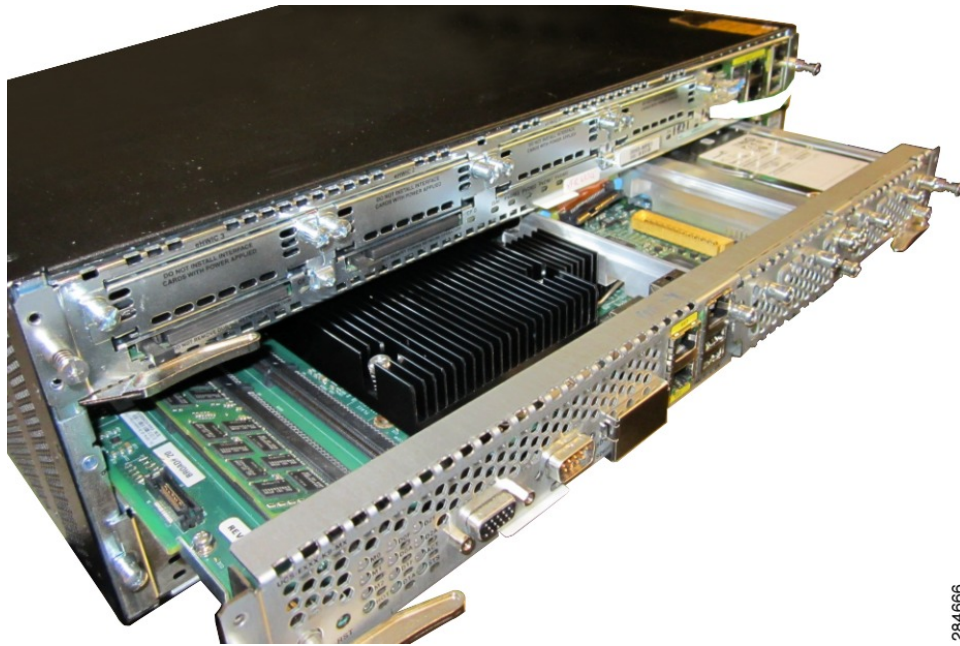
The following figures show how to install the E-Series Server and the EHWIC E-Series NCE into a router. For detailed information, see the *Hardware Installation Guide for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine* on Cisco.com.

Double-Wide E-Series Server in a Cisco ISR G2

**Caution**

Before you install or remove the E-Series Server from a Cisco 2900 series ISR G2, make sure that you first power down the router, and then install or remove the server.

Figure 1: Double-Wide E-Series Server in a Cisco ISR G2



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Double-Wide E-Series Server in a Cisco ISR 4000 Series



Important

If you are migrating the E-Series Server from a Cisco ISR G2 into a Cisco ISR 4000 series, you must first upgrade the CIMC and the BIOS firmware image to the latest version—while the E-Series Server is still installed in the Cisco ISR G2—and then migrate it into the Cisco ISR 4000 series. We strongly recommend that you upgrade both the CIMC and the BIOS firmware images.

You can use either the Cisco Host Upgrade Utility (HUU) to upgrade the firmware components or you can upgrade the firmware components manually. For firmware upgrade information, see [Upgrading Firmware](#).

If you migrate the E-Series Server into the Cisco ISR 4000 series without first updating the CIMC firmware, the E-Series Server might continuously reset. To stop the reset and install the firmware, see [Stopping the E-Series Server from Resetting and Updating the CIMC Firmware—Cisco ISR 4000 Series](#), on page 9.

Figure 2: Double-Wide E-Series Server in a Cisco ISR 4000 series



EHWIC E-Series NCE in a Cisco ISR G2**Caution**

Before you install or remove the EHWIC E-Series NCE from a Cisco ISR G2, make sure that you first power down the router, and then install or remove the NCE.

Figure 3: EHWIC E-Series NCE in a Cisco ISR G2

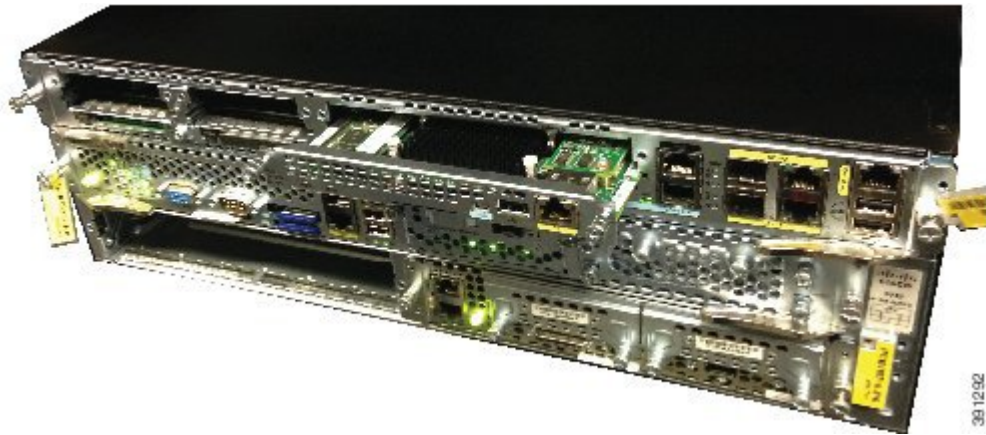
**NIM E-Series NCE in a Cisco ISR 4000 Series**

Figure 4: NIM E-Series NCE in a Cisco ISR 4000 Series



Verifying Installation

Verifying E-Series Server Installation

Before You Begin

- Install the E-Series Server into the router.
- Load a compatible Cisco IOS image.

- Power on the server.

To verify the E-Series Server installation, use one of the following commands:

- To display a high-level overview of the entire physical system, use the **show platform** command:

```
Router# show platform
Chassis type: ISR4451/K9
Slot      Type              State              Insert time (ago)
-----
0         ISR4451/K9         ok                 1d01h
 0/0     ISR4400-4X1GE     ok                 1d01h
1         ISR4451/K9         ok                 1d01h
 1/0     UCS-E160DP-M1/K9  ok                 1d01h
2         ISR4451/K9         ok                 1d01h
R0        ISR4451/K9         ok, active         1d01h
F0        ISR4451/K9         ok, active         1d01h
P0        XXX-XXXX-XX       ok                 1d01h
P1        Unknown           ps,                 1d01h
P2        ACS-4450-FANASSY  ok                 1d01h

Slot      CPLD Version      Firmware Version
-----
0         12090323         12.2 (20120829:165313)
1         12090323         12.2 (20120829:165313)
2         12090323         12.2 (20120829:165313)
R0        12090323         12.2 (20120829:165313)
F0        12090323         12.2 (20120829:165313)
```

- To verify that the router recognizes the E-Series Server, use the **show hw-module subslot all oir** command:

```
Router# show hw-module subslot all oir
Module      Model              Operational Status
-----
subslot 0/0  ISR4451-X-4X1GE   ok
subslot 1/0  UCS-E140S-M1/K9   ok
subslot 2/0  UCS-E140S-M1/K9   ok
```

Verifying the EHWIC E-Series NCE Installation

Before You Begin

- Install the EHWIC E-Series NCE into the router.
- Load a compatible Cisco IOS image.
- Power on the NCE.

Procedure

	Command or Action	Purpose
Step 1	Router> show inventory	Verifies that the router detects the presence of the newly installed EHWIC E-Series NCE.

```
Router> show inventory
```

```
NAME: "CISCO3945-CHASSIS", DESCR: "CISCO3945-CHASSIS"
PID: CISCO3945-CHASSIS , VID: V02, SN: FGL1539100Q
```

```
NAME: "Cisco Services Performance Engine 150 for Cisco 3900 ISR on Slot 0", DESCR: "Cisco
Services Performance Engine 150 for Cisco 3900 ISR"
PID: C3900-SPE150/K9 , VID: V05 , SN: FOC15367HAZ
```

```
NAME: "Enhanced WAN Interface Card UCS Server on Slot 0 SubSlot 3", DESCR: "Enhanced WAN
Interface Card UCS Server"
PID: UCS-EN120E-M2/K9 , VID: V01, SN: FOC17462K2A
```

```
NAME: "C3900 AC Power Supply 1", DESCR: "C3900 AC Power Supply 1"
PID: PWR-3900-AC , VID: V03, SN: SNI1511C8SM
```

Verifying NIM E-Series NCE Installation

Before You Begin

- Install the NIM E-Series NCE into the router.
- Load a compatible Cisco IOS image.
- Power on the server.

To verify the NIM E-Series NCE installation, use one of the following commands:

- To display a high-level overview of the entire physical system, use the **show platform** command:

```
Router# show platform
Chassis type: ISR4351/K9
```

```
0/1      UCS-EN140N-M2/K9    ok           3w5d
1/0      UCS-E140DP-M1/K9   ok           4w6d
2        ISR4351/K9          ok           5w2d
R0       ISR4351/K9          ok, active   5w2d
F0       ISR4351/K9          ok, active   5w2d
P0       PWR-4450-AC         ok           5w2d
P2       ACS-4450-FANASSY    ok           5w2d
```

```
Slot      CPLD Version      Firmware Version
-----
0         14080523          15.4(3r)S1
1         14080523          15.4(3r)S1
2         14080523          15.4(3r)S1
R0        14080523          15.4(3r)S1
F0        14080523          15.4(3r)S1
```


- To verify that the router recognizes the NIM E-Series NCE, use the **show hw-module subslot all oir** command:

```
Router# show hw-module subslot all oir
Module           Model                Operational Status
-----
subslot 0/0      ISR4351-3x1GE        ok
subslot 0/1      UCS-EN140N-M2/K9     ok
subslot 1/0      UCS-E140DP-M1/K9     ok
```

Stopping the E-Series Server from Resetting and Updating the CIMC Firmware—Cisco ISR 4000 Series

If you migrate the E-Series Server into the Cisco ISR 4000 series without first updating the CIMC firmware, the E-Series Server will continuously reset. Use this procedure to stop the reset and install the firmware.



Note

Some of the steps in this procedure are performed from the router, and other steps are performed from the E-Series Server.

Procedure

	Command or Action	Purpose
Step 1	Router# hw-module subslot slot/subslot maintenance enable	Disables error recovery, which stops the E-Series Server from being reset. Note Enter the commands in Step 1 and Step 2 from the router.
Step 2	Router# hw-module subslot slot/subslot session imc	Starts a CIMC session.
Step 3	Server# scope cimc	Enters CIMC command mode. Note Enter the commands in Step 3 through Step 8 from the E-Series Server.
Step 4	Server/cimc # scope firmware	Enters CIMC firmware command mode.
Step 5	Server/cimc/firmware # update tftp-ip-address path-and-filename	Starts CIMC firmware update. The server will obtain the update firmware at the specified path and filename from the TFTP server at the specified IP address.
Step 6	Server/cimc/firmware # show [detail]	Displays the available firmware and status.
Step 7	Server/cimc/firmware # activate [1 2]	Activates the selected image. If no image number is specified, the server activates the currently inactive image.
Step 8	Press Ctrl-a Ctrl-q .	Exits the CIMC session.

	Command or Action	Purpose
Step 9	Router# hw-module subslot slot/subslot maintenance disable	Enables error recovery. Note Enter the commands in Step 9 and Step 10 from the router.
Step 10	Router# hw-module subslot slot/subslot reload	Reloads the E-Series Server. Note This reload power-cycles the E-Series Server.

What to Do Next

Configure the CIMC IP address for CIMC access. See [Configuring Access to the Management Firmware](#).