



Overview for Cisco NCS 4000 Single Chassis to Multi Chassis Migration

This chapter provides an overview for the NCS 4000 single chassis to multi chassis migration.

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Setup Multi-chassis Configuration

Multiple Cisco NCS 4016 single chassis (SC) are connected to one or more NCS 4000 fabric card chassis to form a multi chassis (MC) system. This enables scalability with a single admin and control plane. The MC system contains two types of chassis - line card chassis (LCC) which is the NCS 4016, and the fabric card chassis (FCC).

The fabric cards in the LCC are different from the fabric cards in the FCC. All the LCCs are connected to the FCC, and traffic flows from one LCC to another LCC through the FCC.

To form a MC system, two types of connections are required:

- Control Ethernet Connectivity - the racks are interconnected to form a network.
- Fabric Connectivity - the FCC and LCC are connected to form a fabric plane.

Upgrade Process

The upgrade process involves the following steps:

- Pre-maintenance window tasks - the latest Cisco IOS XR software is updated on the MC system. The new LCC(s) and FCC(s) are not connected to the production network at this stage.
- Maintenance window tasks - the existing SC system (LCC) is upgraded to the latest software version by upgrading the packages, SMUs and installing the golden RPs. The existing SC system is connected with the other LCC(s) and FCC(s) to arrive at the required MC system.
- ECU2 upgrade - the ECU (used in the SC system) needs to be upgraded to ECU2 to support MC configuration. For the details regarding the ECU to ECU2 migration, see [Migrate from NCS4K-ECU to NCS4K-ECU2](#).

For details about inter-rack timing, after the migration from a single chassis system to a multi chassis system is complete, see [Inter-rack Timing](#).

Assign Rack Number to Chassis

In a multi chassis system, each chassis must have a unique rack number. This rack number is used to identify a chassis in the system.

Complete this task to identify the chassis and its connections and to establish a multi-chassis network.

Prerequisites

- Install the hardware components of the MC system.
- Connect all the chassis in the MC system using control ethernet cables. The control ethernet cables provide inter-connectivity between the chassis.
- Connect the fabric cards on the FCC and the LCC using fabric cables. This is used for data traffic.

Procedure

- Step 1** **admin**
Step 2 **configure**
Step 3 **chassis serial** *serial_number*

Example:

```
systemadmin-vm:0_RP) (config) # chassis serial ABC12345
```

Enters the chassis serial configuration mode.

- Step 4** **rack** *rack_number*

Example:

```
systemadmin-vm:0_RP) (config-serial-ABC12345) # rack 0
```

Type a rack number to associate the rack number to the chassis.

Note Rack numbers must be provisioned for all the LCCs and FCCs before proceeding with the migration to a multi chassis configuration. Make sure all the rack numbers are unique.

- LCC1 should be rack 1
- LCC2 should be rack 2
- LCC3 should be rack 3
- LCC4 should be rack 4
- LCC5 should be rack 5
- LCC6 should be rack 6
- LCC7 should be rack 7
- LCC8 should be rack 8
- LCC9 should be rack 9
- LCC10 should be rack 10
- LCC11 should be rack 11
- FCC1 should be rack F1
- FCC2 should be rack F2
- FCC3 should be rack F3

Step 5 **commit**

Associate a Fabric Card in a Fabric Card Chassis to a Fabric Plane

The fabric cards in the FCC must be associated to a fabric plane in the multi-chassis system. The system fabric is divided into four fabric planes that are used to evenly distribute traffic across the fabric. The location of each fabric card in the fabric plane is identified by an instance number.

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Procedure

Step 1 **admin**

Step 2 **configure**

Step 3 **controller fabric plane** *plane_id*

Example:

```
sysadmin-vm:0_RP0 (config) # controller fabric plane 1
```

Enters the fabric plane configuration mode.

Step 4 **instance** *instance_number*

Example:

```
sysadmin-vm:0_RP0 (config-plane-1) # instance 0
```

Creates an instance number, to which the FC will be mapped.

Step 5 **location** *fabric_chassis_number / fabric_card_number***Example:**

```
sysadmin-vm:0_RP0 (config-instance 0) # location F0/FC1
```

Associates the location of the fabric card to the created instance.

Step 6 **commit**