



# Installation on Linux System

This chapter provides information about how to install the Cisco CNS Configuration Engine 1.4 software on a Cisco CNS 2100 Series Intelligence Engine running Linux.

## Cisco IOS Dependences

[Table 1-1](#) lists Cisco IOS versions with corresponding versions of CNS Configuration Engine including feature limitations associated with each version.

**Table 1-1** *CNS Configuration Engine and Cisco IOS Dependencies*

Cisco IOS	CNS Configuration Engine	Limitations
12.3	1.3.2 or later	
12.2(11)T	1.2 or later	
12.2(2)T	1.2 or later with no authentication.	Applications are unable to use exec commands or point-to-point messaging.

## Console Access to CNSIE-2110-K9 System

Normal terminal login to the CNSIE-2110-K9 (x330) system is supported by way of the system serial port. The CNS 2100 Series system redirects and supports console login at the serial port.

# Console Access to CNSIE-2115-K9 System

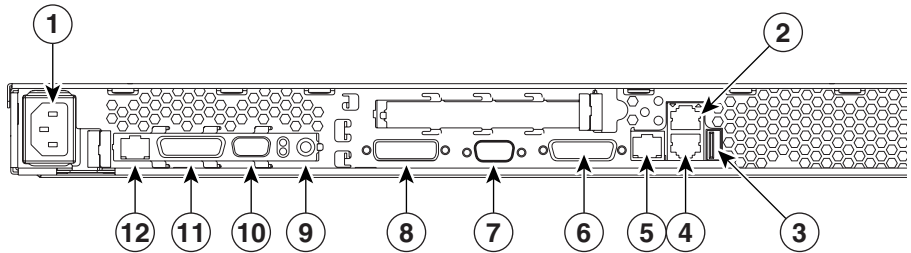
Normal terminal login to the CNSIE-2115-K9 (x335) system is supported by way of the system serial port (See [Figure 1-1](#), callout-7).



## Timesaver

For immediate console access to the server, use two DB9 connectors and a rollover cable to connect your laptop computer to the server serial port.

**Figure 1-1 CNSIE-2115-K9 (x335)Rear Panel**



1. **Power connector:** Connect the power cable here.
2. **Ethernet 2 connector:** Connect an Ethernet cable here.
3. **USB 3 connector:** Connect to a Universal Serial Bus here.
4. **Ethernet 1 connector:** Connect an Ethernet cable here.
5. **ISM connector:** Connect an ASM link cable from the ASM interconnect module to this connector.
6. **C2T OUT connector:** Connect the cable from this connector to the input connector of another server.
7. **Serial connector:** Connect a 9-pin serial device to this connector.
8. **C2T IN connector:** Connect the cable from the output connector of another server to this connector.
9. **Power connector on Remote Service Adapter:** Connect the power cable for Remote Service Adapter here.
10. **RS-485 on Remote Service Adapter:** Connect the ASM Interconnect Module to this connector.

11. **Serial connector on Remote Service Adapter:** Connect a 9-pin serial device to this connector.
12. **Ethernet connector on Remote Service Adapter:** Connect an Ethernet cable here.

The CNS 2100 Series system redirects and supports console login at the serial port. It is a more desirable feature because you can perform daily or emergency administrative tasks remotely, by way of the serial port.

## Serial Connection Settings

The serial connection settings are as follows:

**9600 baud**  
**8 data bit**  
**N (No)parity**  
**1 stop bit**

## Troubleshooting the Serial Port

The serial port is enabled by default. If there is a connection problem, verify that it is enabled by accessing the Remote Console Redirection menu during system start as follows:

- 
- |               |  |
|---------------|--|
| <b>Step 1</b> | Press <b>F1</b> , then go to: <b>Configuration/Setup Utility</b> (menu) -> <b>Devices and I/O ports</b> (menu) -> <b>Remote Console Redirection</b> (menu) |
| <b>Step 2</b> | Make sure the <b>Remote Console Active</b> parameter is enabled.   |
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## Cabling an ASM Interconnect Network

An Advanced System Management (ASM) bus is integrated into the C2T interconnect cables, so by adding one or more Remote Supervisor Adapters to a C2T chain of servers, you can create an Advanced System Management (ASM)

interconnect network. For information about using a Remote Supervisor Adapter for remote server management, see the documentation that comes with the adapter.

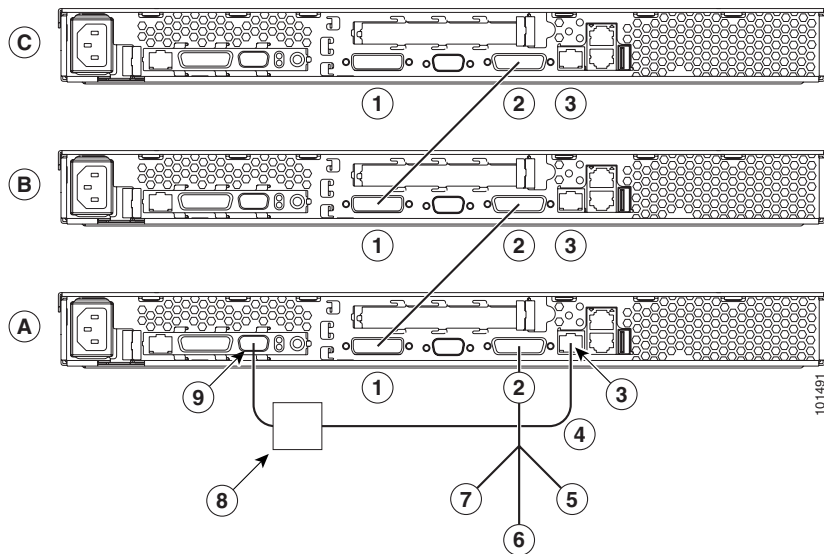
Before cabling the ASM interconnect network, review the following information:

- The cables in an ASM interconnect network are hot-swappable.
- Make sure that the firmware for the Remote Supervisor Adapter, ASM processor, and integrated system management processor (ISMP) are at the latest level.
- The servers in an ASM interconnect network are referred to by their assigned addresses, not by their positions in the rack.

An ASM interconnect network can have up to 24 RS-485 connections, depending on the configuration. The connections can include Remote Supervisor Adapters, ASM processors, ASM PCI adapters, and ISMPs. Use the following information to determine the number of servers and connections that you can have on your ASM interconnect network:

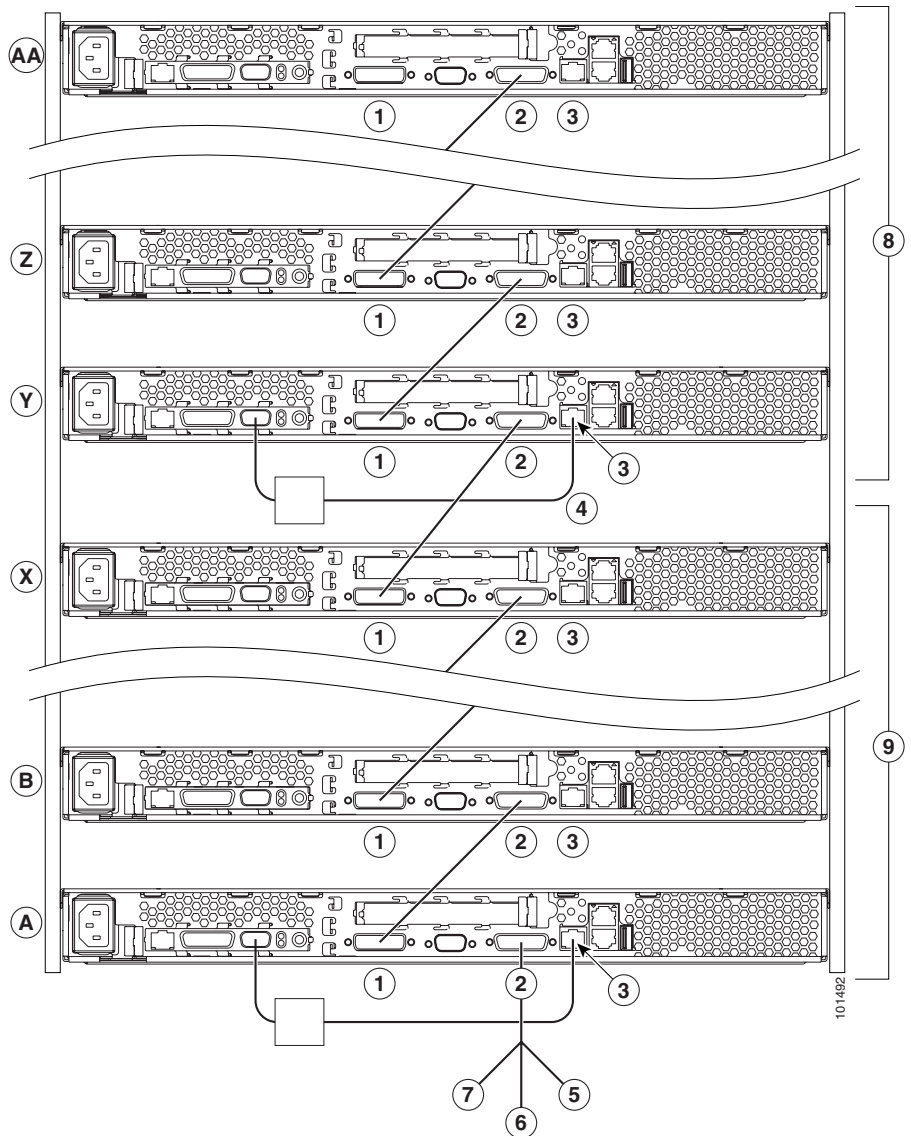
- Each Remote Supervisor Adapter, ASM processor, ASM PCI adapter, and ISMP in a server that is connected to the network uses one connection. For example, if a server that is connected to the network has a Remote Supervisor Adapter and an integrated ASM processor, the server uses two connections on the network.
- The network must include at least one server with a Remote Supervisor Adapter (either installed as an option or pre-installed in the server).

You can connect up to 23 xSeries 335 servers into an ASM interconnect network using one Remote Supervisor Adapter. However, if you use both xSeries 335 and xSeries 330 servers in the network, the xSeries 330 servers must be the lowest-numbered servers in the chain. [Figure 1-2](#) shows an ASM interconnect network with three servers.

**Figure 1-2 ASM Interconnect Network of Three Servers**

1. **IN:** Connect the cable from the output connector of another server to this connector.
2. **OUT:** Connect the cable from this connector to the input connector of another server.
3. **ISM:** Connect an ASM link cable from the ASM interconnect module to this connector in the first (A) server.
4. **ASM link cable:** Connect this cable to the ISM connector (3) in the first server.
5. **Mouse:** Connect a mouse to this connector.
6. **Keyboard:** Connect a keyboard to this connector.
7. **Video:** Connect a monitor to this line.
8. **ASM interconnect module:** Connect this module to the RS-485 connector (9) on the Remote Supervisor Adapter in the first server.
9. **RS-485 on Remote Service Adapter:** Connect the ASM Interconnect Module to this connector.

You can add up to 23 more servers to the network by installing a Remote Supervisor adapter in the 24th server, creating a second ASM bus. [Figure 1-3](#) shows an ASM interconnect network with 46 servers.

**Figure 1-3 ASM Interconnect Network of 46 Servers**

1. **IN:** Connect the cable from the output connector of another server to this connector.
2. **OUT:** Connect the cable from this connector to the input connector of another server.
3. **ISM:** Connect an ASM link cable from the ASM interconnect module to this connector in the first (A) server.
4. **ASM link cable:** Connect this cable to the ISM connector (3) in the first server.
5. **Mouse:** Connect a mouse to this connector.
6. **Keyboard:** Connect a keyboard to this connector.
7. **Video:** Connect a monitor to this line.
8. **Second ASM bus:** Connect servers 24 through 46 on this bus.
9. **First ASM bus:** Connect servers 1 through 23 on this bus.

To cable an ASM interconnect network, complete the following steps:

- 
- |               |   |
|---------------|---|
| <b>Step 1</b> | Follow the instructions for cabling a C2T chain.  |
| <b>Step 2</b> | Connect an ASM interconnect module (which comes with the Remote Supervisor Adapter) to the RS-485 connector on the Remote Supervisor Adapter in the first server. If the network contains more than 23 servers, do the same on the 24th server. |
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Connect an ASM link cable (which comes with the Remote Supervisor Adapter) from the ASM interconnect module to the ISM connector in the first server. Insert a terminator into the second connector on the ASM interconnect module. If the network contains more than 23 servers, do the same on the 24th server.



# Installing the Software

The Cisco CNS Configuration Engine 1.4 software is contained on a CD-ROM that is in the accessory kit.

To be able to monitor the installation activity, you should have a local keyboard-mouse and a VGA screen to your system C2T (out) port using a K/M/V (keyboard, mouse, VGA cable (IBM P/N 00N6954)).

To install the software, follow these steps:

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- Step 1** Verify that the CNS 2100 Series system is powered down.
  - Step 2** Power on the system and quickly insert the Cisco CNS Configuration Engine 1.4 CD-ROM in the CD drive.
  - Step 3** Push the **Reset** button to restart the system from the CD-ROM.  
The software installs automatically. When the install sequence completes, the system automatically ejects the CD-ROM and restarts into Linux from the hard drive.
  - Step 4** Go to [“Running the Setup Program” section on page 2-1](#) to run the **Setup** program.
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## Data Migration from Release 1.3 to 1.4

The Data Migration function allows you to upgrade your system to from Release 1.3, 1.3.1, or 1.3.2 to Release 1.4, then populate your directory with the data you established for the prior release.

This is a three-step process:

1. Export data to a remote FTP site.
2. Install Release 1.4 software.
3. Retrieve data from the FTP site and setup the system.

## Export Data to a Remote FTP Site

Before exporting the data, it is assumed that the CNS 2100 Series has already been setup and is up running.

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- Step 1** Insert the Release 1.4 CD-ROM into the CD drive of the CNS 2100 Series to be upgraded.
- Step 2** To mount the CD, login as root.
- Step 3** Type:
- mount /mnt/cdrom**
- Step 4** Change directory into:
- /mnt/cdrom/DataExport**
- Step 5** Issue the data export command:
- ./dataexport**




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**Tip** Make sure you type the period (.) prior to the command.

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- Step 6** Follow the sequence of prompts to enter information of the FTP site and storage location (absolute pathname including filename).

Following are the prompts of **dataexport**:

### Notes

Sample user inputs are shown in **bold** text.

Entering Data Export  
Type ctrl-c to exit

```
Enter FTP server (hostname.domainname or IP address):
servername.cisco.com
Enter DNS server IP address: 171.69.226.120
Enter username used for FTP server: smith
Enter FTP password: *****
Re-enter FTP password: *****
Enter absolute pathname of data file on FTP server:
/users/smith/migration.tar
```

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## Install Release 1.4 Software

To re-image the system, while the Release 1.4 CD-ROM is still in the CD drive:

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- Step 1** Enter the sync command two times:
- ```
[root@mainstreet root]# sync
```
- ```
[root@mainstreet root]# sync
```
- Step 2** Restart the system by pressing the **Reset** button.
- 

## Run *datamigrate* and Setup the System

After the system rebooted from the new installation, the following prompts appear:

```
This Appliance is not configured.  
Please login as setup to configure the appliance.  
localhost.localdomain login:
```

To migrate data and setup the CNS 2100 Series system, follow these steps:

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- Step 1** Login as **root** with password **blender**.
- Step 2** Start data migration with the command:

**datamigrate**

The script proceeds in three stages:

1. Acquire information of the FTP server that stores the migration data and retrieve the data.
2. Start Release 1.4 **Setup** prompts and setup the system.
3. Populate internal directory storage with retrieved data.

Following are the prompts of **datamigrate**:

### Notes

Sample user inputs are shown in **bold** text.

You must configure eth0 or eth1. Press <Enter> to skip!

```

Enter eth0 IP address: 10.1.19.102
Enter eth0 network mask: 255.255.255.0
Enter eth0 default gateway IP address: 10.1.19.6
Enter FTP server (hostname.domainname or IP address):
servername.cisco.com
Enter DNS server IP address: 171.69.226.120
Enter username used for FTP server: smith
Enter FTP password: *****
Re-enter FTP password: *****
Enter absolute pathname of data file on FTP server:
/users/smith/migration.tar

```

## Synchronize Clocks

The clock (date and time) on the CNS 2100 Series system and the clock on the PC you use to access the CNS Configuration Engine 1.4 user interface should be synchronized. This is particularly important when scheduling an update-image job for a future time (refer to the *Cisco CNS Configuration Engine 1.4 Administrator Guide*).

For this operation, the client-side check to ensure you have entered a valid time value is done using the clock on the PC with the browser used to access the CNS Configuration Engine 1.4 user interface. Consequently, if the CNS 2100 Series system clock is behind the PC clock, the user interface does not allow the job to be scheduled.

For example, if the CNS 2100 Series system clock read 11:10 while the PC clock read 12:10, the user interface will not allow a job to be scheduled before 12:10. It will issue an error message: **Please input a future time.**