



## CHAPTER 2

# Installing and Launching the DCNM Server

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When you install the DCNM server, you initially install the software without applying a license. You can use many of the product features without using a license, but if you try to use a feature that requires a license, DCNM displays a message saying that a license is required for that feature. To use that feature and any other licensed feature, you must purchase and install the DCNM Enterprise LAN license.



### Note

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Beginning with Release 4.0(2), if the server system is running the Windows Server 2003 operating system, DCNM server runs as a Windows service. By default, the DCNM server starts automatically when you boot up the server system. You can manually stop, start, or pause this service. You can also change the startup instructions for DCNM to automatically startup when you start the operating system, startup manually, or be disabled from starting.

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The following sections explain how to install DCNM, launch DCNM, install a license, and stop DCNM:

- [Prerequisites for Installing the DCNM Server, page 2-1](#)
- [Downloading the DCNM Server Software, page 2-2](#)
- [Installing the DCNM Server, page 2-3](#)
- [Starting the DCNM Server, page 2-9](#)
- [Installing Licenses, page 2-11](#)
- [Upgrading the DCNM Server, page 2-14](#)
- [Reinstalling the DCNM Server and Client on the Server System, page 2-15](#)
- [Stopping the DCNM Server, page 2-17](#)

## Prerequisites for Installing the DCNM Server

Before you can install the DCNM server, verify that the following prerequisites are in place:

- The server system must have the following:
  - 6 GB of RAM
  - 2 processors
  - Speed of 3.45 GHz (for Windows Server 2003) or 3.40 GHz (for Red Hat Enterprise Linux 4)
- The server system must be running one of the following operating systems:
  - Microsoft Windows Server 2003 Enterprise Edition Service Pack 1

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- Red Hat Enterprise Linux 4 (RHEL 4)

For more information about server system requirements, see the *Cisco DCNM Release Notes, Release 4.0* at the following website:

[http://www.cisco.com/en/US/docs/switches/datacenter/sw/4\\_0/dcnm/release/notes/dcnm\\_4\\_0\\_relnotes.html](http://www.cisco.com/en/US/docs/switches/datacenter/sw/4_0/dcnm/release/notes/dcnm_4_0_relnotes.html)

- For RHEL 4, the maximum shared memory size must be 128 MB or more. To configure the maximum shared memory to 128 MB, use the following command:

```
sysctl -w kernel.shmmax=134217728
```

This setting, `kernel.shmmax=134217728`, should be saved in the `/etc/sysctl.conf` file. If this setting is not present or if it is less than 134217728, the DCNM server will fail after the server system is rebooted. For more information, visit the following URL:

<http://www.postgresql.org/docs/8.2/interactive/kernel-resources.html>

- The server system must be registered with the DNS servers.
- A Perl environment must already be installed on the server system. We recommend Active Perl version 5.8.8.822.
- The path to the Perl executable must be defined in the server system PATH environment variable.
- No other programs are running on the server.

## Downloading the DCNM Server Software

This section explains how to download the DCNM server software from Cisco.com. The file that you download is in tape archive (TAR) format. It contains the following files:

- `dcnm-k9.release.exe`—Installation file for the supported Windows operating system.
- `dcnm-k9.release.bin`—Installation file for the supported Linux operating system.

### DETAILED STEPS

To download and install the DCNM server software, follow these steps:

- 
- Step 1** Open a web browser and go to the following website:  
<http://www.cisco.com/>  
The Cisco web page opens.
- Step 2** From the Support menu, choose **Download Software**.  
The Download Software page appears.
- Step 3** Under Select a Software Product Category, choose **Switches Software**.  
The Log In page appears.
- Step 4** Enter your Cisco.com username and password, and then click **Log In**.  
The Tools & Resources Downloads web page displays a tree of Cisco devices.
- Step 5** From the tree, choose **Data Center Switches > Cisco Nexus 7000 Series > Cisco Nexus 7000 10-Slot Switch**.  
A list of software products appears.

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- Step 6** Choose **Data Center Network Manager**.  
A tree of Cisco DCNM releases appears.
- Step 7** From the tree, choose the Cisco DCNM Release 4.0 that you need. For example, if you want to download Cisco DCNM, Release 4.0(3), choose 4.0(3).  
To the right of the tree, a link appears for a TAR file of the Cisco DCNM release that you chose.
- Step 8** Click the link for the Cisco DCNM TAR file.
- Step 9** Verify that the information is for the TAR file that you need to download. If the information is incorrect, click one of the links near the top of the page to change your specifications.
- Step 10** Click **DOWNLOAD**.  
A window opens to list the Cisco System usage conditions and policies.
- Step 11** Read the conditions and policies, and then click Accept.  
The download begins.
- Step 12** After the download completes, extract the files from the downloaded TAR file by doing one of the following:
- For Windows Server 2003, use a file archive utility, such as WinZip, to extract the contents of the TAR file.
  - For RHEL 4, use the following command to extract the contents of the TAR file:  

```
tar -xvf dcnm_k9.release.tar
```
- 

## Installing the DCNM Server

On server systems that run the Windows Server 2003 operating system, you install the DCNM server as a Windows service. By default, the DCNM server service automatically starts whenever you start the Windows Server 2003 operating system.

On server systems that run the RHEL 4 operating system, you must manually start the DCNM server to use it. To manually launch the DCNM server, see the [“Starting the DCNM Server” section on page 2-9](#).

### BEFORE YOU BEGIN

You must download the DCNM server software. To download the software, see the [“Downloading the DCNM Server Software” section on page 2-2](#).

### DETAILED STEPS

To install the DCNM server software, follow these steps:

- 
- Step 1** Log into the server with a user account that has the required privileges, as follows:
- For Windows Server 2003, the user account must be a member of the local administrators group.
  - For RHEL 4, the user account must be root.
- Step 2** Go to the directory where you downloaded the DCNM server software and run one of the following files:
- For the Windows Server 2003 operating system, double-click the `dcnm-k9.release.exe` file.

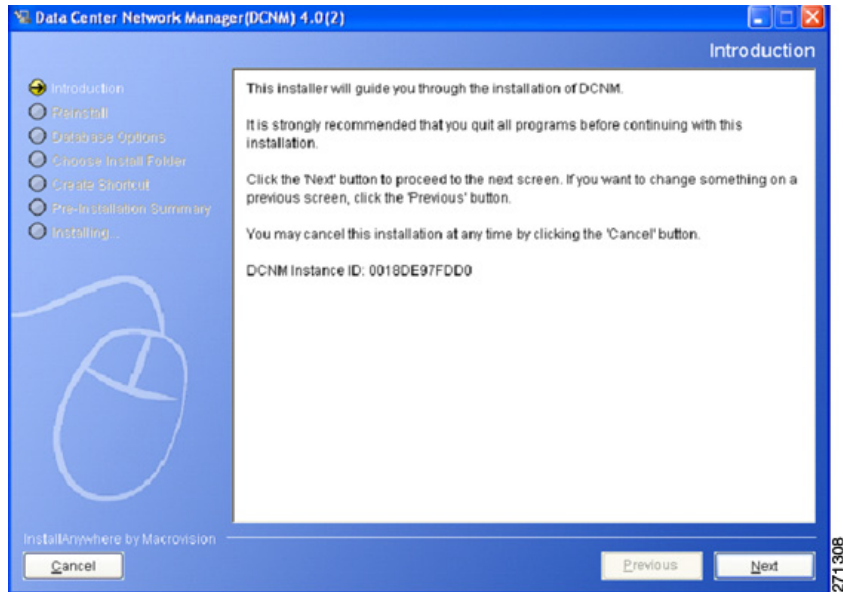
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- For RHEL 4 operating system, use the following **sh** command:

```
sh dcnm-k9.release.bin
```

The installer prepares the installation and then opens the installation wizard, as shown in [Figure 2-1](#).

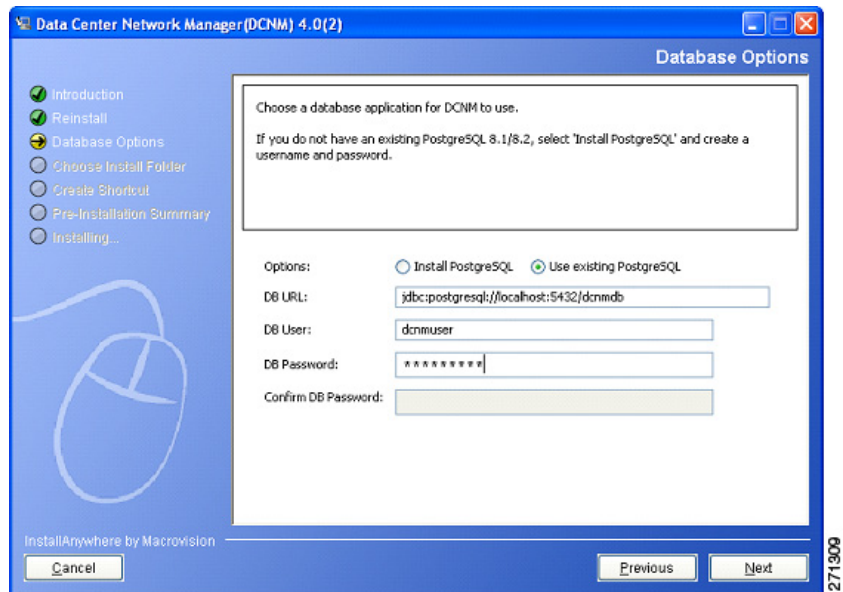
**Figure 2-1** DCNM Installation Wizard



### Step 3 Click Next.

The installer asks whether you need to use an existing PostgreSQL database or install a new version, as shown in [Figure 2-2](#).

**Figure 2-2** DCNM Database Options



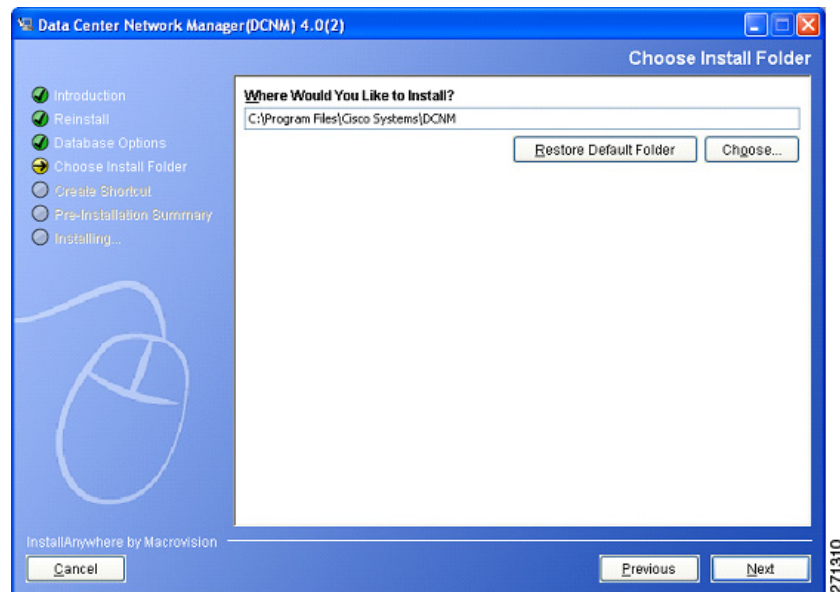
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**Step 4** Specify the database for the DCNM server by following one of these procedures:

- To install a new version of the PostgreSQL database, do the following:
  - Click **Install PostgreSQL**.  
If your server system runs RHEL 4, the System User dialog box appears.
  - For RHEL 4 only, on the System User dialog box, type the username for the user account that should be used to run the PostgreSQL software. This user account should not have administrator or root privileges.
  - In the DB User field, type the username for the user account that DCNM should use to access the database.
  - In the DB Password field, type the new password that you will use for accessing the database.
  - In the Confirm DB Password field, type the new password again.
  - Click Next.
- To use an existing version of PostgreSQL, do the following:
  - Click **Use existing PostgreSQL**.
  - If the DB URL field does not have the correct path to the database installer, type the correct path.
  - In the DB User field, type the username required to access the database.
  - In the DB Password field, type the password required to access the database.

The installer asks where to install the server software, as shown in [Figure 2-3](#).

**Figure 2-3** Choose Install Folder

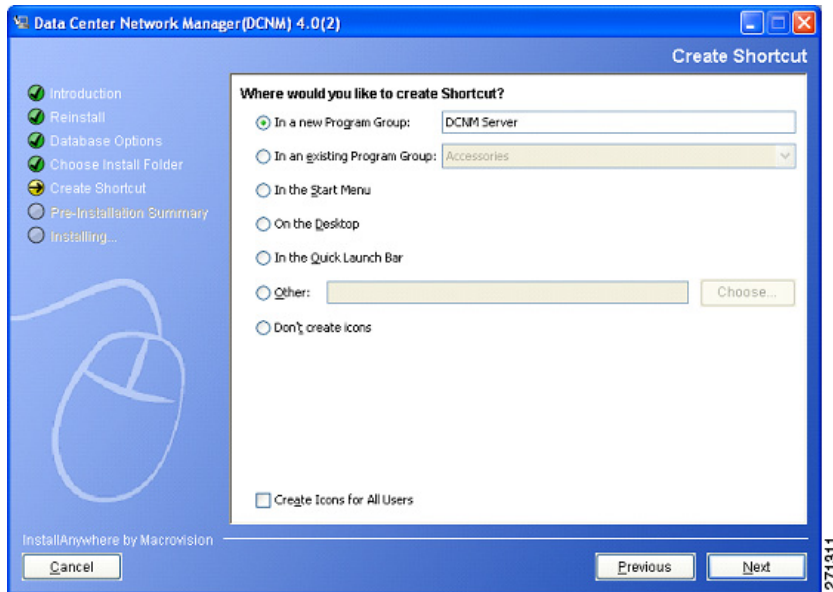


**Step 5** If you need to change the default path, type the path or choose the folder and click **Next**.

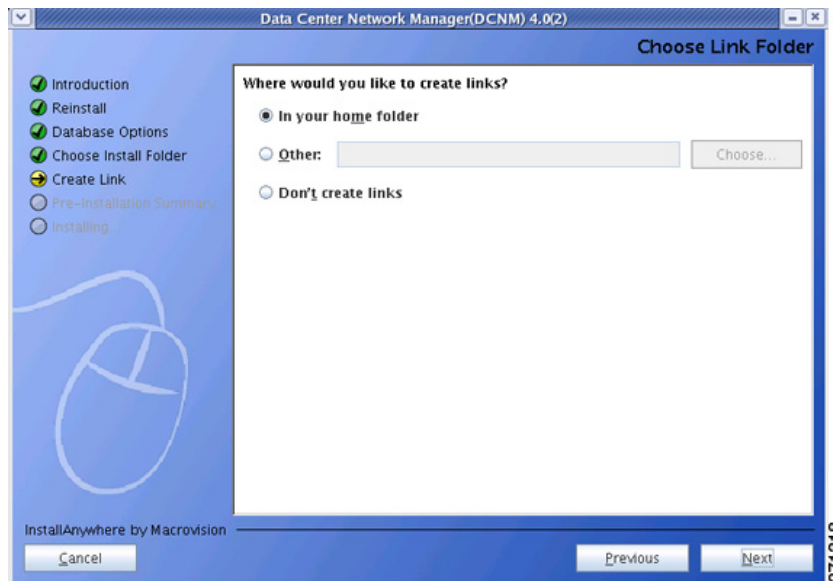
Depending on the operating system that you are using, the installer asks you to specify either a shortcut to the application (Windows Server 2003) or a link folder (RHEL). [Figure 2-4](#) shows how the installer asks you to specify a shortcut if you are using Windows Server 2003. [Figure 2-5](#) shows how the installer asks you to specify a link folder if you are using RHEL.

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**Figure 2-4 Choose a Shortcut (Windows Server 2003)**



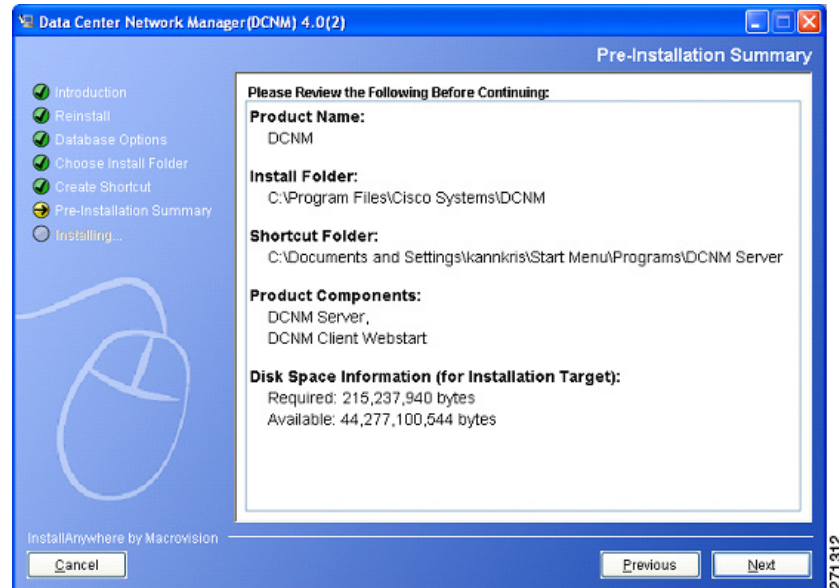
**Figure 2-5 Specify a Link Folder (RHEL 4)**



- Step 6** Click the preferred location for the application shortcut icon and click **Next**.  
The installer displays a summary of installation instructions, as shown in [Figure 2-6](#).

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**Figure 2-6 Installation Summary**

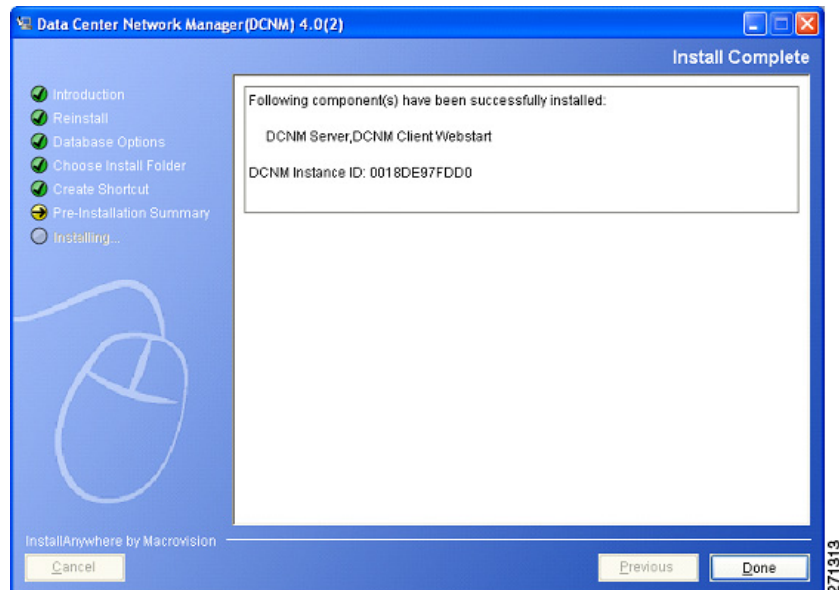


**Step 7** Indicate whether you are ready to install the software by doing one of the following:

- To change the installation setup, click **Previous** until you see the screen you need to work with. After you have updated the installation information, return to the Summary dialog box and click **Next** to install the software.
- To install the software, click **Next**.

The installer installs the DCNM server software, and then it displays the instance number for the DCNM server, as shown in [Figure 2-7](#).

**Figure 2-7 DCNM Instance ID Number**



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**Note** If you plan to install a license for DCNM, record the DCNM instance ID number. The licensing process requires that you enter that number.

If your server system is running the Windows Server 2003 operating system, it asks if you want to start the DCNM server. If you are asked to start the DCNM server, click **Yes** or **No**. If you click Yes, a startup screen for DCNM server opens while the server starts. When running, the startup screen closes.



**Note** If you are using the RHEL 4 operating system (or you are using the Windows Server 2003 operating system and choose to start the server at another time), you must manually start the DCNM server (see the “[Starting the DCNM Server](#)” section on page 2-9).

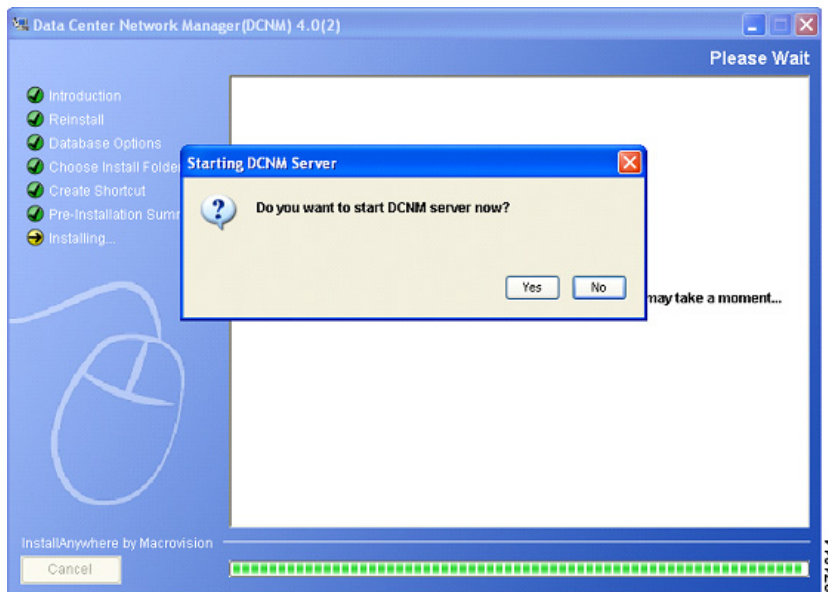
**Step 8** Click **Done**.



**Note** When you first use the DCNM server, it is unlicensed for all of the devices that it is managing. You can begin using the server without a licence but some functions are not available unless you purchase a license for each device that works with licensed features. To install a DCNM Enterprise license, see the “[Installing Licenses](#)” section on page 2-11.

If you are using Windows Server 2003 operating system, the installer asks you if you want to start the DCNM server, as shown in [Figure 2-8](#).

**Figure 2-8** Starting DCNM Server (Windows Server 2003 Only)



**Step 9** If you are ready to start the DCNM server, start it in one of the following ways:

- If you are using Windows Server 2003, click **Yes**.
- If you are using RHEL 4, see the “[Starting the DCNM Server \(RHEL 4\)](#)” section on page 2-10.

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## Starting the DCNM Server

You can manually start the DCNM server. The manual procedures for starting the DCNM server differ for systems using the Windows Server 2003 and RHEL 4 operating systems, as explained in the following sections:

- “Starting the DCNM Server (Windows Server 2003)” section on page 2-9
- “Starting the DCNM Server (RHEL 4)” section on page 2-10

### Starting the DCNM Server (Windows Server 2003)

On a server system running Windows Server 2003, you can start the DCNM server through the Windows services or by clicking the Start DCNM Server icon.

#### BEFORE YOU BEGIN

The DCNM server must be installed (see the “Installing the DCNM Server” section on page 2-3).

#### DETAILED STEPS

To manually launch the DCNM server on a system running the Windows Server 2003 operating system, follow these steps:

---

**Step 1** Choose **Start > Settings > Control Panel > Administrative Tools > Services**.

A window opens to list the Windows services.

**Step 2** Right-click the **Cisco DCNM service** and choose **Start**.

A splash screen, shown in [Figure 2-9](#), opens while the DCNM server starts. This screen closes once the DCNM server is running.

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**Figure 2-9 Startup Splash Screen**



**Note**

Alternatively, you can double click the **Start DCNM Server** icon, which is typically found in the DCNM program group, Start menu, desktop, or quick launch bar.

## Starting the DCNM Server (RHEL 4)

### BEFORE YOU BEGIN

The DCNM server must be installed (see the “Installing the DCNM Server” section on page 2-3).

### DETAILED STEPS

To manually launch the DCNM server on a system running the RHEL 4 operating system, follow this step:

**Step 1** Use the **Start\_DCNM\_Server** command to start the DCNM server.

```
sh Start_DCNM_Server
```

You can find this command in your home folder or the folder that you specified when setting up the link folder during your installation of DCNM.

The DCNM server opens a server console window and displays the processes it runs to start the server. The server is running when you see a “Started in Xm:XXs:XXXms” message.

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## Installing Licenses

To use the licensed DCNM server features, you must purchase and install a DCNM Enterprise LAN license for each managed device that works with those features. To purchase the licenses, submit the DCNM Instance ID number and the number of devices to license to the Cisco Technical Assistance Team (TAC). TAC will E-mail you the license file that you need for installing the license.

By default, the DCNM server applies the number of licenses that you purchase to an equal number of managed devices in its ordered list of devices. The DCNM server applies the licenses to the first licenses in the list until the number of licenses is used up. If you need to apply the licenses to other managed devices, see the “[Configuring DCNM Licensed Devices](#)” section on page 9-21.

### BEFORE YOU BEGIN

The DCNM server must be installed (see the “[Installing the DCNM Server](#)” section on page 2-3). Make sure that there are not executable files in the folder where you plan to install the licenses file.

### DETAILED STEPS

To install the DCNM Enterprise LAN license, follow these steps:

- 
- Step 1** Copy the DCNM Instance ID number by doing one of the following:
- When you finish installing the server, copy the number when it is displayed at the end of the DCNM installation process (see [Figure 2-7 on page 2-7](#)).
  - When running the server, choose **Help > Show DCNM Instance ID** (see [Figure 2-10](#)).

**Figure 2-10**      *Displaying the DCNM Instance ID*



- Step 2** Contact TAC to purchase one or more DCNM licenses. Present the DCNM Instance ID number and the number of devices to license.
- TAC will send you a license pack file which you can use for the number of installations that you ordered.
- Step 3** Download the license pack file into a any directory on the server system.



#### Caution

Make sure that there are no other executable files in the directory where you download the license pack file. Having other files in the directory where you download the license pack file can disrupt the installation of the licenses.

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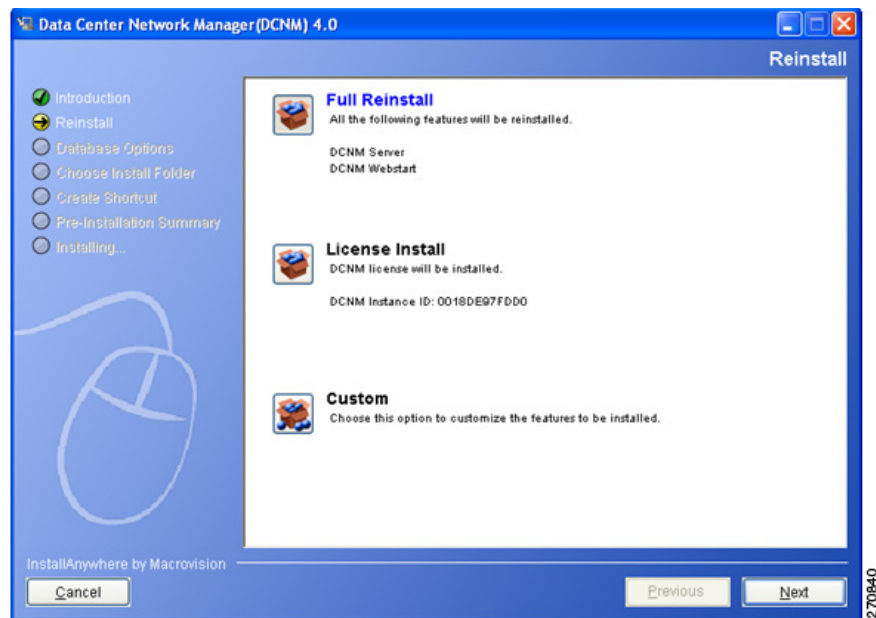
- Step 4** Navigate to the directory where you downloaded the DCNM installation file and run the DCNM server installer in one of the following ways:
- For a Windows Server 2003 operating system, run the `dcnm-k9.release.exe` file.
  - For an RHEL 4 operating system, run the `dcnm-k9.release.bin` file.



**Note** If you are using an older version of DCNM, run the `dcnm-k9.4.0.x.exe` (Windows Server 2003 systems) or `dcnm-k9.release.bin` (RHEL 4 systems) where *release* is the release number.

When the server starts, it asks you to choose the type of installation you need to perform, as shown in [Figure 2-11](#).

**Figure 2-11** Installation Type

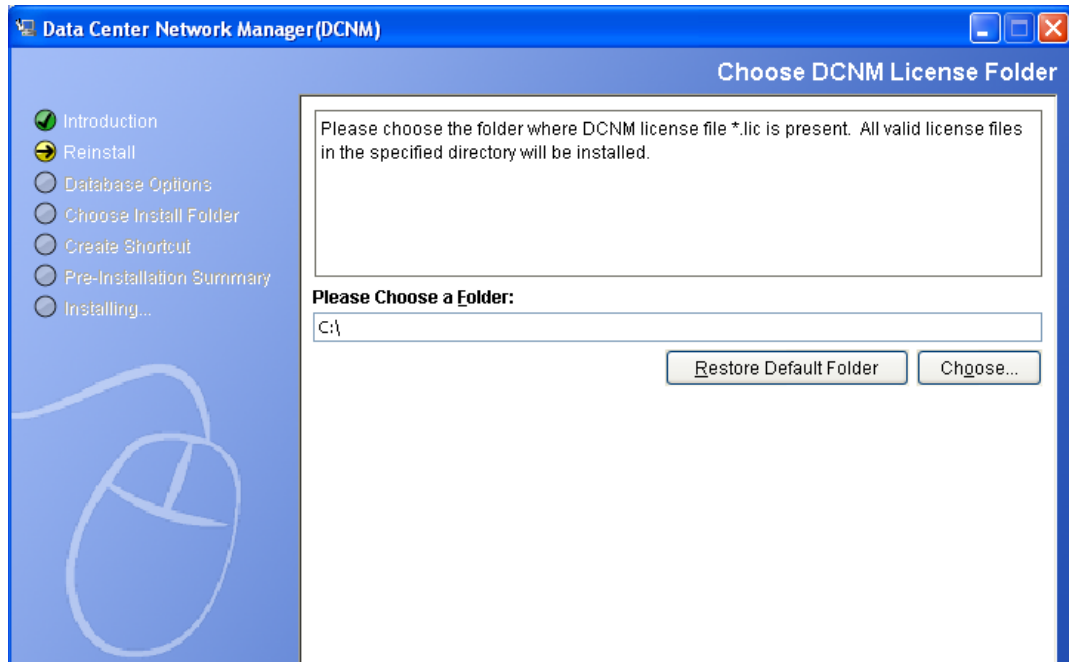


- Step 5** Choose **License Install**.

The install wizard asks for the license pack file as shown in [Figure 2-12](#).

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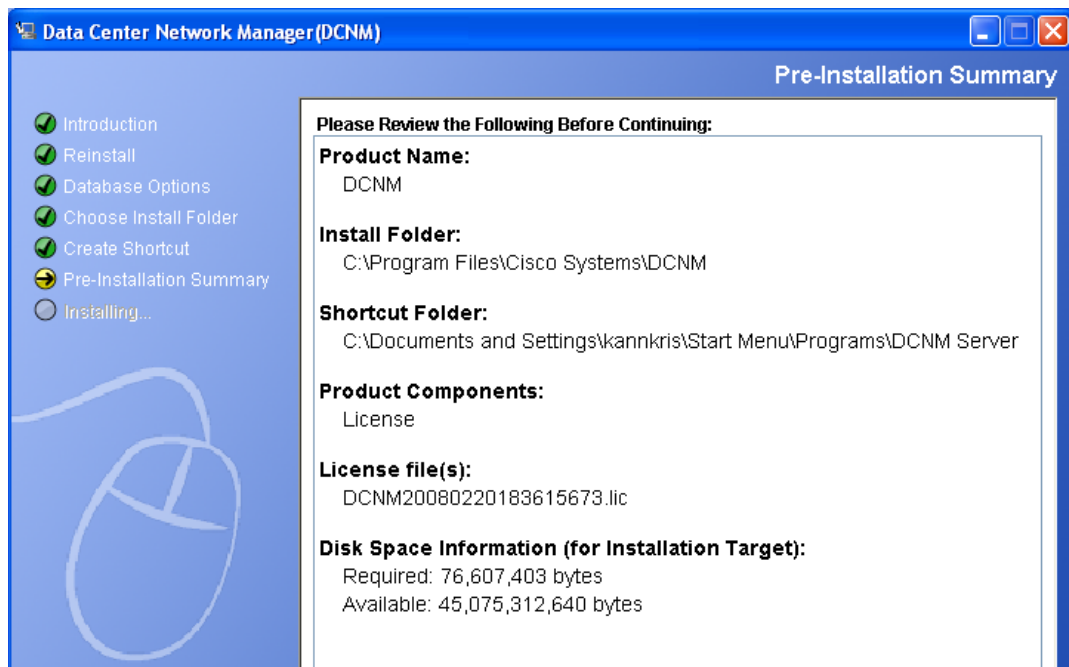
**Figure 2-12 Specifying the License Folder**



**Step 6** In the Please Choose a Folder field, choose the directory for the license file or type its path, and then click **Next**.

The install wizard displays a summary of your installation specifications. As shown in [Figure 2-13](#), the Product Components and License Title(s) fields display the license information.

**Figure 2-13 Confirming the Licensing Installation**



**Step 7** Click **Next**.

**Step 8** The install wizard indicates that the installation is complete.

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**Step 9** Click **Done**.

## Upgrading the DCNM Server

If you need to upgrade the DCNM server software to a new version, you need to stop the server and update the software.

Beginning with DCNM server version 4.0(2), the DCNM server runs as a Windows service on systems that run the Windows Server 2003 operating system. By default, the DCNM server service automatically starts whenever you start the Windows Server 2003 operating system. You can modify how the Windows service launches DCNM server by modifying the Windows services.

### BEFORE YOU BEGIN

Make sure that DCNM server is not running. To stop the DCNM server, choose Start > DCNM Server > Stop DCNM Server.

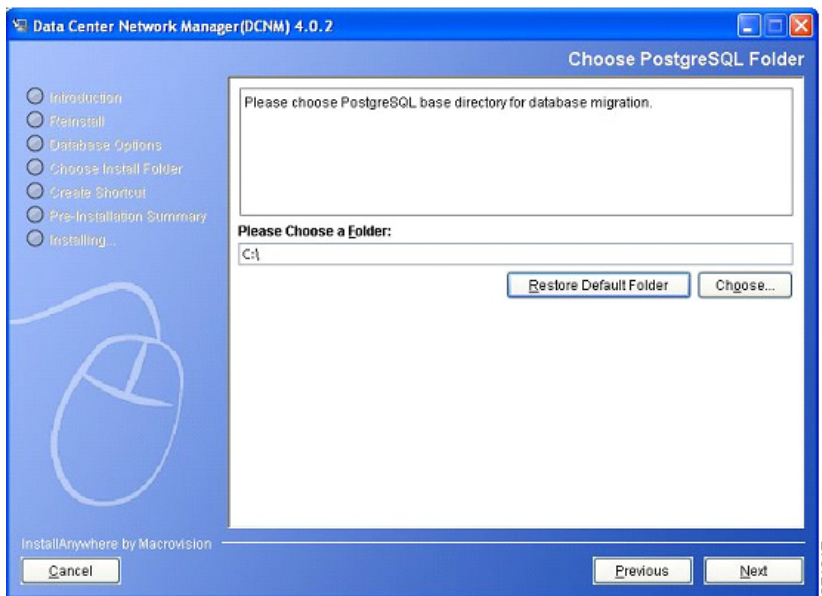
### DETAILED STEPS

To upgrade the DCNM server software, follow these steps:

**Step 1** Download the updated DCNM server software by following the procedure listed in the [“Downloading the DCNM Server Software”](#) section on page 2-2.

In order to perform database migration from the previous version of DCNM to the current version, the installer needs to know the PostgreSQL database installation path. If it cannot determine the path to use, it asks you for the path, as shown in [Figure 2-14](#).

**Figure 2-14** Prompt for PostgreSQL Database Installation Path



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After the installer determines the path for the PostgreSQL database, the installer displays a summary report.

**Step 2** Click **OK**.

**Step 3** The installer copies and installs the files for the new version of the DCNM server.

If your server system is running the Windows Server 2003 operating system, it asks if you want to start the DCNM server. If you are asked to start the DCNM server, click **Yes** or **No**. If you click **Yes**, a startup screen for DCNM server opens while the server starts. When running, the startup screen closes.



**Note** If you are using the RHEL 4 operating system (or you are using the Windows Server 2003 operating system and choose to start the server at another time), you must manually start the DCNM server (see the “[Starting the DCNM Server](#)” section on page 2-9).

## Reinstalling the DCNM Server and Client on the Server System

You can reinstall the DCNM server and set up a downloadable web-start copy of the DCNM client software on the server system.

If you are having installation related problems with the DCNM server or DCNM client software, you can perform a full or custom reinstallation to install one or both software images as follows:

- To install the server image and set up a web-start copy of the client image, perform a full reinstallation.
- To only install the server or only set up the web start copy of the client, perform a custom reinstallation and choose the image to install or set up.



**Note** The reinstallation process is similar to the original installation process, but it does not include the set up of the PostgreSQL database or the specification of the directory path for the installed files because it uses that information from the original installation.

### BEFORE YOU BEGIN

Make sure that DCNM server is not running. To stop the DCNM server, choose **Start > DCNM > Stop DCNM**.

### DETAILED STEPS

To reinstall the DCNM server, set up a web start copy of the DCNM client, or do both, follow these steps:

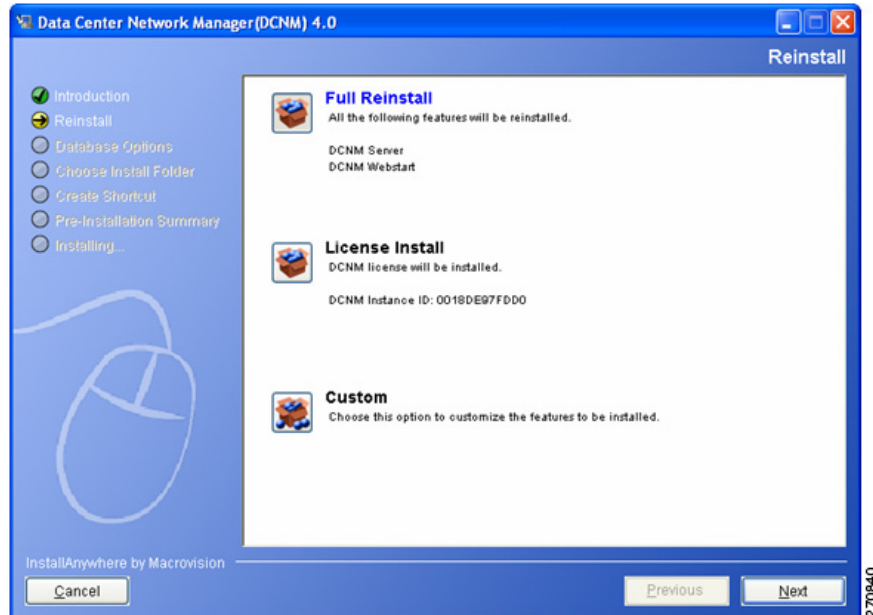
**Step 1** Depending on the operating system that you are using, run the DCNM installer by doing one of the following:

- If you are using a Windows Server 2003 operating system, run the `dcnm-k9.release.exe` file.
- If you are using an RHEL 4 operating system, run the `dcnm-k9.release.bin` file.

The install wizards opens and asks you for the type of installation to perform (see [Figure 2-15](#)).

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**Figure 2-15** Choosing an Installation Type



**Step 2** Specify the type of installation to perform by clicking one of the following radio buttons:

- **Full Reinstall**

This installs both the server and the client software.

- **Custom**

The install wizard asks whether to reinstall the server or set up the client software.

**Step 3** If you chose Custom, click the radio button for either the server software or the client software.

**Step 4** Click **Next**.

If your server system is running the Windows Server 2003 operating system, it asks if you want to start the DCNM server. If you are asked to start the DCNM server, click **Yes** or **No**. If you click Yes, a splash screen opens and displays the status of the installation progress while the server starts. When the DCNM server is operational, the splash screen closes.



**Note** If you are using the RHEL 4 operating system (or you are using the Windows Server 2003 operating system and choose to start the server at another time), you must manually start the DCNM server (see the [“Starting the DCNM Server”](#) section on page 2-9).

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## Stopping the DCNM Server

You can manually stop the DCNM server. The manual procedures for stopping the DCNM server differ for systems using the Windows Server 2003 and RHEL 4 operating systems, as explained in the following sections:

- [Stopping the DCNM Server \(Windows Server 2003\)](#), page 2-17
- [Stopping the DCNM Server \(RHEL 4\)](#), page 2-18

### Stopping the DCNM Server (Windows Server 2003)

On a server system running Windows Server 2003, you can stop the DCNM server through the Windows services or by clicking the Stop DCNM Server icon.

#### DETAILED STEPS

To manually stop the DCNM server on a system running the Windows Server 2003 operating system, follow these steps:

**Step 1** Choose **Start > Settings > Control Panel > Administrative Tools > Services**.

A window opens listing the Windows services.

**Step 2** Right-click on the Cisco DCNM service and choose **Stop**.

A splash screen, shown in [Figure 2-16](#), opens while the DCNM server begins to shut down. This screen closes once the DCNM server has stopped.

**Figure 2-16** Termination Splash Screen



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**Note**

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Alternatively, double click the **Stop DCNM Server** icon, which can be found in the DCNM program group, the Start menu, desktop, or the quick launch bar.

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## Stopping the DCNM Server (RHEL 4)

### DETAILED STEPS

To manually stop the DCNM server on a system running the RHEL 4 operating system, follow this step:

- 
- Step 1** Use the **Stop\_DCNM\_Server** command to stop the server on a RHEL operating system.

```
sh Stop_DCNM_Server
```

You can find this command in your home folder or the folder that you specified when setting up the link folder during your installation of DCNM.

The DCNM server opens a server console window and displays the processes it runs to start the server. The server is running when you see a “Stopped at Xm:XXs:XXXms” message.

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