



# Prerequisites

This chapter describes the prerequisites for installing Device Fault Manager (DFM) on a Windows system. It includes:

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## Product Overview

Device Fault Manager is a network management and analytical tool that enables you to monitor your network devices and determine the cause of device problems. [Table 1-1](#) describes installation options that are displayed under different circumstances and lists the DFM components that can be installed in each case.

**Table 1-1** *DFM Installation Options and Their Components*

Installation Option	Installation Option Components
Device Fault Manager 2.0.6	This option installs the entire DFM product on the local system, including: <ul style="list-style-type: none"> <li>• DFM—Provides the graphical user interface (GUI) and back-end processes for DFM.</li> <li>• HPOV-NetView adapters for integrating DFM with HP OpenView and NetView, if already installed on the same box.</li> </ul>
LMS 2.6 Update	A single installable bundle update containing the incremental versions of LMS applications, including Device Fault Manager 2.0.6.
Device Fault Manager HPOV-NetView adapters	This option installs only the HPOV-NetView adapters, not the entire DFM product.  This option is normally chosen to install the adapters on a remote machine running HP OpenView or NetView, to forward traps from these remote network management systems (NMSs) to a local DFM. For information on how to configure and start these adapters, see <a href="#">Installing and Upgrading HPOV-NetView Adapters, page 2-13</a> .

# Installation, Upgrade, and Migration Paths

This section outlines the steps for installing, upgrading, and migrating to DFM 2.0.6

## Installation Paths

You must install DFM 2.0.6 on a system with Device Fault Manager 2.0.3 and CiscoWorks Common Services 3.0.3. You can install DFM 2.0.6 on a system with:

- CiscoWorks only (as a “standalone” DFM)
- Common Services and any of the following:
  - Other CiscoWorks applications, such as Campus Manager and Resource Manager Essentials (RME) that are included in a Cisco product bundle.



**Note** If you are installing DFM with contents of the LAN Management Solution, check the installation order as described in the quick start guide (see [Related Documentation, page x](#)).

- Another NMS, such as NetView or HP OpenView (see [Supported NMS Integration, page 1-8](#)).

Before you install DFM, you should determine whether you will install DFM as a standalone or with other products. For more information, see [Server Requirements and Recommendations, page 1-4](#).

[Table 1-2](#) lists the basic installation sequence.

**Table 1-2 Installation Roadmap**

	Description	References
<b>Step 1</b>	Install Device Fault Manager 2.0.3 and Common Services 3.0.3.	<i>Installation and Setup Guide for Device Fault Manager 2.0.3 on Windows</i>  <i>Installation and Setup Guide for Common Services 3.0.3 (Includes CiscoView) on Windows</i>
<b>Step 2</b>	If you want to install DFM on a system with an NMS (HP OpenView or NetView), install the NMS.  <b>Note</b> If the desired NMS is not installed before DFM, you will have to reinstall DFM later.	<ul style="list-style-type: none"> <li>• For supported versions of NMSs, see <a href="#">Supported NMS Integration, page 1-8</a></li> <li>• For installation instructions, see vendor documentation</li> </ul>
<b>Step 3</b>	If you want to install DFM on a system with the contents of the LAN Management Solution:  a. Check the quick start guide for the order of installation.  b. Install any products that should be installed before DFM.	<i>Quick Start Guide for LAN Management Solution 2.5.1</i>

Table 1-2 *Installation Roadmap (continued)*

	Description	References
Step 4	Install Device Fault Manager 2.0.6.	<a href="#">Installing LMS 2.6, page 2-3</a>
Step 5	If HP OpenView or NetView is installed on a remote system <i>and</i> you want DFM to receive SNMP traps from one of them, install or upgrade the HPOV-NetView adapters on the remote system.	<a href="#">Installing and Upgrading HPOV-NetView Adapters, page 2-13</a>

## Upgrade/Migration Paths

You may upgrade DFM 2.0.6 on a system with Common Services 3.0.3 and DFM 2.0.3 or higher. You can perform a local in-place upgrade from DFM 1.2.x or a remote upgrade. (For more information, see [Chapter 3, “Upgrading and Migrating DFM.”](#))

[Table 1-3](#) lists the basic upgrade/migration sequence.



### Note

The specific upgrade sequence may vary depending on whether you are doing a local or remote upgrade, and whether you are upgrading from DFM 1.2.x or DFM 2.0.x.

Table 1-3 *Upgrade/Migration Roadmap*

	Description	References
Step 1	Upgrade your operating system, if required or desired.	Vendor documentation.
Step 2	Upgrade Common Services 3.0.3.	<i>Installation and Setup Guide for Common Services 3.0.3 (Includes CiscoView) on Windows</i>
Step 3	<p>If you want to upgrade DFM 2.0.3 on a system with an NMS (HP OpenView or NetView), do one of the following:</p> <ul style="list-style-type: none"> <li>• If the NMS is already installed, determine whether to upgrade it and do so if required.</li> <li>• Install the NMS.</li> </ul> <p><b>Note</b> If the NMS is not installed before DFM, you will have to reinstall DFM later.</p>	<ul style="list-style-type: none"> <li>• For supported versions of NMSs, see <a href="#">Supported NMS Integration, page 1-8</a></li> <li>• For installation instructions, see vendor documentation</li> </ul>
Step 4	<p>If you want to upgrade DFM 2.0.3 on a system with the contents of the LAN Management Solution:</p> <ol style="list-style-type: none"> <li>a. Check the quick start guide for the order of installation.</li> <li>b. Install any products that should be installed before DFM.</li> </ol>	<i>Quick Start Guide for LAN Management Solution 2.5.1 (Maintenance Kit)</i>

**Table 1-3 Upgrade/Migration Roadmap (continued)**

	Description	References
<b>Step 5</b>	Upgrade to Device Fault Manager 2.0.6.	<a href="#">Chapter 3, “Upgrading and Migrating DFM.”</a>
<b>Step 6</b>	If HP OpenView or NetView is installed on a remote system <i>and</i> you want DFM to receive SNMP traps from one of them, install or upgrade the HPOV-NetView adapters on the remote system.	<a href="#">Installing and Upgrading HPOV-NetView Adapters, page 2-13</a>

## Server Requirements and Recommendations

This section describes the server requirements and recommendations for Common Services and DFM 2.0.6.


**Note**

If you are installing DFM with the contents of the LAN Management Solution, the server requirements might be different. See the quick start guide for the appropriate bundle for additional information.

## Minimum Server Requirements

The minimum system requirements for a CiscoWorks Server running Common Services 3.0.3 and Device Fault Manager 2.0.6 are shown in [Table 1-4](#). For requirements when running the LMS 2.5.1 bundle, see the *Quick Start Guide for the LAN Management Solution 2.5.1* (see [Related Documentation, page x](#)).

**Table 1-4 Server System Minimum Requirements**

Requirement Type	Minimum Requirements
System hardware	<ul style="list-style-type: none"> <li>• IBM PC-compatible dual<sup>1</sup> CPU system with 1.6 GHz or faster Pentium processor.</li> <li>• 17-inch color monitor.</li> <li>• CD-ROM drive.</li> </ul>
System software <sup>2,3</sup>	<ul style="list-style-type: none"> <li>• ODBC Driver Manager<sup>4</sup> 3.5.10.</li> <li>• One of the following: <ul style="list-style-type: none"> <li>– Windows Server 2003 Standard and Enterprise Editions with Service Pack 1.</li> <li>– Windows 2000 (Professional, Server, and Advanced Server) with Service Pack 4.<sup>5</sup></li> <li>– Windows 2003 R2 Server Standard and Enterprise Editions</li> </ul> </li> </ul> <p><b>Note</b> Windows terminal services is supported in remote administration mode only.</p> <p><b>Note</b> DFM supports only US-English and Japanese language versions. Set the default locale to US-English for the US-English version and Japanese for the Japanese version. Installation might proceed in other locales, but there might be problems in functionality.</p>
Available memory (RAM)	2 GB.
Available drive space	<ul style="list-style-type: none"> <li>• 4 GB. The default installation directory is C:\Program Files\CSCOpX.</li> <li>• Swap space equal to double the amount of memory (RAM). For example, if your system has 2 GB of RAM, you need 4 GB of swap space.</li> </ul> <p><b>Note</b> NTFS file system<sup>6</sup> required for secure operation.</p>
Additional required software	Common Services must be installed before you install DFM. For installation instructions, see <i>Installation and Setup Guide for Common Services (Includes CiscoView) on Windows</i> .
Additional optional software	To use the desktop on the server system, you need one of the following browsers: <ul style="list-style-type: none"> <li>• Microsoft Internet Explorer 6.0 (build 6.0.2900.2180) with Service Pack 1.</li> <li>• Netscape Navigator 7.1.</li> <li>• Mozilla 1.7.1.</li> </ul>

1. If you are operating DFM with a restricted license, only one CPU is required.
2. Installation of LMS 2.6 on a system with Internet Information Services (IIS) enabled is not supported. IIS Service must be disabled on the server before installing the LMS 2.6 applications.
3. Installation of LMS 2.6 applications on a system with Terminal Services enabled in Remote Administration mode is supported. However, installation of LMS 2.6 applications on a system with Terminal Services enabled in Application mode is not supported.
4. To verify the version of ODBC Driver Manager, from the Windows desktop, select **Start > Settings > Control Panel > Administrative Tools > Data Sources (ODBC)**. Select the About tab. If necessary, install Microsoft Data Access Component (MDAC) 2.5 or later.
5. If you are using a Windows 2000 server, disable Hyper-Threading Technology (HTT). See <http://www.intel.com/support/processors/sb/CS-017343.htm>.

6. Install LMS 2.6 on an NTFS file system. Do not install LMS 2.6 on a FAT file system. To verify the file system, open My Computer on the Windows desktop, right-click the drive and select **Properties** from the popup menu. The file system field appears in the General tab of the Properties dialog box.

## Server Recommendations

To select or configure a server system that best meets your needs, consider the number of ports and interfaces being managed. (For the maximum number of ports and interfaces, see [Number of Ports/Interfaces that DFM Supports](#), page 1-9.)



### Note

If you choose to automatically synchronize DFM device inventory with the Common Services Device and Credentials Repository (DCR) and the synchronization causes DFM to exceed the limits, DFM stops adding devices to the managed inventory. (See [Supported NMS Environments for Device Import](#), page 1-8.)

To find out how many trunk and access ports and interfaces are currently imported into DFM, use the `sm_tpmgr` command:

```
# NMSROOT/objects/smarts/bin/sm_tpmgr --server=DFM --sizes
```

You will be prompted for a username (admin) and password (XXXXX). For ports, locate the line that is similar to the following:

```
Number of Ports: 761 [92/92]
```

In this example, 761 represents the number of discovered ports, out of which 92 are managed. Unless you have reconfigured DFM to manage access ports, you can assume these 92 ports are trunk ports.

For interfaces, locate the line that is similar to the following:

```
Number of Interfaces: 351 [322/280]
```

In this example, 351 represents the number of discovered interfaces, out of which 322 are managed.

## Client Requirements

The minimum system requirements for the CiscoWorks client are shown in [Table 1-5](#).

Before you access DFM from a client system, you must configure the system. For more information about client system requirements and configuring clients, see *Installation and Setup Guide for Common Services (Includes CiscoView) on Windows*.

**Table 1-5** Client System Requirements Summary

Requirement Type	Minimum Requirements
System hardware and software	<p>One of the following client systems:</p> <ul style="list-style-type: none"> <li>• IBM PC-compatible system with at least a 1-GHz Pentium processor running: <ul style="list-style-type: none"> <li>– Windows 2000 Professional, Server, and Advanced Server Service Pack 4<sup>1</sup></li> <li>– Windows XP with Service Pack 2</li> <li>– Windows Server 2003 Standard or Enterprise Edition with Service Pack 1, without terminal services</li> <li>– Windows 2003 R2 Server Standard and Enterprise Editions</li> </ul> </li> <li>• Sun SPARC Ultra 10 running Solaris 8 (Solaris 2.8) or Solaris 9 (Solaris 2.9)</li> </ul> <p><b>Note</b> DFM supports only US-English and Japanese versions of Windows Operating System (OS) and Solaris OS. Set the default locale to US-English for the US-English OS, and Japanese for the Japanese OS.</p> <p>Color monitor with video card set to 24 bits color depth</p>
Available memory (RAM)	512 MB
Available disk space	<p>1 GB swap space.</p> <p><b>Note</b> Swap space should be equal to twice the amount of RAM.</p>
Browser	<p>One of these browsers:</p> <ul style="list-style-type: none"> <li>• On Windows clients: <ul style="list-style-type: none"> <li>– Internet Explorer SP1 (6.0.28) on Windows</li> <li>– Internet Explorer SP2 (6.0.29) on Windows XP SP2</li> <li>– Internet Explorer SP1 (6.0.3790) on Windows 2003</li> <li>– Netscape Navigator 7.1 and 7.2 for Windows</li> <li>– Mozilla 1.7.13</li> </ul> </li> <li>• On Solaris clients: <ul style="list-style-type: none"> <li>– Netscape Navigator 7.0</li> <li>– Mozilla 1.7 and 1.7.13</li> </ul> </li> </ul> <p>For Solaris, use Netscape Navigator downloaded from the Sun website only.</p>

1. To verify the existing service pack, from the Start menu, select **Run** and enter **winvver**.

## Supported NMS Environments for Device Import

DFM device inventory is taken from the Common Services Device and Credentials Repository (DCR). DCR is a common repository of devices, their attributes, and credentials. It is the central place where users add or import new devices.

DCR enables you to share devices lists with other applications as follows:

Using DCR, you can import devices from:

- A local network management system (NMS)—Common Services supports import from NetView and HP OpenView. For supported versions, see [Supported NMS Integration, page 1-8](#).
- A remote NMS—The same NMSs supported locally are supported remotely.
- A file—File can be exported from another product and formatted for import to DCR.

By default, DFM is configured to automatically synchronize its device list with DCR. If the synchronization causes the DFM system to exceed its limit, the device and credentials list will be truncated. (See [Number of Ports/Interfaces that DFM Supports, page 1-9](#).) Alternatively, you can configure DFM to allow only manual selection of devices in DCR that you want DFM to manage. When you do so, DFM displays a list of devices in DCR, but not in DFM, for you to choose from. For more information, see the *User Guide for Device Fault Manager 2.0.6*.

## Supported NMS Integration

DFM supports integration with network management systems (NMSs) as follows:

- DFM listens for traps from managed devices on port 162 (the default). If another NMS on the system with DFM uses port 162, DFM uses port 9000 (and the installation script warns you that this is the case).
- DFM forwards traps to destinations that you specify, as follows:
  - To forward pass-through traps, see [Configuring SNMP Trap Receiving and Forwarding, page 4-10](#).
  - To forward processed traps, see “Managing SNMP Trap Notifications” in the “Using Notification Services” chapter of *User Guide for Device Fault Manager*.

For more information on pass-through and processed traps, see the appendix “Processed and Pass-through Traps, and Other Unidentified Traps and Events” in *User Guide for Device Fault Manager*.

- DFM provides the HPOV-NetView adapters, which forwards traps (sent from managed devices to the NMS) to DFM from remote or local hosts running:
  - HP OpenView 6.4 and 7.0.1
  - NetView 7.1 and 7.1.4

Installing these adapters on remote machines is described in [Installing and Upgrading HPOV-NetView Adapters, page 2-13](#).

**Note**

To use the HPOV-NetView adapters with a local version of HP OpenView or NetView, make sure that HP OpenView or NetView is installed before you install DFM.

# Supported Devices

Device adapter packages for all supported devices are installed when you install DFM. Information about devices installed with DFM can be found at:

[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/DFM/dev\\_sup/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/DFM/dev_sup/index.htm)

For information on how device support compares between DFM 1.2.x and DFM 2.0.6, see *Release Notes for Device Fault Manager 2.0.6* at this URL:

[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/dfm/dfm20/re\\_l\\_note/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/dfm/dfm20/re_l_note/index.htm).

As additional device adapter packages become available, you can download the IDUs that contain them, by logging into Cisco.com at:

<http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-DFM>

## Number of Ports/Interfaces that DFM Supports

DFM supports configurations of up to 45,000 ports/interfaces, of which 6,750 (or 15%) are managed. This support was tested with an average of 30 ports/interfaces per device.

If you have an unrestricted license, DFM stops adding devices to its managed inventory when the supported number of ports/interfaces on the devices is reached.

If you have a restricted license, however, DFM stops adding devices to its managed inventory after the number of devices in managed inventory equals or surpasses the number of devices specified by the license. DFM displays licensing reminders as the number of devices nears the limit; see [Restricted Version: Device Limit Exceeded](#), page A-4.

