



System Requirements

This chapter lists the tested and supported hardware and software specifications for Cisco Prime Data Center Network Management (DCNM) server and client architecture. The application has been tested in English locales only.

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System Requirements

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Java Requirements

The Cisco Prime DCNM Server is distributed with JRE 1.7.0_72 or later. The Cisco Prime DCNM installer installs JRE 1.7.0_72 into the following directory:

```
DCNM_root_directory/java/jre1.7
```

Cisco Prime DCNM client is supported on JRE 1.7.0_76 or a later 1.7 version.

Server Requirements

Cisco Prime DCNM, Release 7.2(x), supports the Cisco Prime DCNM Server on these operating systems:

- Microsoft Windows 2008 R2 SP1

- Microsoft Windows 2008 Standalone SP2
- Microsoft Windows 2012 R2
- Red Hat Enterprise Linux Release 5.6 and 5.7
- Red Hat Enterprise Linux Release 6.3 and 6.4 (64-bit)
- OVA and ISO with integrated operating system

Cisco Prime DCNM, Release 7.2(x), supports the following databases:

- Oracle 10g, Oracle 11g Express (XE), Standard, and Enterprise Editions, and Oracle 11g Real Application Clusters (RAC)
- PostgreSQL 9.4
- High-Availability internal database with Release 7.2(x)
- Oracle 12c Enterprise Edition (Conventional)–(nonpluggable installation)



Note Cisco Prime DCNM Release 7.2(x) does not support Oracle 12c pluggable database version installation.

- Oracle 12c RAC (nonpluggable installation)



Note From Cisco Prime DCNM Release 7.2(x), the database size is not limited, and increases according to the number of nodes and ports that the DCNM manages with Performance Manager Collections enabled. You cannot restrict the database size. We recommend that you use Oracle SE or Enterprise edition instead of Oracle XE due to table space limitations.



Note Customers are responsible for all the support associated with the Oracle database, including maintenance, troubleshooting, and recovery. We recommend that customers perform regular database backups, either daily or weekly, to ensure that all the data is preserved.

Cisco Prime DCNM, Release 7.2(x), supports the running of the Cisco Prime DCNM server on the following hypervisors:

- VMware ESXi 5.1
- VMware vCenter 5.1
- VMware ESXi 5.5
- VMware vCenter 5.5

Cisco Prime DCNM Server resources for LAN and SAN environments are summarized in the following table.

Table 1: Server Resources for LAN and SAN

LAN: 25 Switches and up to 1000 Ports SAN: 50 Switches and up to 2000 Ports	LAN: 100 Switches and up to 3000 Ports SAN: 200 Switches and up to 5000 Ports
Dual-core CPUs, 2 core with 2 sockets 5 GHz (or faster)	Quad-core CPUs, 2 core with 2 sockets 5 GHz (or faster)
8-GB memory, 80-GB free hard disk	<ul style="list-style-type: none"> • 12-GB memory, 100-GB free hard disk • 2 servers, LAN or SAN federation
Oracle 10g, Oracle11g Standard or Enterprise, Oracle 12c	Oracle11g Standard or Enterprise, Oracle 12c

**Note**

Although it is not mandatory, we recommend that you register the server system with Domain Name Service (DNS) servers.

Client Requirements

Cisco Prime DCNM clients support Windows 7, Windows 2008, Windows 2012, and Red Hat Linux. The following table lists the minimum hardware requirements for these client systems.

Table 2: Client Hardware Requirements

Hardware	Minimum Requirements
RAM (free)	2 GB
CPU speed	2.16 GHz (or faster) with one dual-core processor or two single-core processors
Disk space (free)	4 GB

If you install Cisco DCNM in a virtual machine, you must reserve resources equal to the server resource requirements to ensure a baseline with the physical machines.

Some Cisco Prime DCNM features require a license. Before using the licensed features, you must install the Cisco Prime DCNM license.

**Note**

Ensure that you set the correct time zone value on the client system's clock, for example, UTC. Otherwise, Cisco Prime DCNM cannot manage the switch properly.

Host Requirements

The following table lists the server resource requirements for deploying Cisco Prime DCNM, Release 7.2(x), Virtual Appliance (OVA).

Table 3: Host Requirements

Small Deployment: Up to 50 Switches	Large Deployment: More than 50 Switches
2 vCPUs, 2 GHz (or faster)	4 vCPUs, 2 GHz (or faster)
8-GB memory, 100 GB in case of thick provisioning	12-GB memory, 100 GB in case of thick provisioning

Browsers

Web browsers that support Adobe Flash 10.0 or later are qualified for use with Cisco Prime DCNM. These include Internet Explorer Version 11.0 and Firefox Version 38.0.

Other Supported Software

The following table lists other software supported by Cisco Prime DCNM, Release 7.2(x).

Table 4: Database Server System Requirements

Component	Minimum Requirements
Security	<ul style="list-style-type: none"> • ACS versions—5.0 to 5.8 • Telnet Disabled:SSH Version 1, SSH Version 2, Global Enforce SNMP Privacy Encryption • Web Client and Cisco Prime DCNM-SAN Server Encryption:HTTPS with TLS 1.0 only
DHCP Server	<ul style="list-style-type: none"> • Cisco Network Registrar 8.2

Additionally, Cisco Prime DCNM supports EMC call-home events, fabric change events, and events that are forwarded by traps and e-mail.

You can also find the below information in this chapter:

Deployment Best Practices

Keep the following guidelines in mind when deploying Cisco Prime DCNM:

- Database
 - Deploy an Oracle database on a separate server from the Cisco DCNM application server.

- Deploy an Oracle database when managing production or mission-critical environments.
- If you plan to use an Oracle 11g or Oracle 12c database, configure the Oracle database as follows:
 - Increase the number of sessions and processes to 150 each from the default of 50.
 - Increase the number of open cursors to 1000 from the default of 300.
- We recommend that you deploy Oracle 11g or Oracle 12c for mission-critical production environments.



Note The password for the database expires after 180 days.

You must change the default setting by performing the following steps:

- 1 Log in to the Oracle database.
- 2 Enter the commands, as shown in this example:

```
SQL> GRANT CONNECT,RESOURCE,UNLIMITED TABLESPACE TO username IDENTIFIED by password;
Grant succeeded.
SQL> select username,password from dba_users where username='username';
SQL> ALTER PROFILE DEFAULT LIMIT
2 FAILED_LOG_ATTEMPTS UNLIMITED
3 PASSWORD_LIFE_TIME UNLIMITED;
Profile altered.
SQL> EXIT
```

- Network Time Protocol
 - We recommend that the Cisco Prime DCNM server run the Network Time Protocol (NTP) to synchronize its clock with those of the managed devices.
- General Guidelines
 - Do not deploy Cisco Prime DCNM when network latency is more than 50 ms from the switch management subnet to the Cisco Prime DCNM server and Cisco Prime DCNM database.
 - Deploy Cisco Prime DCNM on high-performance tier storage (2 to 4 ms response time).
 - Create users with the same password digest and encryption algorithm in the device (for example, Digest, MD5) and encryption algorithm (for example, DES). Cisco Prime DCNM will not authenticate the devices with different digest and encryption passwords.
 - Deploy Cisco Prime DCNM-SAN in a federation configuration when either of the following conditions is met:
 - The switch count exceeds 150 switches
 - The port count exceeds 15,000 connected ports for every management server
- Windows Operating System
 - During the initial installation, disable all security and antivirus tools that are running on your Windows servers.
 - Do not run any other management applications on the Cisco Prime DCNM server or the Cisco Prime DCNM database server.

- Virtual Machines
 - When Cisco Prime DCNM is deployed as a virtual machine, do not share CPU and memory resources with other virtual machines on the virtual host, and the data store with other virtual machines.
 - CPU and memory resource must be reserved for virtual machines.

Installation Notes

The following installation notes apply to Cisco Prime DCNM, Release 7.2.x:

- The Cisco Prime DCNM Installer includes the Cisco Prime DCNM server and clients, Device Manager, SMI-S provider, PostgreSQL 8.4, and Strawberry Perl Version 5.10.
- The Cisco Prime DCNM virtual appliance includes the Cisco Prime DCNM server and clients, Device Manager, PostgreSQL, Cisco XCP, OpenLDAP, RabbitMQ, DHCPD, all of which are installed on a 64-bit CentOS.
- Upgrade support is available from Cisco Prime DCNM, Release 7.1(1), and Cisco Prime DCNM, Release 7.1(2), to Cisco Prime DCNM, Release 7.2(x).
- Upgrade support is available from Cisco Prime DCNM, Release 7.1(1), Cisco Prime DCNM, Release 7.1(2), and Cisco Prime DCNM, Release 7.2(x), to Cisco Prime DCNM, Release 7.2(2).
- On the Cisco Prime DCNM Web Client, clicking the Evaluation License URL under the **Admin > General > License > Server License Files** tab results in an *Invalid Referrer* error message being displayed. This occurs if you have not signed out correctly during the previous instance. To resolve this, highlight the URL address in the web browser menu bar and press the **Return** key. Clear the web browser cache for the URL to work.

For information about installing Cisco Prime DCNM Release 7.2.x, see the corresponding version of the *Cisco Prime DCNM Installation Guide* at:

<http://www.cisco.com/c/en/us/support/cloud-systems-management/prime-data-center-network-manager/products-installation-guides-list.html>.