Release Notes for Cisco Fabric Manager Release 4.2(1a)

Release Date: September 25, 2009

Part Number: OL-20325-02 B0

This document describes the caveats and limitations for Cisco Fabric Manager Release 4.2(1) and Cisco Nexus 5000 Series Release 4.1(3)N1. Use this document in conjunction with the documents listed in the "Related Documentation for Fabric Manager" section on page 19.

Note As of Cisco Fabric Manager Release 4.2(1), Fabric Manager information will no longer appear in the Cisco MDS 9000 Family Release Notes for NX-OS releases. Cisco Fabric Manager Release Notes will include information that is exclusive to Fabric Manager as a management tool for Cisco MDS 9000 Family switches and Cisco Nexus 5000 Series switches.

Release notes are sometimes updated with new information on restrictions and caveats. Refer to the following website for the most recent version of the *Cisco Fabric Manager Release Notes:*
http://www.cisco.com/en/US/products/ps10495/prod_release_notes_list.html

Table 1 shows the on-line change history for this document.

Table 1   Online History Change

Revision	Date	Description
A0	09/25/2009	Created release notes.
B0	08/10/2011	Corrected the upgrade path from Release 3.3(x) to Release 4.2(x) for PostgreSQLin Table 3.

Contents

This document includes the following:

Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

Introduction

Cisco Fabric Manager is the management tool for storage networking across all Cisco SAN and unified fabrics.

Cisco Fabric Manager provides comprehensive visibility for improved management and control of Cisco storage networks (2-, 4-, and 8-Gbps Fibre Channel and Fibre Channel over Ethernet [FCoE]), and it helps reduce overall total cost of ownership (TCO) and complexity through unified discovery of all Cisco Data Center 3.0 devices and through task automation and detailed reporting.

Cisco Fabric Manager provides centralized storage network management services, performance monitoring, federated reporting, troubleshooting tools, discovery, and configuration automation for the data center.

Cisco Fabric Manager includes these management applications:

- Fabric Manager (client and server)
- Fabric Manager standalone (FMSA)
- Device Manager
- Performance Manager
- Fabric Manager Web Services

For detailed information on using Cisco Fabric Manager to configure a Cisco MDS 9000 Family switch or a Cisco Nexus 5000 Series switch, refer to the feature-specific Cisco Fabric Manager Configuration Guides available at the following website:
http://www.cisco.com/en/US/products/ps10495/tsd_products_support_series_home.html

Version Compatibility

As the features and capabilities of Cisco Fabric Manager continue to evolve, it is important to be aware of the software version compatibility information described in the following sections.

Compatibility with Cisco MDS 9000 Family Switches

- Cisco Family Fabric Manager Release 4.2(1a) can manage MDS 9000 switches that are running any NX-OS 4.x release or any SAN-OS 3.x release.

- Any Fabric Manager 3.x release cannot fully manage switches that are running any MDS 9000 NX-OS 4.x release because Fabric Manager Release 3.x cannot manage features that are specific to the MDS 9000 NX-OS 4.x release series. Fabric Manager Release 3.3(x) can manage all legacy features in any SAN-OS 3.x, 2.x, and 1.x release.

- In terms of testing and support, future releases of Cisco Fabric Manager 4.x will be backwards compatible with the two previous releases of MDS NX-OS 4.x and with the two highest releases in the SAN-OS 3.x release series.

Compatibility with Cisco Nexus 5000 Series Switches

Cisco Family Fabric Manager Release 4.2(1a) has limited support for Cisco Nexus 5000 Series switches running versions earlier than Release 4.0(1a)N1, because it does not support FCoE features on Cisco Nexus 5000 Series switches running versions earlier than Release 4.0(1a)N1.

Table 1 lists Cisco Fabric Manager versions and the software products they support.

Table 2   Version Compatibility Matrix

Current Software Version	Tested With and Supports
Cisco Fabric Manager Release 4.2(1a)	MDS NX-OS Release 4.2(1a), 4.1(3a), and 4.1(1c)
	SAN-OS Release 3.3(4), 3.3(3) and 3.3(2)
	Cisco Nexus 5000 Series releases later than 4.0(1a)N1 and up to 4.1(3)N1
Cisco Fabric Manager Release 4.1(3)	Cisco Nexus 5000 Series Release 4.0(1a)N1
Cisco Fabric Manager Release 3.41(a)	Cisco Nexus 5000 Series Release 4.0(0)N1

Software Download Site

To download the latest Cisco Fabric Manager software, access the Software Center at this URL:

http://www.cisco.com/public/sw-center

Note   If you would like to request a copy of the source code under the terms of either GPL or LGPL, send an e-mail to mds-software-disclosure@cisco.com.

Upgrading Cisco Fabric Manager

This section lists the guidelines recommended for upgrading Cisco Fabric Manager and includes the following topics:

Installation Changes for Cisco Fabric Manager in This Release

If you plan to make use of the new Fabric Manager Server federation feature, which is described in the "Fabric Manager Server Federation" section on page 12, then you need to follow a slightly different installation procedure for Cisco Fabric Manager. See the "Installation of Cisco MDS NX-OS and Fabric Manager" section in the *Cisco Fabric Manager Fundamentals Configuration Guide* for details.

If you do not plan to install a federation of servers, then the installation procedure is unchanged from Cisco Fabric Manager Release 4.13(b).

Upgrading Your Version of Cisco Fabric Manager

Cisco Fabric Manager is included on the CD-ROM that ships with the switch. You can install Fabric Manager from the CD-ROM or from files that you download.

Installing Cisco Fabric Manager is a multistep process that involves installing a database, as well as Fabric Manager. The complete installation instructions are provided in the "Installation of Cisco MDS NX-OS and Fabric Manager" section in the *Cisco Fabric Manager Fundamentals Configuration Guide*, and are available on-screen once you launch the Fabric Manager installer from the CD-ROM.

Note When upgrading Fabric Manager, refer to the supported upgrade path shown in Table 3. For example, when upgrading from SAN-OS Release 3.1(x) to NX-OS Release 4.2(x), you will need to upgrade from Release 3.1(x) to Release 3.2(x) to Release 3.3(x) and then upgrade to NX-OS Release 4.2(x).

Table 3   Supported Fabric Manager Upgrade Paths

Current	Upgrade Path
3.0.x	3.1.x
3.1.x (HSQL)	3.2.x (Oracle)
3.1.x (HSQL)	3.2.x PostgreSQL
3.1.x (Oracle)	3.2.x (Oracle)
3.2.x (Oracle)	3.3.x (Oracle)
3.2.x (PostgreSQL)	3.3.x (PostgreSQL)
3.3.x(Oracle)	4.1.x(Oracle) or 4.2.x(Oracle)
3.3.x (PostgreSQL)	4.1.x (PostgreSQL)

Table 3   Supported Fabric Manager Upgrade Paths (continued)

Current	Upgrade Path
4.1.x (Oracle)	4.2.x (Oracle)
4.1.x (PostgreSQL)	4.2.x (PostgreSQL)

Fabric Manager Server cannot be installed on an Active Directory Server when using PostgreSQL. Fabric Manager servers are domain controllers and cannot create local PostgreSQL user accounts.

Supported Software

Table 4 lists the software that Cisco Fabric Manager Release NX-OS 4.2(1a) supports.

Table 4   Supported Software for Fabric Manager Release 4.2(1a)

Operating Systems	Windows	Java	Browser
	Windows 2003 and SP2	1.5 or 1.6[1]	Internet Explorer 6
	Windows 2003 and SP2	1.5 or 1.6[1]	Internet Explorer 7
	Windows 2003 and SP2	1.5 or 1.6[1]	Firefox 3.0
	Windows XP SP2 and SP3	1.5 or 1.6[1]	Internet Explorer 6
	Windows XP SP2 and SP3	1.5 or 1.6[1]	Firefox 3.0
	Windows Vista SP1 without UAC	1.5 or 1.6[1]	Internet Explorer 7
	Red Hat Enterprise Linux AS Release 5	1.5 or 1.6[1]	Firefox 3.0
	Solaris 9	1.5 or 1.6[1]	Packages with default Solaris 9
	Solaris 10	1.5 or 1.6[1]	Firefox 3.0
Virtual System	**Operating System**	**Server**	
	Windows 2003 SP2	VMWare ESX Server 3.5.0	
Databases	**Database**		
	Oracle 11g Enterprise Edition		
	OracleExpress 10		
	Oracle 10g Enterprise Edition		
	PostgreSQL 8.2 (Windows)		
	PostgreSQL 8.2 (Linux)		
	PostgreSQL 8.1 (Solaris)		
Security	**ACS Version**		
	3.1, 4.0, and 4.1		
Firewall/FMS Proxy	**Version**		
	PIX Firewall		
	IP Tables		
Web Client/FM Server Encryption	**Type**		
	HTTPS		
Telnet Disabled	**Protocol**		
	SSH v1 and SSH v2		
	Global Enforce SNMP Privacy Encryption		
Events	**Type**		
	EMC Call Home		
	Event Forwarding via Traps or E-mail		
	Fabric Change Events		

1. Do not use a version later than Java 1.6.12.

> **Note** Cisco Fabric Manager has not been officially tested on any 64-bit platforms. Currently, we support only 32-bit platforms.

Resource Requirements

Table 5 lists the minimum amount of resources (disk, memory, and CPU) required for both the server and client for Fabric Manager to operate satisfactorily.

Table 5   Resource Requirements

Size	Port Count		
Small	< 2000		
Medium	< 5000		
Large	<15000		
	Small	**Medium**	**Large**
Disk Space (includes Performance Manager RRD files)			
Client	100 MB	100 MB	100 MB
Server (+ PostgreSQL)	1 GB	10 GB	20 GB
Server (+ Oracle Express Edition)	3 GB	15 GB	30 GB
Memory			
Client	500 MB	1 GB	2 GB
Server (+ PostgreSQL)	2 GB	4 GB	8 GB
Server (+ Oracle)	2 GB	4 GB	8 GB
CPU - Client			
Windows	2.0-GHz processor	2.0-GHz processor	2.0-GHz processor
Linux	2.0-GHz processor	2.0-GHz processor	2.0-GHz processor
Solaris	Ultra 45 1.6 GHZ	Ultra 45 1.6 GHZ	Ultra 45 1.6 GHZ
CPU - Server			
Windows	2.0-GHz processor	Dual Processor 2.0-GHz processor	Dual Processor 2.0-GHz processor
Linux	2.0-GHz processor	Dual Processor 2.0-GHz processor	Dual Processor 2.0-GHz processor
Solaris	SunFire v240 2x 1.6 GHZ	SunFire v440 4x 1.6 GHZ	SunFire v440 4x 1.6 GHZ

Fabric Manager Installation Process Overview

The following section presents the flow of the installation process at a high level. Review these steps before you begin the installation process:

1. Verify supported software. Cisco Fabric Manager and Device Manager have been tested with the software listed in Table 4.

2. Ensure data migration when upgrading Cisco Fabric Manager from Cisco SAN-OS Releases 3.1(2b) and later.

If you are upgrading Cisco Fabric Manager in Cisco SAN-OS Releases 3.1(2b) and later, be aware that data is migrated from the Hypersonic HSQL database to either the PostgreSQL database or Oracle Database 10g Express during the installation. Data is also migrated from Oracle Database 10g Express to Oracle Database 10g Express. If you migrate the database from Oracle to Oracle, the schema is updated. Refer to Table 3 for information on the supported upgrade path.

3. Ensure data migration when upgrading Cisco Fabric Manager from releases prior to Cisco NX-OS Releases 3.1(2).

If you are upgrading Fabric Manager in a Cisco SAN-OS Release prior to 3.1(2b), be aware that data is migrated from the Hypersonic HSQL database to either the PostgreSQL database or the Oracle Database 10g Express during the installation. The Fabric Manager Installer installs the PostgreSQL database on Windows. If you want to install the PostgreSQL database on Solaris or Linux, or if you want to install the Oracle Database 10g Express database, follow the instructions in the "Installing Fabric Manager" section in the *Cisco Fabric Manager Fundamentals Configuration Guide.*

4. If you are upgrading a previous installation of Fabric Manager, make sure the previous installation is installed and running. Do not uninstall the previous version. If the previous version is uninstalled, the database will not be migrated and your server settings will not be preserved.

5. Select the database.

If you want to use the Oracle Database 10g Express, you must install the database and create a user name and password before continuing with the Fabric Manager installation. We recommend the Oracle Database 10g Express option for all users who are running Performance Manager on large fabrics (1000 or more end devices).

If you want to install the PostgreSQL database, you must disable any security software you are running as PostgreSQL may not install certain folders or users. You must also log in as a Superuser before you start the installation.

6. Install Fabric Manager from the CD-ROM or from files that you download from cisco.com at the following website: http://cisco.com/cgi-bin/tablebuild.pl/mds-fm.

Installing Fabric Manager on Solaris

This section describes how to install Fabric Manager on Solaris.

To install Fabric Manager on Solaris, follow these steps:

Step 1 Set Java 1.5 or 1.6 to the path that is to be used for installing Fabric Manager.

Step 2 Install the database that is to be used with Fabric Manager.

Step 3 Copy the Fabric Manager jar file **m9000-fm-4.2.1.jar** from the CD-ROM to a folder on the Solaris workstation.

Step 4 Launch the installer using the following command:

```
java -Xms512m -Xmx512m -jar m9000-fm-4.2.1.jar
```

Step 5 Follow the onscreen instructions provided in the Fabric Manager management software setup wizard.

Installing Fabric Manager on Windows

This section describes how to install Fabric Manager on Windows.

> **Note** Fabric Manager Server cannot be installed on an Active Directory Server when using PostgreSQL. Fabric Manager servers are domain controllers and cannot create local PostgreSQL user accounts.

> **Note** If you are running Fabric Manager Server on Windows and using the PostgreSQL database, you should examine your Windows Active Directory environment for organizational units (OUs) and make the change recommended below to ensure that Fabric Manager Server does not periodically stop working.
>
> On a Windows system, the Microsoft Active Directory applies a Group Policy Object (GPO) to the Fabric Manager Server. The GPO does not recognize the local user PostgreSQL because it is not in the GPO allow list. As a result, the GPO removes it, and the PostgreSQL database stops working.
>
> To avoid this situation, you should move the Fabric Manager Server to its own OU and apply the same feature settings as the original OU, but remove the local user account to log in as a service.

If your server is running Terminal Services in Application mode, or if you are running Citrix Metaframe or any other variation, you need to enter the following command at the DOS prompt before installing Fabric Manager Server:

Step 1 Open a command-line prompt by selecting **Start > Run**, and then type **cmd** and press **Return**.

Step 2 At the command prompt, type **user /install**.

> **Note** Do not close the command line window. This must remain open for the entire duration of the install.

The following is an example of the output of this command:

```
C:\Documents and Settings\user.domain>USER /INSTALL

User session is ready to install applications.
```

Step 3 Follow all steps needed to install Fabric Manager, Fabric Manager Server, and Device Manager. See the instructions later in this section.

Step 4 When the installation is complete, at the command prompt, type **user /execute** and press **Return**. Then type **exit** and press **Return**.

The following is an example of the output of this command:

```
C:\Documents and Settings\user.domain>USER /execute

User session is ready to execute applications.
```

To install Fabric Manager on Windows, follow these steps:

Step 1 Click the **Install Management Software** link.

Step 2   Choose **Management Software > Cisco Fabric Manager**.

Step 3   Click the **Installing Fabric Manager** link.

Step 4   Select the drive for your CD-ROM.

Step 5   Click the **FM Installer** link.

Step 6   Follow the onscreen instructions provided in the Fabric Manager Installer 4.2(1a).

Note   If you have any folders open or Windows Explorer task windows open during the installation, you might see the following error message:

C:\Program Files\Cisco Systems\dcm\fm\help\shared\images\Thumbs.db (Access is denied)

To resolve this issue, close all open folders and open Windows Explorer task windows and restart the FM Installer.

Caution   Windows 2000 is incompatible with Fabric Manager Release 4.2(1a). If you install Fabric Manager in a Windows 2000 environment, you are at risk of having an unstable Fabric Manager. We recommend that you exit the installation and update your environment. See Table 4 for the list of supported software that has been tested with Cisco Fabric Manager. See Table 3 for the supported upgrade paths for Fabric Manager.

To install Device Manager on your workstation, follow these steps:

Step 1   Enter the IP address of the switch in the Address field of your browser.

Step 2   Click the **Cisco Device Manager** link in the Device Manager installation window.

Step 3   Click **Next** to begin the installation.

Step 4   Follow the onscreen instructions to complete the installation of Device Manager.

Note   If you use a Java JDK instead of a JRE on Solaris, you might encounter a problem trying to install the Device Manager from a web browser. This can happen because the installer heap limit of 256 MB is not sufficient. If you have this problem, save the jnlp link as file, increase the heap limit to 512 MB, and run **javaws element-manager.jnlp** at the shell prompt.

New Features in Cisco Fabric Manager Release 4.2(1a)

This section briefly describes the new features introduced in this release. Each feature description includes the name of the Configuration Guide where the feature is documented in detail. The "New and Changed" section of each book provides a list of all new features and includes links to the feature description.

For information about the new features introduced in Cisco MDS NX-OS Release 4.2(1a), see the *Cisco MDS 9000 Family Release Notes for Cisco MDS NX-OS Release 4.2(1a)*.

For information about new features introduced in the Cisco Nexus 5000 Series switches, see the *Cisco Nexus 5000 Series Release Notes, Release 4.1(3)N1*.

This section includes the following topics:

Product Documentation Changes

As of Cisco Fabric Manager Release 4.2(1), software configuration information is available in new feature-specific configuration guides for the following information:

- System management
- Interfaces
- Fabric
- Quality of service
- Security
- IP services
- High availability and redundancy

The information in these new guides previously existed in the *Cisco MDS 9000 Family Fabric Manager Configuration Guide*. That configuration guide remains available on Cisco.com and should be used for all software releases prior to Cisco Fabric Manager Release 4.2(1). Each new guide addresses the features introduced in or available in a particular release. Select and view the configuration guide that pertains to the software installed in your switch.

Note These release notes are specific to this release. For the complete list of Fabric Manager product documentation, see the "Related Documentation for Fabric Manager" section.

Location of Cisco Fabric Manager Documentation

Documentation for Cisco Fabric Manager has moved to the Network Management location on Cisco.com. Starting with Fabric Manager Release 4.2(1), you can access Fabric Manager documentation by going to Cisco.com and selecting **Support**, **Select a Product**, **Products**, **Network Management**, **Data Center Management**, **Cisco Fabric Manager**.

You can also find a link to Cisco Fabric Manager documentation from the **Cisco MDS 9000 NX-OS and SAN-OS Software** page on Cisco.com.

Cisco Fabric Manager Release 4.2(1a) New Features

Cisco Fabric Manager Release 4.2(1a) includes the following new features and enhancements:

- Fabric Manager Server clustering
- Data Center switch discovery through CDP
- Host provisioning wizard
- Client launch pad
- Performance stats in web client
- Fabric Manager software install wizard
- Fabric Manager platform support

Cisco Fabric Manager Feature Descriptions

This section includes descriptions of the major new features of MDS Fabric Manager Release 4.2(1) and indicates where the feature is documented.

Fabric Manager Server Federation

The Fabric Manager Server federation feature improves management availability and scalability by load balancing fabric discovery, performance monitoring, and event handling processes. Fabric Manager provides a single management pane to view and manage all fabrics within a single federation. A storage administrator can discover and move fabrics within a federation for the purpose of load balancing, high availability, or disaster recovery. In addition, users can connect to any Fabric Manager Server and view all report, inventory, statistics, or logs from a single web browser.

The Fabric Manager Server federation includes these features:

- All Fabric Manager Server nodes in the federation access a common database.
- Up to ten Fabric Manager Servers can form a federation (or cluster) that can manage over 100,000 end devices
- Fabric Manager Clients can access any server transparently

The Fabric Manager Server federation feature requires the Fabric Manager Server License.

Where Documented

For information about the Fabric Manager Server federation feature, see the *Cisco Fabric Manager Fundamentals Configuration Guide*.

Data Center Switch Discovery Through CDP

Cisco Fabric Manager now supports discovery of all Cisco Nexus family switches, Catalyst 4500 Series switches, and Catalyst 6500 Series switches through the Cisco Discovery Protocol (CDP). CDP is a device discovery protocol that runs on all Cisco manufactured equipment, including MDS 9000 Family switches, Cisco Nexus 5000 Series switches, Cisco Nexus 7000 Series switches, and Catalyst switches. This feature can provide increased control and visibility of all data center devices by making it easier to plan, configure, and manage unified fabric deployments.

Switch discovery through CDP has the following attributes:

- All MDS 9000 Family switches, Cisco Nexus 5000 Series switches, Cisco Nexus 7000 Series switches, Catalyst 4500 Series switches, and Catalyst 6500 Series switches can be discovered.
- Fabric Manager displays all switches and their ISLs in topology view map.
- It supports IPv4 and provides detailed physical attributes for MDS 9000 Family switches and Cisco Nexus 5000 Series switches.

Where Documented

For information about the switch discovery through CDP feature, see the *Cisco Fabric Manager Fundamentals Configuration Guide*.

Fabric Manager Host Provisioning Wizard

The Cisco Fabric Manager Host Provisioning Wizard provides the ability to set up communication between the existing host and storage devices by using a single management tool. The wizard is designed to provide the requisite utilities to perform seamless migrations.

The wizard allows the administrator to quickly commission and decommission hosts and do the following activities:

- Create a device alias for the host
- Create a DPVM entry for the host
- Add a host and storage device to a zone and activate the zone
- Create a flow between a host and storage device for performance monitoring

Where Documented

For information about the Fabric Manager Host Provisioning Wizard, see the *Cisco Fabric Manager Fabric Configuration Guide*.

Fabric Manager Client Launch Pad

Fabric Manager provides an ability to view the network data and topology through its client application. To load the client, users can log into the server's web interface and start the client from a hyperlink. In an environment where there are multiple Fabric Managers of nonidentical versions managing different parts of the network, users would have to go through the web interfaces of these servers independently to get to their corresponding client because Fabric Manager clients of a particular release may not necessarily be compatible with servers of another release.

The Fabric Manager launch pad, which is new in Fabric Manager Release 4.2(1a), introduces a way to circumvent compatibility matching of Fabric Manager Client and Server releases. The process is simplified by taking the server's web URL and starting the client directly through the Java Webstart process. Users no longer need to go through the web interface to load the client. Users will also no longer encounter interoperability issues running multiple versions of Fabric Manager in their network. The launch pad can connect to any Fabric Manager server that is running Fabric Manager Release 3.3(x) or later, through the HTTP protocol and can directly start the server's corresponding client. The launch pad helps users avoid the server's web interface and the client/server interoperability issue.

To load the launch pad, users need to log into the Fabric Manager Web Server to retrieve the launch pad. Once retrieved, subsequent retrieval of the launch pad is unnecessary because a shortcut of the launch pad will be placed on the user's desktop.

The launch pad does not archive Fabric Manager code; it simply facilitates the load of Fabric Manager with the JVM. The launch pad is not aware of the host machine's disk space or memory requirements to launch Fabric Manager. Users should understand that loading the client consumes disk space and increases the memory requirement footprint. The Fabric Manager launch pad can load Fabric Manager clients of version 3.3(x) or later releases.

Where Documented

For information about the Fabric Manager launch pad, see the *Cisco Fabric Manager Fundamentals Configuration Guide*.

Performance Statistics in the Fabric Manager Web Client

In Fabric Manager Release 4.2(1a), you can access performance charts for a topology map or a selected table. You can switch to and from a real-time view of performance statistics.

Where Documented

For information about performance statistics in Fabric Manager, see the *Cisco Fabric Manager Fundamentals Configuration Guide*.

Fabric Manager Software Install Wizard

The Fabric Manager software install wizard that is available in Fabric Manager Release 4.2(1a), provides data caching for repeated use. The wizard can cache the common information input by a particular user, including server location, file transfer protocol, username, and switch image information.

This feature also includes a management domain-based switch list. Rather than listing all the switches in a fabric, this feature enforces domain filtering by listing only those switches contained in a selected management domain. This feature automates the software upgrade process for those switches, and allows a user to save the input data and reuse it for the next software upgrade.

In addition, a new Parallel Version Check/Install checkbox has been added to provide a mechanism for a parallel version check, with or without software installation for all selected switches.

Where Documented

For information about the Fabric Manager software install wizard, see the *Cisco Fabric Manager Fundamentals Configuration Guide*.

Fabric Manager Platform Changes

The following changes have been made to the platforms that Cisco Fabric Manager supports in Fabric Manager Release 4.2(1a):

- Support has been discontinued for the following platforms:
  - Solaris 8
  - Red Hat Linux Release 4
  - Firefox prior to Release 3.0
- Support has been added for the following platforms:
  - Red Hat Enterprise Linux Release 5
  - Firefox Release 3.0

See Table 4 for the complete list of software that Cisco Fabric Manager in MDS NX-OS Release 4.2(1a) supports.

Licensed Cisco Fabric Manager Software Packages

This section describes software licenses for Cisco Fabric Manager and applications that are integrated into Cisco Fabric Manager. For information about licenses for Cisco MDS 9000 family software features, see the C*isco MDS 9000 Family Release Notes for MDS NX-OS Release 4.2(1a)*.

Fabric Manager Server Package

The standard Cisco Fabric Manager and Device Manager applications bundled at no charge with the Cisco MDS 9000 Family switches and the Cisco Nexus 5000 Series switches provide basic configuration and troubleshooting capabilities. The Fabric Manager Server package extends Cisco Fabric Manager by providing historical performance monitoring for network traffic hot spot analysis, centralized management services, and advanced application integration for greater management efficiency. Refer to the Cisco Fabric Manager Server package fact sheet for more information.

Storage Media Encryption Package

The Cisco MDS 9000 Storage Media Encryption package enables encryption of data at rest on heterogeneous tape devices and virtual tape libraries as a transparent fabric service. Cisco SME is completely integrated with Cisco MDS 9000 Family switches and the Cisco Fabric Manager application, enabling highly available encryption services to be deployed without rewiring or reconfiguring SANs, and allowing them to be managed easily without installing additional management software. Refer to the Cisco MDS 9000 Storage Media Encryption package fact sheet for more information. The Storage Media Encryption package is for use only with Cisco MDS 9000 Family switches.

Data Mobility Manager Package

The Cisco MDS 9000 Data Mobility Manager package enables data migration between heterogeneous disk arrays without introducing a virtualization layer or rewiring or reconfiguring SANs. Cisco DMM allows concurrent migration between multiple LUNs of unequal size. Rate-adjusted migration, data verification, dual Fibre Channel fabric support, and management using Cisco Fabric Manager provide a complete solution that greatly simplifies and eliminates most downtime associated with data migration. Refer to the Cisco MDS 9000 Data Mobility Manager package fact sheet for more information. The Data Mobility Manager package is for use only with Cisco MDS 9000 Family switches.

Limitations and Restrictions

This section lists the limitations and restrictions for this release. The limitations and restrictions are divided into the following categories:

- General Limitations, page 16
- Limitations Specific to Cisco MDS 9000 Family Switches, page 17
- Limitations for the Cisco Nexus 5000 Series Switches, page 18

General Limitations

This section describes general limitations related to Cisco Fabric Manager.

Solaris Windows Manager

Solaris Windows Manager does not resize windows correctly which affects some Device Manager screens. To resolve this, download and install the 119538-1 patch from Sun Microsystems. The patch (119538-17 GNONE 2.6.0: Windows Manager Patch, Generic, 2008/08/08) can be obtained from sunsolve.sun.com.

Upgrading to Recover Loss of Performance Manager Data

⚠
Caution   You must upgrade to Fabric Manager Release 3.1(x) and then upgrade to a later release of Fabric Manager to avoid losing Performance Manager data. If data has been lost, follow the steps below to recover the data.

To recover lost data, follow these steps:

Step 1   Disable Performance Manager interpolation using Fabric Manager Web Client. Uncheck **Interpolate missing statistics**, then click **Apply**.

Step 2   Stop the Fabric Manager Server.

Step 3   Save the data file in the **$INSTALL_DIR** directory.

Step 4   Move the old RRD file into the **$INSTALL_DIR/pm/db** directory.

Step 5   Run **$INSTALL_DIR/bin/pm.bat s**.

Step 6   Restart Fabric Manager Server.

Java Web Start

When using Java Web Start, it is recommended that you do not use an HTML cache or proxy server. You can use the Java Web Start Preferences panel to view or edit the proxy configuration. To do this, launch the Application Manager, either by clicking the desktop icon (Microsoft Windows), or type **./javaws** in the Java Web Start installation directory (Solaris Operating Environment and Linux), and then select **Edit> Preferences**.

If you fail to change these settings, you may encounter installation issues regarding a version mismatch. If this occurs, you should clear your Java cache and retry.

Shortcuts Remain on Desktop After Uninstall

If you install Fabric Manager or Device Manager on Windows Vista, you may see the application shortcuts on your desktop, even after you uninstall the application. To remove the shortcuts, refresh the desktop.

Limitations Specific to Cisco MDS 9000 Family Switches

This section lists the Cisco Fabric Manager limitations related to managing Cisco MDS 9000 Family switches.

Cisco Storage Media Encryption

The following limitations are described for Cisco SME:

- Cisco SME Configuration Limits, page 17
- Deleting Cisco SME Interfaces, page 18
- Emulex Driver Version, page 18

Cisco SME Configuration Limits

Table 6 lists the Cisco SME configuration limits for this release.

Table 6   Cisco SME Limits

Configuration	Limit
Number of switches in the fabric	10
Number of clusters per switch	1
Switches in a cluster	4
Fabrics in a cluster	2
Modules in a switch	11
Cisco MSM-18/4 modules in a cluster	32
Initiator-Target-LUNs (ITLs)	1024
LUNs behind a target	32
Host and target ports in a cluster	128
Number of hosts per target	128
Tape backup groups per cluster	2
Volume groups in a tape backup group	4
Cisco Key Management Center (# of keys)	32K
Targets per switch that can be FC-redirected	32

Deleting Cisco SME Interfaces

A Cisco SME interface can be deleted from the cluster only after the interface is administratively shut down and all related tasks associated with the interface shutdown are complete.

Emulex Driver Version

In some instances, the Emulex driver version 8.1.10.9 may set the task attribute to HEAD_OF_QUEUE instead of SIMPLE_QUEUE. Certain tape drives do not accept this attribute and may reject these commands. The Emulex driver version 8.1.10.12 does not have this issue.

Compatibility of Fabric Manager and Data Mobility Manager

Cisco Fabric Manager in any MDS NX-OS 4.x release does not support Data Mobility Manager (DMM) in any SAN-OS 3.3(x) release or in any 3.2(x) release. To use the Cisco Fabric Manager GUI for DMM, both Fabric Manager and DMM must be running NX-OS or SAN-OS software from the same release series.

Using Fabric Manager for an In-Service Software Upgrade (ISSU)

If you are using Fabric Manager to perform an ISSU to NX-OS Release 4.2(1a) from any release prior to NX-OS Release 4.1(1a), the upgrade might fail. To work around this issue, perform the upgrade from the command-line interface using the **install all** command. DDTS CSCta94252, which is a duplicate of CSCsu68898, captures the details of this issue.

ISSU downgrades are not impacted.

Limitations for the Cisco Nexus 5000 Series Switches

This section lists the Cisco Fabric Manager limitations related to managing Cisco Nexus 5000 Series switches.

Ethernet Configuration

You cannot configure physical Ethernet interfaces using Fabric Manager or Device Manager. You must configure physical Ethernet interfaces using CLI commands.

SPAN

You cannot use Device Manager to configure Ethernet or virtual Ethernet interfaces as SPAN source ports or to configure Ethernet interfaces as destination ports. The workaround is to configure SPAN using CLI commands.

Zoning

In the Edit Local Full Zone Database tool, virtual Fibre Channel interfaces must be specified using the Switch Port WWN method of adding members to a zone. In the Add Members to Zone dialog box, the Switch & Port method and the Domain & Port method are not supported for virtual Fibre Channel interfaces.

Caveats

This section lists the open and resolved caveats for this release. Use Table 7 to determine the status of a particular caveat. In the table, "O" indicates an open caveat and "R" indicates a resolved caveat.

Table 7   Open Caveats and Resolved Caveats Reference

DDTS Number	Fabric Manager Software Release (Open or Resolved)	Fabric Manager Software Release (Open or Resolved)
	4.2(1)	4.2(1a)
Severity 3		
CSCsk35725	O	O
CSCsu72195	O	O
CSCtc23116	–	O

Open Caveats

- CSCsk35725

  Symptom: Fabric Manager takes 2 to 3 minutes to bring up the DMM job creation wizard in a setup with 25 switches, 400 enclosures, and 2400 entries in the name server.

  Workaround: None.

- CSCsu72195

  Symptom: When replaying DMM job configurations saved as an ASCII text file (after performing a write erase), the DMM job includes discrepancies. These discrepancies occur due to the interface and zone configurations that are in an area below the DMM job configuration in the ASCII text file. The configurations stored in the ASCII text file are replayed sequentially from top to bottom.

  Workaround: None.

- CSCtc23116

  Symptom: When you install Cisco Fabric Manager on a Solaris host, an invalid JAR filename is generated, which causes the Java command to fail as follows:

  ```
  java -Xms512m -Xmx512m -jar "4_2_1a_S15/tmp/software/m9000-fm-4.2.1.jar"
  Unable to access jarfile 4_2_1a_S15/tmp/software/m9000-fm-4.2.1.jar
  ```

  The HTML file lists the command incorrectly with m9000-fm-4.2.1.jar as the JAR filename. The correct filename should be m9000-fm-4.2.1a.jar.

  Workaround: Run the command using m9000-fm-4.2.1a.jar as the filename instead of m9000-fm-4.2.1.jar, as in the following example:

  ```
  java -Xms512m -Xmx512m -jar "4_2_1a_S15/tmp/software/m9000-fm-4.2.1a.jar"
  ```

Related Documentation for Fabric Manager

The documentation set for the Cisco Fabric Manager includes the following documents. To find a Fabric Manager document online, access the following website:

http://www.cisco.com/en/US/products/ps10495/tsd_products_support_series_home.html

Release Notes

- *Release Notes for Cisco MDS 9000 Family Fabric Manager*

Configuration

- *Cisco Fabric Manager Fundamentals Configuration Guide*
- *Cisco Fabric Manager System Management Configuration Guide*
- *Cisco Fabric Manager Interfaces Configuration Guide*
- *Cisco Fabric Manager Fabric Configuration Guide*
- *Cisco Fabric Manager Quality of Service Configuration Guide*
- *Cisco Fabric Manager Security Configuration Guide*
- *Cisco Fabric Manager IP Services Configuration Guide*
- *Cisco Fabric Manager Intelligent Storage Services Configuration Guide*
- *Cisco Fabric Manager High Availability and Redundancy Configuration Guide*
- *Cisco Fabric Manager Inter-VSAN Routing Configuration Guide*
- *Cisco Fabric Manager Online Help*
- *Cisco Fabric Manager Web Services Online Help*

Related Documentation for MDS 9000 Family Switches

The documentation set for NX-OS for the Cisco MDS 9000 Family switches includes the following documents. To find an NX-OS document online for the Cisco MDS 9000 Family switches, access the following website:

http://www.cisco.com/en/US/products/ps5989/tsd_products_support_series_home.html

Release Notes

- *Cisco MDS 9000 Family Release Notes for Cisco MDS NX-OS Releases*
- *Cisco MDS 9000 Family Release Notes for MDS SAN-OS Releases*
- *Cisco MDS 9000 Family Release Notes for Storage Services Interface Images*
- *Cisco MDS 9000 Family Release Notes for Cisco MDS 9000 EPLD Images*

Regulatory Compliance and Safety Information

- *Regulatory Compliance and Safety Information for the Cisco MDS 9000 Family*

Compatibility Information

- *Cisco Data Center Interoperability Support Matrix*

- *Cisco MDS 9000 NX-OS Hardware and Software Compatibility Information and Feature Lists*
- *Cisco MDS NX-OS Release Compatibility Matrix for Storage Service Interface Images*
- *Cisco MDS 9000 Family Switch-to-Switch Interoperability Configuration Guide*
- *Cisco MDS NX-OS Release Compatibility Matrix for IBM SAN Volume Controller Software for Cisco MDS 9000*
- *Cisco MDS SAN-OS Release Compatibility Matrix for VERITAS Storage Foundation for Networks Software*

Hardware Installation

- *Cisco MDS 9500 Series Hardware Installation Guide*
- *Cisco MDS 9200 Series Hardware Installation Guide*
- *Cisco MDS 9100 Series Hardware Installation Guide*
- *Cisco MDS 9124 and Cisco MDS 9134 Multilayer Fabric Switch Quick Start Guide*

Software Installation and Upgrade

- *Cisco MDS 9000 NX-OS Release 4.1(x) and SAN-OS 3(x) Software Upgrade and Downgrade Guide*
- *Cisco MDS 9000 Family Storage Services Interface Image Install and Upgrade Guide*
- *Cisco MDS 9000 Family Storage Services Module Software Installation and Upgrade Guide*

Cisco NX-OS Configuration

- *Cisco MDS 9000 Family NX-OS Licensing Guide*
- *Cisco MDS 9000 Family NX-OS Fundamentals Configuration Guide*
- *Cisco MDS 9000 Family NX-OS System Management Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Interfaces Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Fabric Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Quality of Service Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Security Configuration Guide*
- *Cisco MDS 9000 Family NX-OS IP Services Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Intelligent Storage Services Configuration Guide*
- *Cisco MDS 9000 Family NX-OS High Availability and Redundancy Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Inter-VSAN Routing Configuration Guide*

Command-Line Interface

- *Cisco MDS 9000 Family Command Reference*

Intelligent Storage Networking Services Configuration Guides

- *Cisco MDS 9000 I/O Acceleration Configuration Guide*
- *Cisco MDS 9000 Family SANTap Deployment Guide*
- *Cisco MDS 9000 Family Data Mobility Manager Configuration Guide*
- *Cisco MDS 9000 Family Storage Media Encryption Configuration Guide*
- *Cisco MDS 9000 Family Secure Erase Configuration Guide*
- *Cisco MDS 9000 Family Cookbook for Cisco MDS SAN-OS*

Troubleshooting and Reference

- *Cisco NX-OS System Messages Reference*
- *Cisco MDS 9000 Family NX-OS Troubleshooting Guide*
- *Cisco MDS 9000 Family NX-OS MIB Quick Reference*
- *Cisco MDS 9000 Family NX-OS SMI-S Programming Reference*
- *Cisco MDS 9000 Family Fabric Manager Server Database Schema*

Related Documentation for Nexus 5000 Series Switches

The documentation set for NX-OS for the Cisco Nexus 5000 Series switches includes the following documents. To find an NX-OS document online for the Cisco Nexus 5000 Series switches, access the following website:

http://www.cisco.com/en/US/products/ps9670/tsd_products_support_series_home.html

Release Notes

- *Cisco Nexus 5000 Series and Cisco Nexus 2000 Series Release Notes, Cisco NX-OS Release 4.1(3)N1*

Configuration

- *Cisco Nexus 5000 Series Switch CLI Software Configuration Guide, Cisco NX-OS Release 4.1*
- *Cisco Nexus 2000 Series Fabric Extender Software Configuration Guide, Cisco NX-OS Release 4.1*

Hardware Installation

- *Cisco Nexus 5000 Series Hardware Installation Guide, Cisco NX-OS Release 4.1*
- *Cisco Nexus 2000 Series Fabric Extender Hardware Installation Guide, Cisco NX-OS Release 4.1*

Command-Line Interface

- *Cisco Nexus 5000 Series Command Reference, Cisco NX-OS Release 4.1*

Reference

- *Cisco NX-OS System Messages Reference*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

This document is to be used in conjunction with the documents listed in the "Related Documentation for Fabric Manager" section.