# Cisco Video Management and Storage System Installation and Upgrade Guide

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*Cisco Video Management and Storage System Installation and Upgrade Guide*

# CONTENTS

# Overview of Cisco Video Management and Storage System Software Installation

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After the Cisco Video Management and Storage System application is installed on the enhanced network module, it is called the Cisco Video Management and Storage System module. This guide provides the set of procedures and command-line interface (CLI) commands for installing and upgrading the Cisco Video Management and Storage System application.

This guide supports features for the Cisco Video Management and Storage System network module. To view the product feature history, see *Release Notes for the Cisco Video Management and Storage System*, which lists feature support for Cisco Video Management and Storage System application versions.

**Note** Cisco Video Management and Storage System module is typically shipped from the factory with the application software preinstalled. Do not reinstall the software.

To make sure that the Cisco Video Management and Storage System module is operational, complete the following steps:

1. Make sure that the Cisco Video Management and Storage System hardware is properly installed in the Cisco 2800 Series or 3800 Series Integrated Services Router (ISR). For instructions on installing the Cisco Video Management and Storage System hardware, see *Installing Cisco Network Modules in Cisco Access Routers*.
2. Activate IP connectivity to the Cisco Video Management and Storage System application, as described in the Activating IP Connectivity chapter.
3. Complete the appropriate tasks and procedures in this guide for installing new software or upgrading the application from an earlier version.
4. After the software is installed, perform the administrative and configuration tasks described in the *Cisco Video Management and Storage System CLI Administrator Guide*.

**Note** The Cisco Video Management and Storage System module supports an Internet SCSI (iSCSI) to an external storage device. We recommend, but do not require, that the external Gigabit Ethernet connector be used for iSCSI connection. The Gigabit Ethernet port on the faceplate of the network module and the Gigabit Ethernet port on the router can be configured as iSCSI connections.

This guide describes installation of new software or upgrades to existing software for the Cisco Video Management and Storage System module. It does not provide information on installing Cisco routers or other Cisco network modules. For information about those topics, see the "Additional References" section on page 4.

This chapter contains the following topics:



# Software Upgrade Process

For a complete list of versions and the upgrade processes available for them, see the software upgrade process matrix in *Release Notes for the Cisco Video Management and Storage System*.

Upgrading the existing software of Cisco Video Management and Storage System module involves the following procedures:

1. Clean install or upgrade using the appropriate processes.
2. Configure new features, if appropriate. For details on configuring the software on the Cisco Video Management and Storage System module, see *Cisco Video Management and Storage System CLI Administrator Guide*.

# Types of Software Installations and Upgrades

Choose the appropriate software installation methods to upgrade or install new software on the Cisco Video Management and Storage System module for the type of installation required:

- Upgrade installation—Follow this procedure to upgrade from an earlier software version to the current one. Only upgrades from version 1.1 to later versions are supported. To upgrade, use the online installer with the **software install upgrade** command. Backup of your configuration and data files is not required for this procedure. See the "Upgrading Software Using the Online Installer (No Backup and Restore Required)" chapter for details.
- Clean installation—Use one of the following two processes to install software, depending on whether your system is operational or offline:
  - Clean installation without boot helper—Installs new software using the online installer with the **software install clean** command. The system remains operational while the new software files are downloaded in the background. Before installing a new software image, you must back up your configuration and data files and restore them after installation is complete. See the "Installing New Software Using the Online Installer (Backup and Restore Required)" chapter for details.

**Caution** The **reload *** boot helper** command prompts you as to whether or not you want to preserve data on the disk drive. If you choose not to preserve the data, the entire hard drive is reformatted and all existing data erased.

– Clean installation using boot helper—Installs software upgrades using the boot helper. This procedure is used for downloading new software versions if the system is offline or if other upgrade procedures are unsuccessful. This installation erases the hard drive before loading the new files on the disk.

**Note** This procedure does not perform incremental upgrades.

You must back up and restore your configuration and data files when using this procedure. See "Installing Software Using the Boot Helper" chapter for details.

# Platforms and Cisco IOS Software Images

Cisco Video Management and Storage System software applications use a set of commands that are similar in structure to Cisco IOS software commands. However, the Cisco Video Management and Storage System CLI commands do not affect the Cisco IOS configuration.

The Cisco Video Management and Storage System module uses the *module* CLI commands for its operation. See *Cisco Video Management and Storage System CLI Administrator Guide* for details about using the module CLI commands.

See *Release Notes for the Cisco Video Management and Storage System* for detailed information about the Cisco Video Management and Storage System hardware and software platform options.

## Uninterruptible Power Supply Recommendations

We strongly recommend attaching an uninterruptible power supply (UPS) to the host router that houses the Cisco Video Management and Storage System module. Any reliable UPS unit will provide continuous power to maintain the operation of both the router and the Cisco Video Management and Storage System module. Consider the unit's capacity and run time because power consumption differs among Cisco platforms. Ideally, a UPS should include a signaling mechanism that directs the router to shut down the Cisco Video Management and Storage System module properly; the UPS then powers off the router.

# Additional References

The following sections provide references related to the Cisco Video Management and Storage System module.

## Related Documents

| Related Topic | Document Title |
|---|---|
| Cisco Video Management and Storage System and the Cisco Video Surveillance Solution | • *Release Notes for the Cisco Video Management and Storage System*<br>• *Connecting Cisco Video Management and Storage System Enhanced Network Modules to the Network*<br>• *Cisco Video Management and Storage System CLI Administrator Guide*<br>• *Connecting Cisco Integrated Storage System Enhanced Network Modules to the Network*<br>• *Cisco Integrated Storage System Installation and Upgrade Guide*<br>• *Cisco Integrated Storage System CLI Administrator Guide*<br>• *Connecting Cisco Analog Video Gateway Network Modules to the Network*<br>• *Cisco Analog Video Gateway Installation and Upgrade Guide*<br>• *Cisco Analog Video Gateway CLI Administrator Guide*<br>• *Cisco Analog Video Gateway XML API Guide*<br>• *Open Source License Notice* |
| Cisco IOS software | *Cisco IOS Software* |
| Network modules | *Installing Cisco Network Modules in Cisco Access Routers* |
| Technical documentation, including feedback and assistance | *What's New in Cisco Product Documentation* (including monthly listings of new and revised documents) |

## Related Cisco IOS Documents

| Related Topic | Document Title |
|---|---|
| Cisco IOS configuration | *Cisco IOS Debug Command Reference, Release 12.4(11)T* |

# Standards and RFCs

| RFC | Title |
|---|---|
| RFC 3720 | Internet Small Computer Systems Interface (iSCSI) |
| RFC 1094 | Network File System (NFS) Protocol Specification |

# Technical Assistance

| Description | Link |
|---|---|
| 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:<br>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. | http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html |
| Cisco Feature Navigator website | http://www.cisco.com/go/cfn<br>Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. An account on Cisco.com is not required. |
| Cisco Software Center website | http://www.cisco.com/public/sw-center/ |

# Activating IP Connectivity

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After you install the Cisco Video Management and Storage System module hardware into the host router, activate the IP communication link between the host router and the Cisco Video Management and Storage System module. For instructions on installing the Cisco Video Management and Storage System hardware, see *Installing Cisco Network Modules in Cisco Access Routers.*

**Note** The Cisco Video Management and Storage System software is installed on the module at the factory. Spare modules (that is, field-replaceable spare modules) are also shipped with the software installed.

Before installing new software or upgrading existing software to a later version, you must first establish communications with the Cisco Video Management and Storage System module. After you install new software or upgrade existing software, begin configuring the Cisco Video Management and Storage System software using *Cisco Video Management and Storage System CLI Administrator Guide*.

# Activating Module Connectivity

## Prerequisites

The following information is required for activating the software:

- Slot and unit numbers of the Cisco Video Management and Storage System module on the Cisco IOS router that hosts the module.
- IP address and subnet mask of the Cisco IOS router that hosts the Cisco Video Management and Storage System module, or the unnumbered interface type and number.
- IP address of the Cisco Video Management and Storage System module.
- IP address of the default gateway of the module. This can be the IP address of the unnumbered interface.

### SUMMARY STEPS

1. **interface integrated-service-engine** *slot/unit*
2. **ip unnumbered** *if-type number*
3. **service-module ip address** *ip-address subnet-mask*

4. **service-module external ip address** *ip-address subnet-mask*
5. **service-module ip default-gateway** *gw-ipaddr*
6. **exit**
7. **ip route** *ip-address subnet-mask* **integrated-service-engine** *slot/unit*

## DETAILED STEPS

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **interface integrated-service-engine** *slot/unit*<br><br>**Example:**<br>`Router(config)# interface integrated-service-engine 2/0`<br>`Router(config-if)#` | Enters Cisco IOS interface configuration mode. |
| **Step 2** | `Router(config-if)#` **ip unnumbered** *if-type*<br><br>**Example:**<br>`Router(config-if)# ip unnumbered gigabitethernet 0/1` | Specifies the interface IP unnumbered interface type and slot/unit numbers for the Cisco IOS router that hosts the Cisco Video Management and Storage System module. |
| **Step 3** | **service-module ip address** *ip-address subnet-mask*<br><br>**Example:**<br>`Router(config-if)# service-module ip address 172.16.153.11 255.255.255.0` | Specifies the IP address of the Cisco Video Management and Storage System module interface. |
| **Step 4** | **service-module external ip address** *ip-address subnet-mask*<br><br>**Example:**<br>`Router(config-if)# service-module external ip address 10.0.0.19 255.255.255.0` | Specifies the external IP address of the interface. |
| **Step 5** | **service-module ip default-gateway** *ip-address*<br><br>**Example:**<br>`Router(config)# service-module ip default-gateway 172.16.153.21` | Specifies the IP address of the Cisco IOS router that hosts the Cisco Video Management and Storage System module. |
| **Step 6** | **exit**<br><br>**Example:**<br>`Router(config-if)# exit`<br>`Router(config)#` | Exits Cisco IOS interface configuration mode and enters configuration mode. |
| **Step 7** | **ip route** *service-module-ip-address subnet-mask* **integrated-service-engine** *slot/unit*<br><br>**Example:**<br>`Router(config)# ip route 172.16.153.11 255.255.255.255 integrated-service-engine 2/0` | Sets the IP route IP address and subnet mask of the Cisco Video Management and Storage System module. The IP route command is needed if the IP unnumbered interface type is used. |

# Examples

The following example shows the IP connectivity activation procedure:

```
Router(config)# interface GigabitEthernet0/1
Router(config-if)# ip address 10.0.0.8 255.255.0.0
Router(config-if)# duplex auto
Router(config-if)# speed auto
Router(config-if)# media-type rj45
Router(config-if)# no keepalive
Router(config-if)# exit
Router(config)# interface integrated-service-engine 2/0
Router(config-if)# ip unnumbered gigabitethernet 0/1
Router(config-if)# service-module ip address 10.0.0.9 255.255.0.0
Router(config-if)# service-module ip default-gateway ip 10.0.0.8
Router(config-if)# exit
Router(config)# ip route 10.0.0.9 255.255.255.255 integrated-service-engine 2/0
```

The following example shows output for the **show running-config** command:

```
Router# show running-config interface i2/0

interface integrated-Service-Engine2/0
ip unnumbered GigabitEthernet0/1
service-module ip address 10.0.0.9 255.255.255.255
service-module ip default-gateway 10.0.0.8
no keepalive
!
```

# Upgrading Software Using the Online Installer (No Backup and Restore Required)

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This chapter provides the procedures for upgrading the Cisco Video Management and Storage System module from a previous software version to a later version using the "upgrade" online software installer in the application.

An *upgrade installation* replaces only the files on the disk that are necessary for creating the new software image. Your existing configuration will not be erased.

With this procedure, the software files are downloaded in the background while the Cisco Video Management and Storage System module continues to operate. Anytime after the download is finished, you can perform the upgrade. Only an FTP/SFTP server is required.

This section includes the following topics:



## Task List

Table 1 lists the tasks required for upgrading to a new software image.

***Table 1 Task List for Upgrading from the Previous Cisco Video Management and Storage System Version***

| Checklist | Check Off |
|---|---|
| **1.** The Cisco Video Management and Storage System hardware is properly installed in the integrated services router (ISR). See *Installing Cisco Network Modules in Cisco Access Routers.* | ❑ |
| **2.** The IP communications link to the Cisco Video Management and Storage System software has been activated. See the Activating IP Connectivity chapter. | ❑ |
| **3.** Download and install the software image files. See the "Downloading and Installing an Upgrade Image" section on page 12. | ❑ |

# Prerequisites

- The Cisco Video Management and Storage System module is properly installed.
- You have activated the IP communications link to the Cisco Video Management and Storage System module.
- You know the Cisco.com download site of the Cisco Video Management and Storage System software.
- Your FTP/SFTP server is configured and active.
- You have the following information available:
  - FTP/SFTP server IP address
  - FTP/SFTP server user ID
  - FTP/SFTP server password
  - Software package name
- You have checked to make sure that you can ping the Cisco Video Management and Storage System module from your FTP/SFTP server.
- If the Cisco Video Management and Storage System software is configured to use DNS, you can use hostnames to identify the FTP/SFTP server. If the Cisco Video Management and Storage System software is *not* configured to use a DNS, use the IP address of the FTP/SFTP server.

# Downloading and Installing an Upgrade Image

Follow this procedure to upgrade an existing Cisco Video Management and Storage System module software version. Examples show are for an FTP server. If you are using SFTP, you need to modify the commands to support an SFTP server.

**Tip** If you have not already done so, we recommend that you back up your configuration files before starting the upgrade. See "Backing Up Files" in *Cisco Video Management and Storage System CLI Administrator Guide*.

### SUMMARY STEPS

1. Log in and go to the Cisco Software Center website and Download Software.
2. Click **ISR Video Surveillance–VMSS** and download the following Cisco Video Management and Storage System software files and copy them to your FTP/SFTP server:
   - vmss-full-k9.nmx.*version*.prt1
   - vmss-installer-k9.nmx.*version*.prt1
   - vmss-k9.nmx.*version*.pkg
3. (Optional) To download the new software, enter the **software download upgrade** command.

**Note** Although the **software download upgrade** command is optional, it is useful for staging the installation. The command stores the software files on the local disk drive, which can save time during any subsequent installation or upgrade.

4. (Required for Step 5) To continue the download, enter **y**.

**Note** If upgrading from version 1.1, the archives stored on media0 will no longer be valid. The system will prompt if you want to remove these archives. We recommend answering yes to the question to clear old archives.

5. (Optional) To check the download status, enter the **software download status** command.
6. To upgrade to the new software, enter the **software install upgrade** command.
7. Enter **y** to install the upgrade, or enter **n** to stop the installation procedure.

   The system automatically reloads when the upgrade is complete.
8. To verify the upgrade, enter the **show software versions** command.

**Tip** To view what is in the download directory, enter the **show software directory download** command.

## DETAILED STEPS

**Step 1** Go to the Cisco Software Center website Download Software.

**Step 2** Click **ISR Video Surveillance–VMSS** and download the following Cisco Video Management and Storage System software files and copy them to your FTP/SFTP server:

- vmss-full-k9.nmx.*version*.prt1

  This is the package payload containing all data and executable files for a full installation of the Cisco Video Management and Storage System on NME service modules.
- vmss-installer-k9.nmx.*version*.prt1

  This is the package payload containing all data and executable files for the installer subsystem associated with the Cisco Video Management and Storage System on NME service modules.
- vmss-k9.nmx.*version*.pkg

  This is the main package for installing the Cisco Video Management and Storage System on NME service modules.

**Step 3** (Optional) To download the software from the FTP server, enter the **software download upgrade** command:

```
cvmss# software download upgrade url
ftp://ftp-server-ip-address/vmss-upgradek9.nmx.version.pkg username username password
password
```

**Note** This example uses the default anonymous FTP user.

or, if the FTP server has been configured:

```
cvmss# software download upgrade vmss-k9.nmx.version.pkg username username password
password
```

**Note** If the FTP server has been set in configuration mode, you do not need to use the FTP parameters.

**Step 4** (Required for Step 5) To begin the download, enter **y**:

**Note** If upgrading from version 1.1, the archives stored on media0 will no longer be valid. The system will prompt if you want to remove these archives. We recommend answering yes to the question to clear old archives.

```
WARNING:: This command will download the necessary software to
WARNING:: complete an upgrade.  It is recommended that a backup be done
WARNING:: before installing software.

Would you like to continue? [n] y
Downloading vmss-k9.nmx.version.pkg
Bytes downloaded :  xxxxx

Validating package signature ... done
Validating installed manifests ..........complete.
```

**Note** After you download the software, there are no other prompts for user input. The software package is downloaded from your FTP server to the Cisco Video Management and Storage System module.

At this point, the new software loads from the FTP server and the system restarts.

**Step 5** (Optional) To check the download status, enter the **software download status** command.

**Step 6** To upgrade to the new software, enter the **software install upgrade** command.

**Note** The following example uses the default anonymous FTP user.

```
cvmss# software install upgrade url ftp://ftp_server_ip_address/vmss-k9.nmx.version.pkg
```

**Note** In the following example, either the files were previously downloaded using the **software download** command or the FTP server was configured.

```
cvmss# software install upgrade vmss-k9.nmx.version.pkg
```

**Step 7** Enter **y** to install the upgrade, or enter **n** to stop the installation procedure.

```
WARNING:: This command will install the necessary software to
WARNING:: complete an upgrade.  It is recommended that a backup be done
WARNING:: before installing software.

Would you like to continue? [n] y
```

**Caution** An upgrade does not replace everything on the local disk drive. It replaces only the files necessary for the upgrade. We recommend that you back up your configuration files before installing any software.

The system automatically reloads when the upgrade is complete.

**Step 8** To verify the upgrade, enter the **show software versions** command.

In the output displayed for the **show software versions** display, the Cisco Video Management and Storage System software version is shown as the Global version. The other versions shown are for internal components of the product and may not correspond to the actual software version.

**Tip** To view what is in the download directory, enter the **show software directory download** command.

# What to Do Next

Open a Cisco Video Surveillance Management Server (VSMS) session to the Cisco Video Management and Storage System module to verify that all configurations are preserved following the upgrade process.

# Installing New Software Using the Online Installer (Backup and Restore Required)

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This chapter provides procedures for installing a new version of the Cisco Video Management and Storage software using the "clean" online software installer in the application.

This *clean* installation "cleans" the hard drive by erasing it before loading all new files. Before starting the clean installation, you must back up your configuration files. After the installation is complete, you must restore the configuration files. Only an FTP/SFTP server is required for a clean installation.

With the **software download** command, the software files are downloaded in the background while the Cisco Video Management and Storage module continues to operate. Anytime after the download is finished, you can perform the install using the **software install** command.

**Note** If you are upgrading software from an *existing* Cisco Video Management and Storage module, you can use a different procedure that does not require backing up and restoring your configuration files. See the "Upgrading Software Using the Online Installer (No Backup and Restore Required)" section on page 11. If you are upgrading software to the Cisco Video Management and Storage module, however, you must use the upgrade procedure in this section.

This section includes the following:



## Task List

Table 2 lists the tasks required for upgrading from an earlier Cisco Video Management and Storage version.

*Table 2 Task List for Installing New Software Using the Online Installer*

| Checklist | Check Off |
|---|---|
| 1. The Cisco Video Management and Storage hardware is properly installed in the Integrated Services Router (ISR). See *Installing Cisco Network Modules in Cisco Access Routers.* | ❑ |
| 2. The IP communications link to the Cisco Video Management and Storage software has been activated. See the "Activating IP Connectivity" chapter. | ❑ |
| 3. Back up your configuration files. See Appendix A: Backing Up Files. | ❑ |
| 4. Download and install the software image files. See the "Downloading and Installing a New Software Image" section on page 18. | ❑ |
| 5. Restore the configuration files. See Appendix B: Restoring Files. | ❑ |
| 6. Reboot the system. | ❑ |

# Prerequisites

- You have activated the IP communications link to the Cisco Video Management and Storage module.
- You know the Cisco.com download site of the Cisco Video Management and Storage software.
- Your FTP/SFTP server is configured and active.
- The following information is available:
  - FTP/SFTP server IP address or hostname
  - FTP/SFTP server user ID
  - FTP/SFTP server password
  - Software package name
- You have checked to make sure that you can ping the Cisco Video Management and Storage module from the FTP/SFTP server.
- If the Cisco Video Management and Storage software is configured to use DNS, you can use hostnames to identify the FTP/SFTP server. If the Cisco Video Management and Storage software is *not* configured to use DNS, use the IP address of the FTP/SFTP server.

# Downloading and Installing a New Software Image

Follow this procedure to upgrade an existing Cisco Video Management and Storage module software version. Examples show are for an FTP server. If you are using SFTP, you need to modify the commands to support an SFTP server.

**Note** If you have not already backed up your configuration files, you must back up the files before you start the installation. See Appendix A: Backing Up Files for information on how to back up your files.

## SUMMARY STEPS

1. Log in and go to the Cisco Software Center website and Download Software.

2. Click **ISR Video Surveillance–VMSS** and download the following Cisco Video Management and Storage System software files and copy them to your FTP/SFTP server:
   - vmss-full-k9.nmx.*version*.prt1
   - vmss-installer-k9.nmx.*version*.prt1
   - vmss-k9.nmx.*version*.pkg
3. (Optional) To download the new software from your FTP/SFTP server:
   a. Enter the **service-module integrated** *slot/unit* **session** command to start a module session.
   b. Enter the **software download clean** command,

      or, if the FTP/SFTP server has been configured,

      Enter the **software download clean pkg vmss-k9.nmx.***version***.pkg**.

**Tip** Although the **software download** command is optional, it is useful for staging the installation. The command stores the software files on the local disk drive, which can save time during any subsequent installation or upgrade.

4. (Required for Step 5) To continue the installation, enter **y** when prompted by the system.

**Note** If upgrading from version 1.1, the archives stored on media0 will no longer be valid. The system will prompt if you want to remove these archives. We recommend answering yes to the question to clear old archives.

5. (Optional) To check the download status, enter the **software download status** command.
6. To install the new software, enter the **software install clean url** ftp://*ftp-server-ip-address*/**vmss-k9.nmx.***version***.pkg** command.

   The system automatically reloads when the installation is complete.

   If you used the optional **software download** command to store the software files on the local disk drive, you do not need to use the **software install clean** command as this will unnecessarily download the software a second time.
7. Enter **y** to restore the configuration saved on the local disk drive, or enter **n** to use your backup software image to restore your configuration.
8. To begin the initial configuration, enter **y**.
9. Enter the hostname and domain name of your system.
10. Select whether or not you want to use DNS.
11. Select your time zone by answering the series of questions when prompted.
12. Verify that the correct time zone has been selected.

## DETAILED STEPS

**Step 1** Log in and go to the Cisco Software Center website and Download Software.

**Step 2** Click **ISR Video Surveillance–VMSS** and download the following Cisco Video Management and Storage System software files and copy them to your FTP/SFTP server:

- vmss-full-k9.nmx.*version*.prt1

This is the package payload containing all data and executable files for a full installation of the Cisco Video Management and Storage System on NME service modules.

- vmss-installer-k9.nmx.*version*.prt1

  This is the package payload containing all data and executable files for the installer subsystem associated with the Cisco Video Management and Storage System on NME service modules.

- vmss-k9.nmx.*version*.pkg

  This is the main package for installing the Cisco Video Management and Storage System on NME service modules.

**Step 3** (Optional) To download the new software from the FTP/SFTP server:

**a.** Enter the **service-module integrated** *slot/unit* **session** command to start a module session:

```
cvmss# service-module integrated slot/unit session
```

**b.** Enter the **software download clean** command:

```
cvmss> software download clean url ftp://ftp_server_ip_address/vmss-k9.nmx.version.pkg
username username password password
```

Or, if the FTP server has been configured:

**Tip** If you use FTP anonymously, you do not need to specify a username and password.

Enter the software download clean pkg command:

```
cvmss# software download clean pkg vmss-k9.nmx.version.pkg
```

**Note** If your FTP server has been set in configuration mode, you do not need to use the FTP parameters. To set your FTP server, use the **software download server** command.

**Step 4** (Required for Step 5.) To continue the download, enter **y**:

**Note** If upgrading from version 1.1, the archives stored on media0 will no longer be valid. The system will prompt you with a question to remove these old archives. We recommend answering yes to the question to clear old archives.

```
WARNING:: This command will download the necessary software to
WARNING:: complete a clean install.  It is recommended that a backup be done
WARNING:: before installing software.

Would you like to continue? [n] y
```

**Step 5** (Optional) To check the download status, enter the **software download status** command, as shown in the following example:

```
cvmss# software download status
Download request in progress.
downloading file : vmss-k9.nmx.version.pkg
bytes downloaded : 18612224
cvmss#


cvmss# software download status
Download request completed successfully.
```

```
cvmss#
```

**Tip** To view what is in the download directory, enter the **show software directory download** command.

**Step 6** To install the new software, enter the **software install clean** command.

If you used the optional **software download** command to store the software files on the local disk drive, you do not need to use the **software install clean** command as this will unnecessarily download the software a second time.

**Caution** This step erases the hard drive. All configurations will be lost after this step. For future upgrades and installations, verify that a backup has been made. If there is no backup, abort at this step and make a backup first. See Appendix A: Backing Up Files.

```
cvmss# software install clean url ftp://ftp-server-ip-address/vmss-k9.nmx.version.pkg
username username password password
```

or, to install the software when the FTP server has been configured,

```
cvmss# software install clean vmss-k9.nmx.version.pkg
```

The installation takes several minutes to complete.

**Step 7** Enter **y** to restore the configuration saved in memory, or enter **n** to use your backup software image to restore your configuration. See the output below to determine your configuration needs.

**Note** If this is a new installation or if the hard drive has been erased, the following output will *not* be displayed.

```
IMPORTANT::
IMPORTANT:: A Cisco Video Management and Storage Module configuration has been found in
local hard drive.
IMPORTANT:: You can choose to restore this configuration into the
IMPORTANT:: current image.
IMPORTANT::
IMPORTANT:: A stored configuration contains some of the data from a
IMPORTANT:: previous installation, but not as much as a backup. For
IMPORTANT:: example: voice messages, user passwords, user PINs, and
IMPORTANT:: auto attendant scripts are included in a backup, but are
IMPORTANT:: not saved with the configuration.
IMPORTANT::
IMPORTANT:: If you are recovering from a disaster and do not have a
IMPORTANT:: backup, you can restore the saved configuration.
IMPORTANT::
IMPORTANT:: If you are going to restore a backup from a previous
IMPORTANT:: installation, you should not restore the saved configuration.
IMPORTANT::
IMPORTANT:: If you choose not to restore the saved configuration, it
IMPORTANT:: will be erased from the local hard drive.
IMPORTANT::

Would you like to restore the saved configuration? (y,n) y
```

**Step 8** To begin the initial configuration, enter **y**:

```
IMPORTANT::
```

```
IMPORTANT::    Welcome to Cisco Systems Service Engine
IMPORTANT::     post installation configuration tool.
IMPORTANT::
IMPORTANT:: This is a one time process which will guide
IMPORTANT:: you through initial setup of your Service Engine.
IMPORTANT:: Once run, this process will have configured
IMPORTANT:: the system for your location.
IMPORTANT::
IMPORTANT:: If you do not wish to continue, the system will be halted
IMPORTANT:: so it can be safely removed from the router.
IMPORTANT::

Do you wish to start configuration now (y,n)? y
Are you sure (y,n)? y
```

**Step 9** Enter the hostname and domain name of your system:

```
Enter Hostname
 (my-hostname, or enter to use se-10-0-0-22):
Using se-10-0-0-22 as default

Enter Domain Name
 (mydomain.com, or enter to use localdomain):
Using localdomain as default

IMPORTANT:: DNS Configuration:
IMPORTANT::
IMPORTANT:: This allows the entry of hostnames, for example foo.cisco.com, instead
IMPORTANT:: of IP addresses like 1.100.10.205 for application configuration.  In order
IMPORTANT:: to set up DNS you must know the IP address of at least one of your
IMPORTANT:: DNS Servers.
```

**Step 10** Select whether or not you want to use DNS. In the following example, **n** is selected, and the entry of an IP address is required:

```
Would you like to use DNS (y,n)?n

WARNING: If DNS is not used, IP addresses will be required.

Are you sure (y,n)? y

Enter IP Address of the Primary NTP Server
  (IP address, or enter for 13.0.0.20):
Found server 13.0.0.20

Enter IP Address of the Secondary NTP Server
  (IP address, or enter to bypass):
```

**Step 11** Select your time zone by answering the series of questions when prompted, as shown in the following example:

```
Please identify a location so that time zone rules can be set correctly.
Please select a continent or ocean.
1) Africa            4) Arctic Ocean     7) Australia       10) Pacific Ocean
2) Americas          5) Asia             8) Europe
3) Antarctica        6) Atlantic Ocean   9) Indian Ocean
#? 2
Please select a country.
 1) Anguilla              18) Ecuador              35) Paraguay
 2) Antigua & Barbuda     19) El Salvador          36) Peru
 3) Argentina             20) French Guiana        37) Puerto Rico
 4) Aruba                 21) Greenland            38) St Kitts & Nevis
 5) Bahamas               22) Grenada              39) St Lucia
 6) Barbados              23) Guadeloupe           40) St Pierre & Miquelon
```

```
 7) Belize                24) Guatemala             41) St Vincent
 8) Bolivia               25) Guyana                42) Suriname
 9) Brazil                26) Haiti                 43) Trinidad & Tobago
10) Canada                27) Honduras              44) Turks & Caicos Is
11) Cayman Islands        28) Jamaica               45) United States
12) Chile                 29) Martinique            46) Uruguay
13) Colombia              30) Mexico                47) Venezuela
14) Costa Rica            31) Montserrat            48) Virgin Islands (UK)
15) Cuba                  32) Netherlands Antilles  49) Virgin Islands (US)
16) Dominica              33) Nicaragua
17) Dominican Republic    34) Panama
#? 45
Please select one of the following time zone regions.
 1) Eastern Time
 2) Eastern Time - Michigan - most locations
 3) Eastern Time - Kentucky - Louisville area
 4) Eastern Time - Kentucky - Wayne County
 5) Eastern Standard Time - Indiana - most locations
 6) Eastern Standard Time - Indiana - Crawford County
 7) Eastern Standard Time - Indiana - Starke County
 8) Eastern Standard Time - Indiana - Switzerland County
 9) Central Time
10) Central Time - Michigan - Wisconsin border
11) Central Time - North Dakota - Oliver County
12) Mountain Time
13) Mountain Time - south Idaho & east Oregon
14) Mountain Time - Navajo
15) Mountain Standard Time - Arizona
16) Pacific Time
17) Alaska Time
18) Alaska Time - Alaska panhandle
19) Alaska Time - Alaska panhandle neck
20) Alaska Time - west Alaska
21) Aleutian Islands
22) Hawaii
#? 16

The following information has been given:

        United States
        Pacific Time
```

**Step 12** Verify that the correct time zone has been selected.

```
Therefore TZ='America/Los_Angeles' will be used.
Is the above information OK?
1) Yes
2) No
#? 1

Local time is now:      Tue Sep 25 19:15:12 PDT 2007.
Universal Time is now:  Wed Sep 26 02:15:12 UTC 2007.
Configuring the system. Please wait...
Changing owners and file permissions.
chown: cannot access `/usr/tomcat': No such file or directory
Change BWhttpd port to 8079
Reloading cron database.
Setting file ownership and permissions ... complete.
```

# What to Do Next

Open a Cisco Video Surveillance Management Server (VSMS) session to the Cisco Video Management and Storage module to verify that all configurations are preserved following the clean installation process.

# Installing Software Using the Boot Helper

**Last Updated: September 7, 2010**

This chapter provides the procedures for installing a new version of the Cisco Video Management and Storage System application using the boot helper.

To use this *clean* installation process, the system must be *offline* while you download the new software files. The clean installation erases the hard drive before loading the new files in memory. You must back up and restore your configuration files *before* you commence this process. Both an FTP/SFTP server and a TFTP server are required.

This chapter contains the following topics:



## Boot Loader and Boot Helper

Before you install the Cisco Video Management and Storage System application, opening a session brings up the boot loader. The boot loader is a small set of system software that runs when the system first powers up. It loads the operating system from the local disk drive or the network, which loads and runs the Cisco Video Management and Storage System application. The boot loader may optionally load and run the boot helper. After you install the software, you can open a session to the module.

The boot helper is a small subset of the system software that runs on the module. It boots the module from the network and assists in software installation and upgrades, disaster recovery, and other operations when the module cannot access its software.

The application image contains the network module user functionality software. The application image is based on the Cisco Video Management and Storage System module application.

# Task List

Table 3 lists the tasks required for installing a new software image.

*Table 3 Task List for Upgrading Using the Boot Helper*

| Checklist | Checkoff |
|---|---|
| 1. Download the software image files. See the "Downloading the Software Files" section on page 26. | ❑ |
| 2. Back up your configuration files. See Appendix A: Backing Up Files. | ❑ |
| 3. Enter configuration parameter values. See the "Entering Configuration Parameter Values" section on page 27. | ❑ |
| 4. Install the software files. See the "Installing the Software Image Files" section on page 29. | ❑ |
| 5. Restore the your configuration files. See Appendix B: Restoring Files. | ❑ |

# Prerequisites

- A Cisco Video Management and Storage System module is currently installed.
- You know the Cisco.com download site of the Cisco Video Management and Storage System software.
- The TFTP and FTP/SFTP servers are configured and active. If your TFTP server and FTP/SFTP server reside on the same computer, ensure that the TFTP and FTP/SFTP programs are both activated.
- The following information is available:
  - FTP/SFTP server IP address
  - FTP/SFTP server user ID
  - FTP/SFTP server password
  - Software package name
- You have checked to make sure that you can ping the Cisco Video Management and Storage System module from your TFTP server and FTP/SFTP server.

# Downloading the Software Files

Review the prerequisites listed in Table 3 to ensure that all servers and modules are active and available.

### SUMMARY STEPS

1. Log in and go to the Cisco Software Center website and Download Software.
2. Click **ISR Video Surveillance–VMSS** and download the following Cisco Video Management and Storage System software files and copy them to your FTP/SFTP server:
   - vmss-boothelper.nmx.*version*
   - vmss-full-k9.nmx.*version*.prt1

- vmss-installer-k9.nmx.*version*.prt1
- vmss-k9.nmx.*version*.pkg

3. Copy the other software files to your FTP/SFTP server.

### DETAILED STEPS

**Step 1** Log in and go to the Cisco Software Center website and Download Software.

**Step 2** Click **ISR Video Surveillance–VMSS** and download the following Cisco Video Management and Storage System software files and copy them to your FTP/SFTP server:

- vmss-boothelper.nmx.*version*

  This is the Cisco Video Management and Storage System boot helper image. To aid application installation on nmx service modules when necessary.

- vmss-full-k9.nmx.*version*.prt1

  This is the package payload containing all data and executable files for a full installation of the Cisco Video Management and Storage System on NME service modules.

- vmss-installer-k9.nmx.*version*.prt1

  This is the package payload containing all data and executable files for the installer subsystem associated with the Cisco Video Management and Storage System on NME service modules.

- vmss-k9.nmx.*version*.pkg

  This is the main package for installing the Cisco Video Management and Storage System on NME service modules.

**Step 3** Download the helper software file to your TFTP server.

**Step 4** Copy the other software files to your FTP/SFTP server.

## What to Do Next

- Back up your configuration files. See Appendix A: Backing Up Files.
- After you back up the files, configure several parameter values. See the "Entering Configuration Parameter Values" section on page 27.

# Entering Configuration Parameter Values

You must configure several parameters in the server so that you can download the Cisco Video Management and Storage System software files.

### SUMMARY STEPS

1. **reload**
2. To enter boot loader mode, type "***."
3. **config**
4. Enter the values for the following parameters:

- Gateway module IP address
- Subnet mask
- TFTP server address
- Gateway router address
- Ethernet interface
- Default helper image
- Default boot setting
- Default boot loader is primary

5. Use the boot helper to boot the network module.

### DETAILED STEPS

**Step 1** To restart the system, enter **reload**.

**Step 2** To enter the boot loader mode, enter "***."

**Step 3** To enter configuration mode, enter **config**.

**Tip** You must configure the boot loader before you can ping it.

**Step 4** Enter the values for the following parameters (make sure you save the configuration parameters; the module will not become operational without the proper parameters saved):

- Gateway module IP address
- Subnet mask
- TFTP server address
- Gateway router address
- Ethernet interface
- Default helper image
- Default boot setting: **disk**
- Default boot loader: **primary**

**Note** We recommend that you use the primary boot loader as the default when upgrading.

**Step 5** To begin the installation, enter **boot helper**. This will load the installer.

## What to Do Next

Install the software files. See the "Installing the Software Image Files" section on page 29.

# Installing the Software Image Files

After you download the software files and back up your configuration files, you can install the software image files.

## Prerequisites

Installing the software image files requires the following information:

- TFTP server IP address
- FTP/SFTP server IP address
- FTP/SFTP server user ID
- FTP/SFTP server password
- Software package name

**Note** Back up your current system configuration files before you install new software.

### SUMMARY STEPS

Starting from the module EXEC mode:

1. From the install menu, choose the first choice, **Install software**.
2. Enter the package name, FTP/SFTP server address, username, and password.
3. To begin the initial configuration in the post-installation configuration menu, enter **y**.
4. Enter **y** to restore the configuration saved on the local disk drive, or enter **n** to use your backup to restore your configuration.

### DETAILED STEPS

**Step 1** From the install menu, choose the first choice, **Install software**:

```
Welcome to Cisco Systems Service Engine Helper Software
Please select from the following
1       Install software
2       Reload module
(Type '?' at any time for help)
Choice: 1
```

**Step 2** Enter the package name, FTP/SFTP server address, username, and password, as shown in the following example:

```
Package name: vmss-k9.nmx.version.pkg
Server url: ftp://10.33.162.120/
Username: cvms
Password: ******
The following partition can be preserved on install:
  ['media0']
All data on the partition will be left intact.
Do you wish to preserve the partition? (y/n) n
Software installation will clear disk contents
Continue [y/n]? y
```

**Caution** This step cleans the hard drive. All configurations are lost after this step. For future upgrades and installations, verify that a backup has been done. If backup has not been done, abort at this step and do a backup. See Appendix A: Backing Up Files.

**Step 3** To begin the initial configuration, enter **y**:

```
IMPORTANT::
IMPORTANT::    Welcome to Cisco Systems Service Engine
IMPORTANT::     post installation configuration tool.
IMPORTANT::
IMPORTANT:: This is a one time process which will guide
IMPORTANT:: you through initial setup of your Service Engine.
IMPORTANT:: Once run, this process will have configured
IMPORTANT:: the system for your location.
IMPORTANT::
IMPORTANT:: If you do not wish to continue, the system will be halted
IMPORTANT:: so it can be safely removed from the router.
IMPORTANT::

Do you wish to start configuration now (y,n)? y
```

**Step 4** Enter **y** to restore the configuration saved on the local disk drive, or enter **n** to use your backup to restore your configuration. See the output below to determine your configuration needs.

```
IMPORTANT::
IMPORTANT:: A Cisco Video Management and Storage System Module configuration has been
found in the local disk drive.
IMPORTANT:: You can choose to restore this configuration into the
IMPORTANT:: current image.
IMPORTANT::
IMPORTANT:: A stored configuration contains some of the data from a
IMPORTANT:: previous installation, but not as much as a backup. For
IMPORTANT:: example: voice messages, user passwords, user PINs, and
IMPORTANT:: auto attendant scripts are included in a backup, but are
IMPORTANT:: not saved with the configuration.
IMPORTANT::
IMPORTANT:: If you are recovering from a disaster and do not have a
IMPORTANT:: backup, you can restore the saved configuration.
IMPORTANT::
IMPORTANT:: If you are going to restore a backup from a previous
IMPORTANT:: installation, you should not restore the saved configuration.
IMPORTANT::
IMPORTANT:: If you choose not to restore the saved configuration, it
IMPORTANT:: will be erased from the local disk drive.
IMPORTANT::

Would you like to restore the saved configuration? (y,n)
```

# What to Do Next

Open a Cisco Video Surveillance Management Server (VSMS) session to the Cisco Video Management and Storage System module to verify that all configurations are preserved following the clean installation process.

# Appendix A: Backing Up Files

**Last Updated: September 7, 2010**

Backup commands must be entered in the module EXEC mode while the system is offline. Consider performing the backup procedure at a time when the system is least active.

**Note** We recommend that you back up your configuration files whenever you make changes to the system or the application files. When you configure the backup server to back up files, you can also schedule nightly backups of the configuration.

## Prerequisite

Configure your backup server. See *Cisco Video Management and Storage System CLI Administrator Guide* to configure your backup server.

## Numbering Scheme for Backup Files

Five types of backup CLI requests are available: Cisco Video Management and Storage data only, Cisco Video Management and Storage module startup configuration only, Video Surveillance Management System (VSMS) data files only, Video Surveillance Operations Manager (VSOM) data files only, or back up all. However, the Cisco Video Management and Storage module data only files are not backed up.

- Data—No data is stored in the Cisco Video Management and Storage module; thus, there is no data to back up.
- Configuration—Backs up only the startup configuration. Use the **show startup** command in user EXEC mode to display the current startup configuration.
- All—Backs up startup configuration information. There are no Cisco Video Management and Storage module data only files; thus, only the VSMS and VSOM files are backed up.
- VSMS—Backs up Cisco Video Surveillance Media Server data files.
- VSOM—Backs up Cisco Video Surveillance Operations Manager data files.

The Cisco Video Management and Storage software automatically numbers and dates the backup files and identifies the revision number in a **backupid** field.

When restoring the files, refer to the backup ID for the backup configuration file that you want to use. To see a list of startup configuration file backup IDs, use the **show backup server** command in user EXEC mode.

## SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **backup server**
4. **exit**
5. **offline**
6. **backup category** {**all** | **configuration** | **data** | **VSMS** | **VSOM**}
7. **continue**
8. **show backup history**
9. **show backup server**

## DETAILED STEPS

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **enable**<br><br>**Example:**<br>`cvmss-10-0-0-0> enable` | Enables the privileged EXEC command mode. |
| **Step 2** | **configure terminal**<br><br>**Example:**<br>`cvmss-10-0-0-0# configure terminal`<br>`cvmss-10-0-0-0(config)#` | Enters configuration mode. |
| **Step 3** | **backup server**<br><br>**Example:**<br>`cvmss-10-0-0-0(config)# backup server url ftp://branch/vmbackups username admin password mainserver` | Configures the FTP/SFTP URL of the backup server. |
| **Step 4** | **exit**<br><br>**Example:**<br>`cvmss-10-0-0-0(config)# exit`<br>`cvmss-10-0-0-0#` | Exits configuration mode. |
| **Step 5** | **offline**<br><br>**Example:**<br>`cvmss-10-0-0-0# offline`<br>`cvmss-10-0-0-0(offline)#` | Enters offline mode. All activities are terminated. |

| | Command or Action | Purpose |
|---|---|---|
| **Step 6** | **backup category** {**all** \| **configuration** \| **data** \| **VSMS** \| **VSOM**}<br><br>**Example:**<br>`cvmss-10-0-0-0(offline)# backup category configuration` | Specifies backup and storage of the Cisco Video Management and Storage module startup configuration, Video Surveillance Media Server, Video Surveillance Operations Manager, or all files. |
| **Step 7** | **continue**<br><br>**Example:**<br>`cvmss-10-0-0-0(offline)# continue` | Exits offline mode and returns to EXEC mode. |
| **Step 8** | **show backup history**<br><br>**Example:**<br>`cvmss-10-0-0-0# show backup history` | Displays the backup and restore procedures and the success or failure of those attempts. |
| **Step 9** | **show backup server**<br><br>**Example:**<br>`cvmss-10-0-0-0# show backup server` | Displays the backup files available on the backup server, the date of each backup, and the backup file ID. |

# Appendix B: Restoring Files

**Last Updated: September 7, 2010**

After you create the backup configuration files for the Cisco Video Management and Storage module, you can restore the files as needed. Restoring is done in offline mode, which terminates all activity. You should consider doing the restore when the system is least active.

Use the **show backup server** command to locate the backup ID of the file that you want to restore.

## SUMMARY STEPS

1. **show backup server**
2. **offline**
3. **restore id** *backupid* **category** {**all** | **configuration** | **data** | **VSMS** | **VSOM**}
4. **reload**
5. **show backup history**

## DETAILED STEPS

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **show backup server**<br><br>**Example:**<br>`cvmss-10-0-0-0# show backup server` | Lists the configuration backup files. Look at the backup ID field for the revision number of the file that you want to restore. |
| **Step 2** | **offline**<br><br>**Example:**<br>`cvmss-10-0-0-0# offline` | Enters offline mode. All activities are terminated. |
| **Step 3** | **restore id** *backupid* **category** {**all** \| **configuration** \| **data** \| **VSMS** \| **VSOM**}<br><br>**Example:**<br>`cvmss-10-0-0-0(offline)# restore id 8 category configuration` | Specifies the backup ID *backupid* value and the Cisco Video Management and Storage module configuration file type to be restored. Use the backup ID that you used in Step 1.<br><br>**Note** Make sure that you have enough storage space to store the files. Restoring could take a long time. |

| | Command or Action | Purpose |
|---|---|---|
| **Step 4** | **reload**<br><br>**Example:**<br>`cvmss-10-0-0-0(offline)# reload` | Resets the Cisco Video Management and Storage module so that the restored values take effect. |
| **Step 5** | **show backup history**<br><br>**Example:**<br>`cvmss-10-0-0-0# show backup history` | Displays the backup and restore procedures and the success or failure of those attempts. |

# INDEX

## B



## C



## D



## E



## F



## G



## H

## I



## L



## M



## N



## O



## P



## R



## S



## U