Cisco Video Surveillance Manager: Install and Upgrade Guide, from Release 7.12 and higher

CPS-UCSM5-1RU-K9 / CPS-UCSM5-2RU-K9
CPS-UCSM4-1RU-K9 / CPS-UCSM4-2RU-K9
CPS-UCS-1RU-K9 / CPS-UCS-2RU-K9 (M3)

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Cisco Video Surveillance Manager: Install and Upgrade Guide, Release 7.12 and higher

Preface

Revised: May 7, 2019

This document, the *Cisco Video Surveillance Manager: Install and Upgrade Guide* provides instructions to install and upgrade the various software components used in a Cisco Video Surveillance Manager (Cisco VSM) deployment. See the "Overview" section on page 1 for more information about the different type of software used in a deployment.

Note This guide does not describe how to install the hardware (such as servers, cameras, or other devices) that are also used in a Cisco VSM deployment. See the hardware documentation for more information.

Related Documentation

See the Cisco Video Surveillance 7 Documentation Roadmap for descriptions and links to Cisco Video Surveillance documentation, server and storage platform documentation, and other related documentation.

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information about obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*. This document also lists all new and revised Cisco technical documentation. It is available at:

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

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Tip See Related Documentation for more information and links to Cisco Video Surveillance documentation.

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Overview

A Cisco Video Surveillance Manager (Cisco VSM) deployment includes Cisco VSM servers (such as Media Server, Operations Manager server, Maps server, etc), and the software that runs on the cameras, encoders, and client PCs in your deployment.

Installing or upgrading Cisco VSM entails installing or upgrading the Cisco VSM server system software, device driver packs, device firmware, and client workstations. When upgrading, these tasks should be performed in a specific order, and must be completed on all devices, servers, and PCs in your deployment.

This chapter includes the following information:

- Installation and Upgrade Summary, page 1-2
- Understanding Cisco Video Surveillance Software, page 1-5
- Understanding System Software, page 1-7
  - Cisco VSM Installation and Upgrade Options, page 1-7
  - Understanding Server Services, page 1-8
  - Understanding Co-Located and Stand-Alone Servers, page 1-11
- Downloading Cisco Software, Firmware and Driver Packs, page 1-12
- Migrating from Cisco VSM Release 6.3.x, page 1-12
- Recovering or Reinstalling the Factory Image, page 1-13

Installation and Upgrade Summary

Deploying a new system is similar to upgrading an existing system: the system (server) software, device driver packs, device firmware, and client monitoring software must all be upgraded to the version supported by your Cisco VSM release.

The main difference between a new system and an existing system is that the system software and driver packs are pre-installed on new physical servers. Upgrades require that these software components also be upgraded.

Refer to the following topics for summaries of the main installation and upgrade tasks:

- Deploying a New System, page 1-2
- Upgrading an Existing System, page 1-3

Deploying a New System

Complete the following basic tasks to deploy a Cisco Video Surveillance Manager (Cisco VSM) system:

Summary Steps

Table 1-1 Deploy a New System: Summary Steps

	Upgrade Task	Description	Complete?
Step 1	System Software	Install the Cisco VSM server: • Purchase and install the physical Cisco Connected Safety and Security UCS series server as described in the Cisco Physical Security UCS Platform Series User Guide. These servers are pre-installed with the latest Cisco VSM system software and device driver packs.	❏
Step 2	Server setup	Complete the Initial Setup Wizard, page 2-2 to perform the one-time Cisco VSM setup.	❏
Step 3	Driver Packs	Update the server driver packs, if necessary, to support the cameras and encoders that will be added to the system. See Installing and Upgrading Driver Packs, page 5-1.	❏
Step 4	Firmware	Update the firmware on the cameras and encoders that will be added to the system. See Upgrading Cisco Camera and Encoder Firmware, page 6-1.	❏
Step 5	Cisco SASD (desktop software)	Install the Cisco Video Surveillance Safety and Security Desktop (Cisco SASD) monitoring software on your client PCs. • You can install Cisco SASD before or after the Operations Manager server is installed. The server and Cisco SASD version must be the same, or the PC application will not launch. • See Installing Cisco Video Surveillance Safety and Security Desktop (Cisco SASD), page 7-1.	❏

Table 1-1 Deploy a New System: Summary Steps (continued)

	Upgrade Task	Description	Complete?
Step 6	Multipane client software	On each monitoring PC, follow the prompts to upgrade the Cisco Multi-Pane client software when you first log in to Cisco SASD or the Operations Manager. The Multi-Pane client is an Active X client that enables video playback and other features. Users cannot play video if the Multi-Pane client version is missing, or different than the Operations Manager server.	❑
Step 7	Feature config	Perform additional configuration and operation tasks as described in the Cisco Video Surveillance Operations Manager User Guide.	❑
Step 8	Language Packs	(Optional) Install language packages to display the Cisco Video Surveillance interface in additional languages, if necessary. See Upgrading Language Packs, page 8-1.	❑

Upgrading an Existing System

Existing servers can be upgraded directly, or using a backup and restore method. After the servers are upgraded, you must upgrade the cameras, encoders, and monitoring workstations (PCs) to the supported release.

See the Release Notes for Cisco Video Surveillance Manager for information about the firmware and driver packs supported in your release. The Cisco SASD monitoring software on each PC must also match the system software release running on the Cisco Video Surveillance Manager.

- Upgrade Methods
- Upgrade Summary Steps

Upgrade Methods

Upgrading a previously-installed Cisco VSM deployment can be done in the following ways:

Table 1-2 Upgrade Methods

Upgrading From...	Upgrade Method	More Information
From the previous 2 releases: 7.9 and 7.10	Directly upgrade the system software on the server	System Software: Direct Upgrades
Release 7.6 and later (except for 2 most recent releases)	Backup and restore to a new server For example, backup the configuration and data from a release 7.8 server and restore it to a new release 7.11.1 server.	System Software Upgrade: Restore from an Older Release
From earlier release to Release 7.8	For older releases, first upgrade to 7.8 then use the instructions in System Software Upgrade: Restore from an Older Release to upgrade to latest version.	See the following for your release: • Cisco Video Surveillance Management Console Administration Guide • Release Notes for Cisco Video Surveillance Manager

Upgrade Summary Steps

Summary Steps

Table 1-3 Upgrade an Existing System: Summary Steps

	Software Upgrade	Task	Complete?
Step 1	System Software	Upgrade the system software on the Cisco VSM servers or virtual machines (VMs). • System Software: Direct Upgrades, page 3-1. • System Software Upgrade: Restore from an Older Release, page 4-1	□
Step 2	Driver Packs	Upgrade the server driver packs, if necessary, to support the cameras and encoders that will be added to the system. See Installing and Upgrading Driver Packs, page 5-1.	□
Step 3	Firmware	Upgrade the firmware on the cameras and encoders in your deployment. • The device firmware is required to support new or revised features. See the Release Notes for Cisco Video Surveillance Manager for the device firmware required by your release. • See Upgrading Cisco Camera and Encoder Firmware, page 6-1.	□
Step 4	Cisco SASD (desktop software)	Upgrade the Cisco Video Surveillance Safety and Security Desktop (Cisco SASD) monitoring software on your client PCs. You can update Cisco SASD before or after the Operations Manager server is upgraded, but the server and Cisco SASD version must be the same, or the PC application will not launch. See Installing Cisco Video Surveillance Safety and Security Desktop (Cisco SASD), page 7-1	□
Step 5	Multipane client software	On each monitoring PC, follow the prompts to upgrade the Cisco Multi-Pane client software when you first log in to Cisco SASD or the Operations Manager. The Multi-Pane client is an Active X client that enables video playback and other features. Users cannot play video if the Multi-Pane client version is different than the Operations Manager server.	□
Step 6	Feature config	Perform additional configuration and operation tasks as described in the Cisco Video Surveillance Operations Manager User Guide.	□
Step 7	Language Packs	(Optional) Install language packages to display the Cisco Video Surveillance interface in additional languages, if necessary. See Upgrading Language Packs, page 8-1.	□

Understanding Cisco Video Surveillance Software

The following table summarizes the software that can be upgraded in a Cisco VSM deployment.

Table 1-4 Cisco Video Surveillance Software Types

Software Type	Description
System software	*System Software* is the Cisco VSM server software that includes the Media Server, Operations Manager, Management Console, Maps Server and other server services. Use the Operations Manager to update the *System Software* on all servers (such as Media Servers) associated with the Operations Manager. **Notes:** • The Operations Manager and all associated servers must run the same system software version. • To update a Federator server, log in to the Federator server Management Console and use the **Server Upgrade** feature.
Device *firmware*	Device *firmware* is provided by the device manufacturer. The firmware for Cisco devices can be upgraded using Operations Manager (as described in the "Upgrading Cisco Camera and Encoder Firmware" section on page 6-1). Firmware for devices from non-Cisco manufacturers is upgraded using a direct connection to the device. Refer to the device documentation for more information.
Device *driver packs*	Device *driver packs* are the software packages used by Media Server and Operations Manager to interoperate with video devices, such as cameras. Driver packs are included with the Cisco VSM software, or may be added to a server at a later time to add support for new devices or features. • Install new driver packs to add support for additional devices. • Upgrade existing driver packs to enable support for new features (**System Settings > Driver Pack Management**). See the "Installing and Upgrading Driver Packs" section on page 5-1 for instructions. **Note** We strongly recommend upgrading driver packs using the Operations Manager interface. This allows you to upgrade multiple servers at once. Driver packs must be upgraded to the same version on each server where the Media Server and Operations Manager services are enabled. The Management Console interface can also be used to upgrade the driver packs for a single server at a time. • *Driver pack* versions must be the same on the servers that host the Media Server and Operations Manager or a *driver pack mismatch* error. Templates cannot be revised when a *driver pack mismatch* error is present.

Table 1-4 Cisco Video Surveillance Software Types (continued)

Software Type	Description
Language Packs	Language packs can be added to display the VSM user interfaces in non-English languages. Language packs are added using the Operations Manager. See "Upgrading Language Packs" section on page 8-1.
USB Recovery Disk image	Use the USB Recovery Disk image to create a Cisco VSM 7 Recovery Flash Drive (for example, on a USB stick). The recovery disk can be used do the following: • Repair: reinstalls the Operating System files and partitions without erasing video files stored on the server. You must backup the Cisco VSM database before using the recovery image, and then restore the database after the recovery process is complete. This action also preserves the RAID configuration. • Factory Restore: Restores the server to its factory default settings, reinstalls the operating system, and clears and reconfigures the RAID. This action deletes all data, configurations, software and video files from the appliance, and then reinstalls the operating system and Cisco VSM software. Perform this procedure only if necessary. See the Cisco Video Surveillance Manager Recovery Guide for your hardware platform for more information.

Tip For information about supported software releases, see the Release Notes for Cisco Video Surveillance Manager.

Understanding System Software

Cisco VSM system software is pre-installed on new servers. You can also install system software as a virtual machine, or upgrade an existing deployment using upgrade images downloaded from the cisco.com website.

- Cisco VSM Installation and Upgrade Options, page 1-7
- Understanding Server Services, page 1-8
- Understanding Co-Located and Stand-Alone Servers, page 1-11

Cisco VSM Installation and Upgrade Options

Cisco VSM is pre-installed in new servers, or can be upgraded on an existing Cisco VSM server, or installed as a virtual machine (VM):

Table 1-5 Cisco VSM Installation and Upgrade Options

Option	Description	Notes and More Information
Pre-installed	Cisco VSM is pre-installed in new installations on the Cisco Connected Safety and Security UCS Platform Series servers.	For more information: • Release Notes for Cisco Video Surveillance Manager • Cisco CSS UCS Server User Guide • Release Notes for the Cisco CSS UCS Servers
Upgrade from a previous release	Upgrades can be performed on Cisco VSM virtual machines (VMs) and on Cisco Video Surveillance servers. • Direct upgrades are supported from the previous two releases. This means you can upgrade to Release 7.12 from 7.10 or 7.9. • Starting with VSM Release 7.12, you can also upgrade from earlier releases by backing up the data from an older release and restoring it to a new installation, For example, back up the data from a release 7.8 server and restore it to a new Release 7.12 server.	• Release Notes for Cisco Video Surveillance Manager for your release. • System Software: Direct Upgrades • System Software Upgrade: Restore from an Older Release

Understanding Server Services

Server services are activated during the initial server setup, and managed using the browser-based Operations Manager.

After a server is added to the Operations Manager configuration, the Management Console cannot be used to activate or deactivate the server services. Use the Operations Manager to manage server services. See the Cisco Video Surveillance Operations Manager User Guide for more information.

Usage Notes

- The Operations Manager must be enabled using the Management Console.
- The Federator or Metadata service can only be added as a standalone server using the Management Console if the server is unmanaged, or Operations Manager if the server is managed.
- If the Operations Manager is not co-located on the server, you can remove the server from Operations Manager management and then activate or deactivate any of the available services.

Supported Services

Cisco VSM servers can support the following server services. See the release notes for the services supported by your deployment.

Table 1-6 Supported Server Services

Service	Description	Activation Rules
Operations Manager	The browser-based Cisco VSM Operations Manager administration and configuration tool.	Can be added as a stand-alone server, or co-located with other services (such as a Media Server). The Maps server can also be co-located with the Operations Manager in Release 7.6 and higher. **To Enable:** 1. Install the server and complete the Management Console Setup Wizard. 2. Select the **Operations Manager** service. 3. (Optional) Select the Media Server service to create a co-located server. This automatically enable the Media Server service on the default “VSOMServer”. **Note** At least one Media Server must be added to the Operations Manager for the system to be functional. 4. Log in to the Operations Manager to further configure the services and system features. **To Disable:** 1. Log in to the Management Console for each server associated with the Operations Manager server and click the **Remove** button. **Note** The **Remove** button disassociates the server and all server services from the Operations Manager. This allows the server (and running services) to be added and managed by a different Operations Manager. 2. Log in to the Operations Manager server and deselect the **Operations Manager** service

Table 1-6 Supported Server Services (continued)

Service	Description	Activation Rules
Media Server	The Media Server service provides video streaming, recording and storage for the cameras and encoders associated with that server. Media Servers can also be configured for high availability, and provide Redundant, Failover, and Long Term Storage	Can be added as a stand-alone server, or co-located on a single server with the Operations Manager. Can also be co-located with the Maps Server in release 7.6 and higher. **To Enable:** 1. Install the server and complete the Management Console Setup Wizard. 2. (Co-located server) Log in to the Operations Manager, select **System Settings** > **Server**, and select the default **VSOMServer**. In the Services section, select the **Media Server** service. 3. (Stand-alone server) Log in to the Operations Manager and add the server as a **Media Server**. 4. Select the Media Server **Advanced** 📝 settings to further configure the service, if necessary. **To Disable:** • Log in to the Operations Manager, select **System Settings** > **Server**, select the server, and deselect the **Media Server** service. or • Log in to the Management Console for the server, and click *Remove* to remove the server from the Operations Manager. Then de-select the service.
Map Server	Allows Image Layers to be added to location maps using the Operations Manager. Image layers are viewed by operators using the Cisco Video Surveillance Safety and Security Desktop application. Cameras, locations and alerts are displayed on dynamic maps, and map images that represent the real-world location of devices and events.	Install the Maps Server as standalone server or use the Operations Manager to activate the service as a co-located service). **Note** A stand-alone Maps server requires the RHEL (6.9) 64 bit OS. **To Enable a Stand-Alone Server:** 1. Install the server and complete the Management Console Setup Wizard. 2. Log in to the Operations Manager and add the server as a **Maps Server**. 3. Configure the Location Maps using the Operations Manager. **To Enable a Co-Located Maps Server:** 1. Install the Operations Manager server. 2. Log in to the Operations Manager. 3. Navigate to the Operations Manager server configuration page. 4. Select the **Maps Server** service on the Operations Manager server. 5. Configure the Location Maps using the Operations Manager. **To Disable:** • If the Operations Manager is not co-located with the Maps Server, log in to the Management Console for the server, click **Remove** to remove the server from the Operations Manager, and then deselect the service. • If the Operations Manager is co-located with the Maps Server, log in to the Operations Manager and deselect the Media Server service.

Table 1-6 Supported Server Services (continued)

Service	Description	Activation Rules
Metadata Server	Allows metadata to be added to recorded video, which enables features such as Video Motion Search in the Cisco SASD desktop application. Metadata can also be accessed by 3rd party integrators for advanced analytics analysis.	Use the Operations Manager to activate the service. **Note** This service is supported as a stand-alone server only, on a server running the RHEL (6.9) 64 bit OS. **To Enable:** 1. Install the server and complete the Management Console Setup Wizard. 2. Log in to the Operations Manager and add the server as a **Metadata Server**. 3. Configure the metadata track using the Operations Manager. **To Disable:** • Use the Operations Manager to deactivate the service on the server. or • Use the Management Console to *Remove* the server from the Operations Manager, and then deselect the service.
VSF	Enables the Federator service used to monitor video and system health for the cameras and resources of multiple Operations Managers. The Federator service can only be enabled on a stand-alone server in this release. Other server services cannot be enabled on the same server as the Federator service. The Federator interface is accessed using a web browser or the Cisco SASD. Federator.	Activated using the Management Console only. Cannot be activated using the Operations Manager. **Note** This service is supported as a stand-alone server only, on a server running the RHEL (6.9) 64 bit OS. **To Enable:** 1. Install the server and complete the Setup Wizard: select the **VSF** service. 2. Log in to the Cisco VSM Federator browser-based interface. and perform additional configurations. **To Disable:** • Log in to the Management Console and deselect the **VSF** service.

Related Documentation

- Cisco Video Surveillance Operations Manager User Guide
- Understanding Co-Located and Stand-Alone Servers, page 1-11

Understanding Co-Located and Stand-Alone Servers

Stand-alone servers are servers that run only a single server service.

Co-located servers are servers enabled with multiple server services, such as the Operations Manager and a single Media Server.

Some system configuration s require stand-alone servers. For example, the Cisco Video Surveillance Federator and Metadata services can only be run as stand-alone servers. In addition, Operations Manager HA requires that both servers in the redundant pair be stand-alone servers. Additional server services cannot be enabled.

Note Server services are the software packages that provide major functionality. See Understanding Server Services, page 1-8.

The following service combinations are supported in this release.

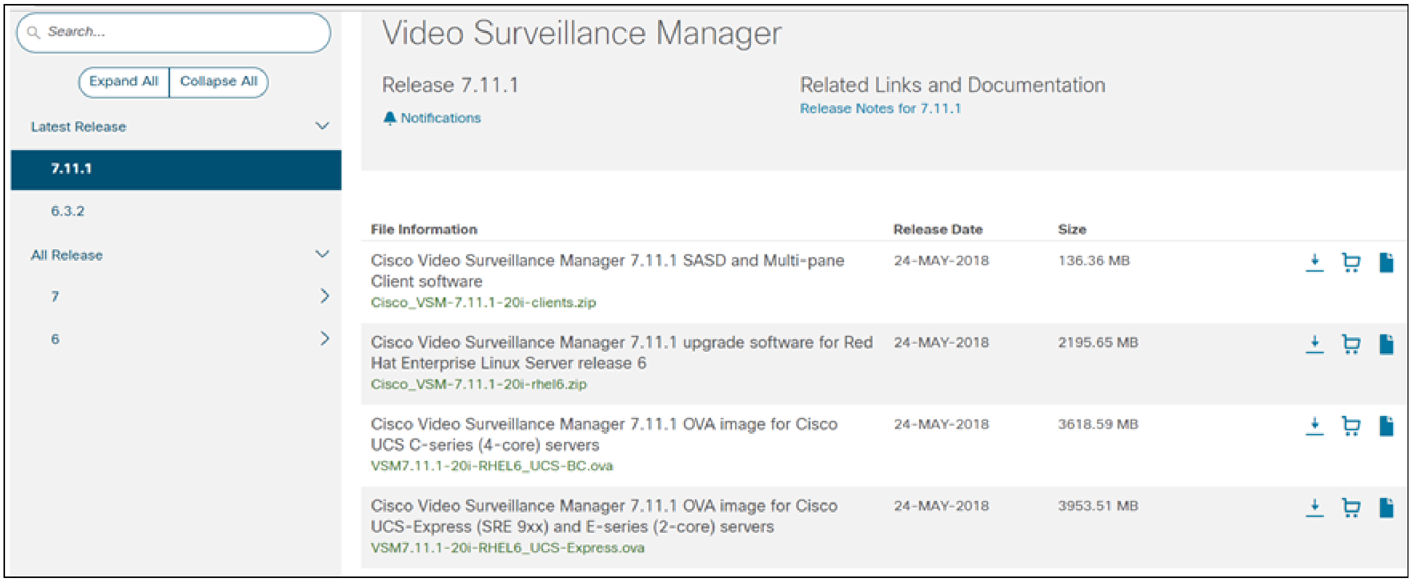
Table 1-7 Supported Server Service Combinations

Service	Supported Server Configuration
Operations Manager	Stand-alone server or co-located with one Media Server and/or one Maps server. • (Required) Each deployment requires one Operations Manager to manage the system. • Operations Manager HA configuration requires two stand-alone Operations Manager servers. • A co-located Operations Manager does not support the same number of Media Servers as a stand-alone Operations Manager.
Media Server(s)	(Required) Each deployment requires at least one Media Server to enable video streaming and recording. One Media Server can be co-located with the Operations Manager service. All additional Media Servers can be stand-alone servers or co-located servers with the Maps Server service. The following rules apply to co-located Media Servers: • Co-located Media Server can only be a primary Media Server (co-located Media Servers do not support other HA roles such as Standby or Redundant). • Failover or Redundant Media Servers cannot be associated with a co-located primary Media Server. Only a long term storage (LTS) server can be associated with a co-located primary Media Server. • Co-located Media Servers do not support the same number of cameras as a stand-alone server.
Metadata Server	(Optional) Stand-alone server only. Select the Service Type when adding the server to the Operations Manager configuration.
Maps Server	(Optional) Stand-alone server or co-located with the Operations Manager or a Media Server. Select the Service Type when adding the server to the Operations Manager configuration.
Federator	(Optional) Stand-alone server only. Select the VSF service using the Management Console Initial Setup Wizard. Other server services cannot be enabled on the same server as the Federator service.

Downloading Cisco Software, Firmware and Driver Packs

To download the Cisco VSM system software, device firmware, and driver packs, go to cisco.com (Figure 1-1).

Figure 1-1 Downloading Cisco Video Surveillance Software



File Information	Release Date	Size
Cisco Video Surveillance Manager 7.11.1 SASD and Multi-pane Client software Cisco_VSM-7.11.1-20i-clients.zip	24-MAY-2018	136.36 MB
Cisco Video Surveillance Manager 7.11.1 upgrade software for Red Hat Enterprise Linux Server release 6 Cisco_VSM-7.11.1-20i-rhel6.zip	24-MAY-2018	2195.65 MB
Cisco Video Surveillance Manager 7.11.1 OVA image for Cisco UCS C-series (4-core) servers VSM7.11.1-20i-RHEL6_UCS-BC.ova	24-MAY-2018	3618.59 MB
Cisco Video Surveillance Manager 7.11.1 OVA image for Cisco UCS-Express (SRE 9xx) and E-series (2-core) servers VSM7.11.1-20i-RHEL6_UCS-Express.ova	24-MAY-2018	3953.51 MB

Procedure

Step 1 Go to the Cisco Video Surveillance Manager product page.

Step 2 Click Download Software.

Step 3 Select a product category. For example:

- **Video Surveillance Device Driver**—includes device driver packs for RHEL and SUSE servers.
- **Video Surveillance Manager Stand-alone Tools**—includes updates, plug-ins, and other resources.
- **Video Surveillance Media Server Software**—includes system software and SASD client software.

Step 4 Select the release (Figure 1-1).

Step 5 Click **Download** or **Add to Cart** and follow the onscreen instructions.

Migrating from Cisco VSM Release 6.3.x

To migrate an existing release 6.3.x system, you must first migrate the servers and data from Cisco VSM 6.3.2 MR2 and 6.3.3 to Cisco VSM 7.2.x, and then upgrade the system to the latest release:

1. Contact your Cisco representative for assistance and instructions.
2. Migrate the system from Cisco VSM 6.3.2 MR2 or 6.3.3 to Cisco VSM 7.2.x.

3. Upgrade all physical and virtual Cisco VSM servers to Release 7.12 using the Cisco VSM Management Console.

Tip The migration procedure requires assistance from a Cisco representative. Contact your Cisco representative for more information.

Recovering or Reinstalling the Factory Image

You can create a recovery flash drive for Cisco Video Surveillance Manager (Cisco VSM) servers that contains a recovery image used to restore the server operating system, or return the server to the factory state, if needed.

Related Documentation

For instructions and more information, see the Cisco Video Surveillance Manager Recovery Guides for your release.

Recovery guides are available for the following:

- Release 7.7.0 and higher
  - Recovery Guide: CPS-UCSM4-1RU-K9 and CPS-UCSM4-2RU-K9, page 10-1
  - Recovery Guide: CPS-UCS-1RU-K9 and CPS-UCS-2RU-K9, page 9-1
- Cisco Video Surveillance Install and Upgrade Guide, Release 7.6
- Cisco Video Surveillance Manager Recovery Guide, Release 7.5
- Cisco Video Surveillance Manager Recovery Guide, Release 7.0.1 and 7.2
- Cisco Video Surveillance Manager Recovery Guide (Cisco MSP Platform), Release 7.0.0
- Release 6.3.2—Cisco Physical Security Multiservices platform servers (CIVS-MSP-1RU, CIVS-MSP-2RU and CIVS-MSP-4RU)

CHAPTER 2

Deploying a Physical Cisco VSM Server

There are two ways to deploy a new Cisco VSM server:

- Physical server—Cisco VSM is pre-installed on new installations of the Cisco Connected Safety and Security UCS Platform Series servers when ordered with the Cisco VSM software installed. See the Cisco Connected Safety and Security UCS Platform Series User Guide.
- Virtual Machine—see the Cisco Video Surveillance Virtual Machine Deployment and Recovery Guide for UCS Platforms.

To deploy Cisco VSM on a physical server, refer to the following topics:

- Install a Physical Cisco VSM Server: Summary Steps, page 2-1
- Complete the Initial Setup Wizard, page 2-2

Install a Physical Cisco VSM Server: Summary Steps

Procedure

Step 1 Order and install the physical Cisco Connected Safety and Security UCS series server as described in the Cisco Physical Security UCS Platform Series User Guide.

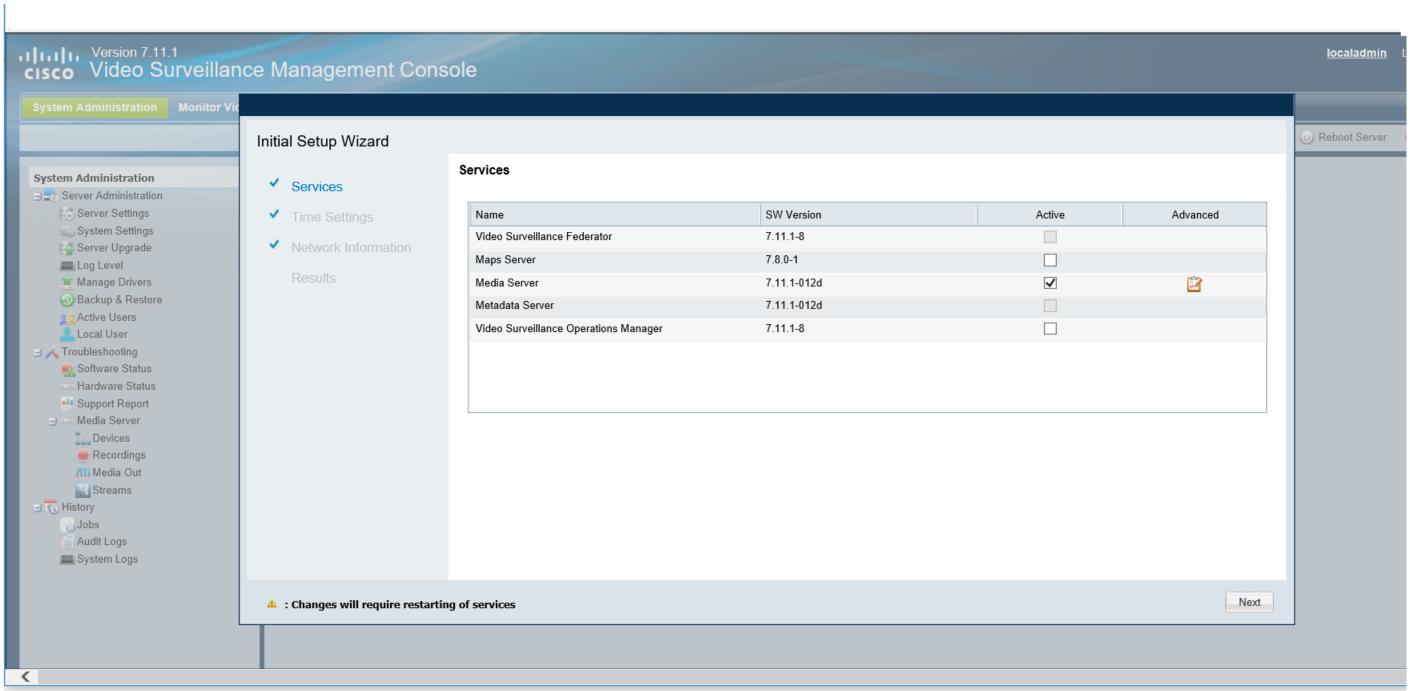
Step 2 Continue to Complete the Initial Setup Wizard, page 2-2 to perform the one-time Cisco VSM setup.

Step 3 Refer to the Cisco Video Surveillance Operations Manager User Guide for additional configuration and operation tasks.

Complete the Initial Setup Wizard

When you access a Cisco VSM server for the first time (by entering the IP address or hostname in a web browser), you are automatically redirected to Initial Setup Wizard (Figure 2-1).

Figure 2-1 Initial Setup Wizard



Initial Setup Wizard

Services

Name	SW Version	Active	Advanced
Video Surveillance Federator	7.11.1-8	□	
Maps Server	7.8.0-1	□	
Media Server	7.11.1-012d	☑	
Metadata Server	7.11.1-012d	□	
Video Surveillance Operations Manager	7.11.1-8	□	

⚠ : Changes will require restarting of services

From here, follow the on-screen prompts to enter or accept the basic settings such as the server services, NTP source, and network settings. You may be prompted to restart the server services when the wizard is complete to activate the changes.

- Some fields require server services to restart when the wizard is complete.
- ✓—Appears when a step is completed.
- Click **Back** to return to the previous step to revise or correct entries, if necessary.

Note This wizard only appears once. Future log-ins display the Management Console or the Cisco VSM Operations Manager.

Procedure

Step 1 Launch Internet Explorer on your Windows computer.

See the Cisco Video Surveillance Monitoring Workstation Performance Baseline Specification for the complete workstation requirements.

Step 2 Enter the server URL.

The syntax is: **http://**<*server-ip-address or hostname*>**/vsmc/**, where the server address is one of the following:

Platform	Server Address
Physical servers	The default (factory) static IP address is 192.168.0.200 For example, the URL is **http://192.168.0.200/vsmc/**
Virtual Machines: Cisco Unified Computing System (Cisco UCS) platform	The Cisco VSM server includes two network ports with the following default configuration: • Eth0 port—static IP address 192.168.0.200 • Eth1 port— DHCP See the "Configuring the Network Settings" section of the Cisco Video Surveillance Virtual Machine Deployment and Recovery Guide for UCS Platforms for more information.

Step 3 Enter the Cisco VSM Management Console password.

Platform	Username / Password
Physical servers	• The default username **localadmin** is read-only and cannot be changed. • The default password is **secur4u**.
Virtual Machine—Cisco USC platform	• The default username **localadmin** is read-only and cannot be changed. • A new password is entered during the VM setup. See the "Changing the Default Password" section of the Cisco Video Surveillance Virtual Machine Deployment and Recovery Guide for UCS Platforms for more information.

Step 4 Click **Log In**.

Step 5 Enter and re-enter a new password.

Step 6 When the Initial Setup Wizard appears, select the *Services* that will run on the server, and click **Next**.

See the "Understanding Server Services" section in the Cisco Video Surveillance Management Console Administration Guide for more information.

Step 7 Revise the *NTP* server and timezone, if necessary, and click **Next**.

See the "NTP Information" section in the Cisco Video Surveillance Management Console Administration Guide for more information.

Step 8 Enter the *Network Information* (IP address used by network cards), if necessary, and click **Next**.

See the Cisco Video Surveillance Management Console Administration Guide for more information.

Step 9 Click **Finish** and wait for the Wizard results to appear.

Step 10 Click **Reboot**, **Restart**, **or Close** when prompted.

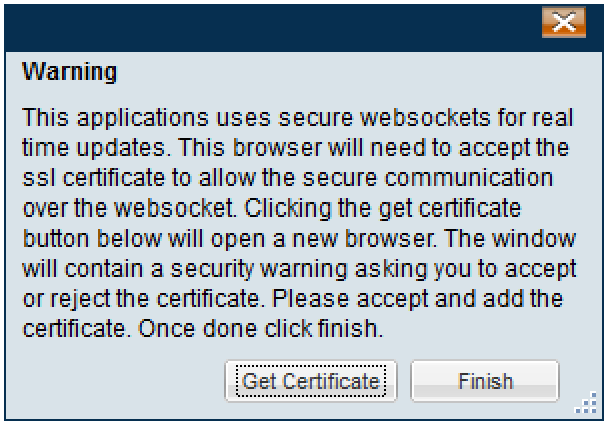
Restarting services can take up to 90 minutes or more depending on number of devices managed by the Operations Manager and Media Server. Installed products will be offline during this time.

Step 11 (Optional) Re-login to the Management Console, if necessary, to perform additional configuration or administrative tasks.

a. Re-login when prompted.

b. (Firefox browser only) Click **Get Certificate**, when prompted.

Figure 2-2 Firefox Browsers: Get Certificate Prompt



Warning

This applications uses secure websockets for real time updates. This browser will need to accept the ssl certificate to allow the secure communication over the websocket. Clicking the get certificate button below will open a new browser. The window will contain a security warning asking you to accept or reject the certificate. Please accept and add the certificate. Once done click finish.

See the Cisco Video Surveillance Management Console Administration Guide for more information.

Step 12 (Recommended) Use the Operations Manager browser-based interface for most additional tasks, including server upgrades, network and NTP settings, and other tasks. See the Cisco Video Surveillance Operations Manager User Guide for more information.

Related Documentation:

- Cisco Video Surveillance Management Console Administration Guide
- Cisco Video Surveillance Operations Manager User Guide
- Cisco Video Surveillance Virtual Machine Deployment and Recovery Guide for UCS Platforms

System Software: Direct Upgrades

Direct upgrades can be performed when upgrading from an existing server that uses the previous 3 releases. For example, you can upgrade to Cisco VSM Release 7.12 from 7.11, 7.10 or 7.9.

To upgrade from a Cisco VSM release more than 3 releases old, see System Software Upgrade: Restore from an Older Release.

Use this guide to update the system software on all servers, including the Operations Manager server and any additional servers (such as Media Servers or Metadata servers).

Contents

Refer to the following topics for more information:

- Overview, page 3-2
- Upgrade Procedure Overview, page 3-2
- Server Upgrade Sequence, page 3-4
- Usage Notes, page 3-4
- Upgrading the Federator Server System Software, page 3-5
- System Software Upgrade Procedure, page 3-5
- Recovering From a Failed Upgrade, page 3-12
- Deleting a Software Pack File, page 3-13

Related Information

- Understanding Cisco Video Surveillance Software, page 1-5

Overview

If using an older version of Cisco VSM, you may need to upgrade to a recent version first. See the Release Notes for Cisco Video Surveillance Manager for your release for more information.

Upgrade Notes

- Release 7.5 and later—Use the Software Management page on the browser-based Operations Manager to upgrade all of the servers in your deployment.
- Release 7.2 and earlier—Upgrade to a recent release first, and then upgrade to the latest release. See the Release Notes for Cisco Video Surveillance Manager for more information.

  Note Upgrades from Release 7.2 and earlier are performed using the Management Console. See Cisco Video Surveillance Management Console Administration Guide for your release.

- Clear the cache in each user's web browser after upgrading Cisco VSM. If not cleared, the browser may attempt to use outdated content and display the error message "Operation failed: Authentication failed, this request is not allowed" until the page is refreshed.
- Always upgrade using the Cisco VSM user-interfaces. Do not perform the upgrade using the Linux CLI.

Platform Notes

See the Release Notes for Cisco Video Surveillance Manager for information about the server platforms supported by your release.

Upgrade Procedure Overview

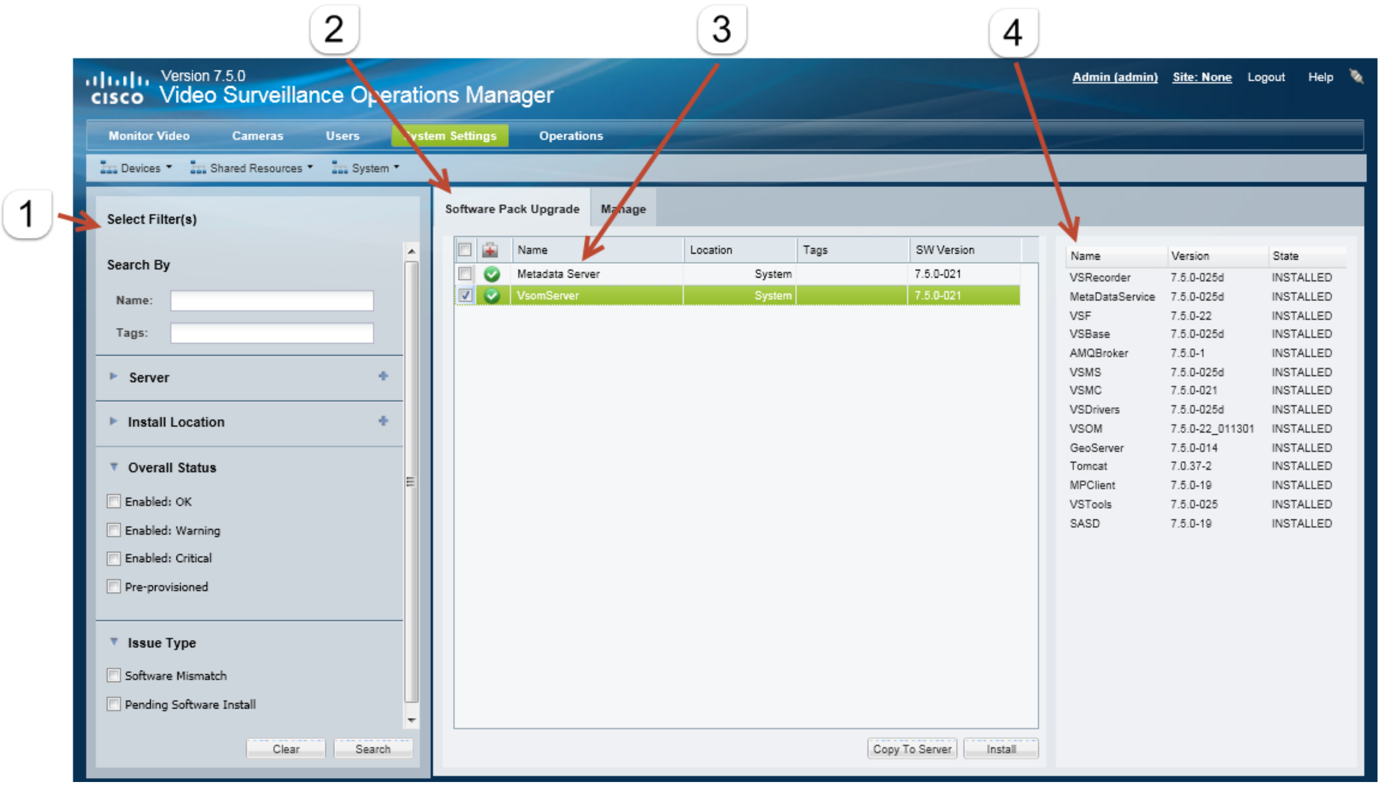
To upgrade the servers in your deployment:

1. Upload the software upgrade image to the Operations Manager.
2. Copy that software to the other servers that are managed by the Operations Manager. You can upload a single image for each operating system (OS), such as Red Hat or SUSE, but all servers must be upgraded to the same Cisco VSM release.
3. After the software upgrade image is uploaded, install in first on the Operations Manager server, and then on the additional servers as described in Server Upgrade Sequence, page 3-4.
4. After the servers are upgraded, you must upgrade the cameras, encoders, and monitoring workstations (PCs) to the supported release. See Upgrading an Existing System, page 1-3.

Note The Software Management feature is supported in Cisco VSM release 7.5 and higher.

Figure 3-1 describes the main elements used to manage system software. See the "System Software Upgrade Procedure" section on page 3-5 for more detailed instructions.

Figure 3-1 Software Management



		Name	Location	Tags	SW Version
□	✓	Metadata Server	System		7.5.0-021
☑	✓	VsomServer	System		7.5.0-021

Name	Version	State
VSRecorder	7.5.0-025d	INSTALLED
MetaDataService	7.5.0-025d	INSTALLED
VSF	7.5.0-22	INSTALLED
VSBase	7.5.0-025d	INSTALLED
AMQBroker	7.5.0-1	INSTALLED
VSMS	7.5.0-025d	INSTALLED
VSMC	7.5.0-021	INSTALLED
VSDrivers	7.5.0-025d	INSTALLED
VSOM	7.5.0-22_011301	INSTALLED
GeoServer	7.5.0-014	INSTALLED
Tomcat	7.0.37-2	INSTALLED
MPClient	7.5.0-19	INSTALLED
VSTools	7.5.0-025	INSTALLED
SASD	7.5.0-19	INSTALLED

1 Filters used to narrow the displayed servers.

Select the filers and click **Search**. Leave all fields blank to find all servers.

2

- **Manage**—Used to upload the new software upgrade `.zip` package to the Operations Manager server.
- **Software Pack Upgrade**—Displays the servers discovered when you click **Search** (use filters to narrow the results).
  - Click **Copy To Server** to copy new software files from the Operations Manager server to the selected servers. You can copy the upgrade package to the servers before upgrading.
  - Click **Install** to install the software on the selected servers.

Tip See the "System Software Upgrade Procedure" section on page 3-5 for more information.

3 The servers included in the search.

4 The software packages installed on the selected server.

Note All required packages are included in the system software `.zip` installation file. The packages cannot be installed individually.

Server Upgrade Sequence

Cisco VSM servers should be upgraded in the following recommended order (depending on server type) to maximize access to video, minimize downtime, and ensure the integrity of video and configuration data.

1. Federator server
2. Operations Manager server
3. Map Server (if installed as a stand-alone server)
4. Failover Media Servers
5. Primary Media Servers
    a. Servers acting as Dynamic Proxy servers
    b. Servers not acting as Dynamic Proxy servers
    c. Redundant Media Servers
6. Long-term Storage Media Servers
7. Metadata Server

Usage Notes

- A minimum amount of disk space is required on the Cisco VSM server. See Upgrade Fails Due To Insufficient Disk Space, page 12-2 for more information.
- After upgrading the Cisco VSM system software, Cisco VSM Operations Manager users should clear their web browser cache. If the cache is not cleared, each page will display the error message “Operation failed: Authentication failed, this request is not allowed” until the page is refreshed.
- The Operations Manager and all associated servers must run the same system software version.
- The Operations Manager server must be in maintenance mode ✎ to perform the update (click the pencil icon ✎ in the title bar to turn maintenance mode on or off). The icon is grey ✎ when maintenance mode is on, meaning most user configuration will be rejected (only video access, system tasks, and logging are allowed).
- You must obtain and upload the correct software image for the OS running on each of the servers in your deployment. Only one software file can be present on the server. If a new software file is uploaded, then the old file is deleted.
- To update a Federator server, log in to the Federator server.
- To repair or restore the Cisco VSM system software, see the Cisco Video Surveillance Manager Recovery Guide for your hardware platform. For VM installations, see the Cisco Video Surveillance Virtual Machine Deployment and Recovery Guide for UCS Platforms).
- Upgrading the server software may also require camera or encoder firmware upgrades. Failure to upgrade device firmware can cause camera failure after the server upgrade is complete.
    - See the Release Notes for Cisco Video Surveillance Manager for information on the supported firmware versions.
    - See the “Upgrading Cisco Camera and Encoder Firmware” section on page 6-1 instructions to upgrade Cisco device firmware.

- In rare scenarios, a PC workstation firewall can cause the upgrade process to fail. If this occurs, temporarily disable the workstation firewall software until the upgrade is complete.
- The server upgrade process automatically restarts server services.
- Installation is supported only if the RAID is in a non-bad, non-failed state.
- See Upgrading Language Packs, page 8-1 to manage the language packs on servers in your deployment.

Upgrading the Federator Server System Software

To update a Federator server, log in to the Federator server Management Console and use the **Server Upgrade** feature.

- Go to **Operations** > **Management Console** to launch the Management Console.
- See the Cisco Video Surveillance Management Console Administration Guide for more information. See your system administrator for login information.

For all other server types, use the following System Software Upgrade Procedure, page 3-5.

System Software Upgrade Procedure

Use the following procedure to upgrade all of the servers (except the Federator server) in a deployment to the same Cisco Video Surveillance Manager release. See Server Upgrade Sequence, page 3-4 for the order in which the upgrade should be performed (by server type).

You can upload the server software to all servers before performing the upgrade.

Note Each Cisco VSM server must have enough disk space to hold the upgrade files. See Upgrade Fails Due To Insufficient Disk Space, page 12-2 for more information.

Procedure

Step 1 Obtain the new software pack from the Cisco website.

- You must obtain and upload the correct software image for the OS running on each of the servers in your deployment. See the "Usage Notes" section on page 3-4 for more information.

  See the following for more information:

- Downloading Cisco Software, Firmware and Driver Packs, page 1-12.
- Release Notes for Cisco Video Surveillance Manager

Step 2 Log in to the Cisco VSM Operations Manager.

- You must belong to a User Group with manage permissions for *Servers and Encoders*. For more information, see the Cisco Video Surveillance Operations Manager User Guide.

Step 3 Click the pencil icon ✎ in the title bar to place the server in maintenance mode.

- The icon is grey ✎ when maintenance mode is on, meaning most user configuration will be rejected (only video access, system tasks, and logging are allowed).

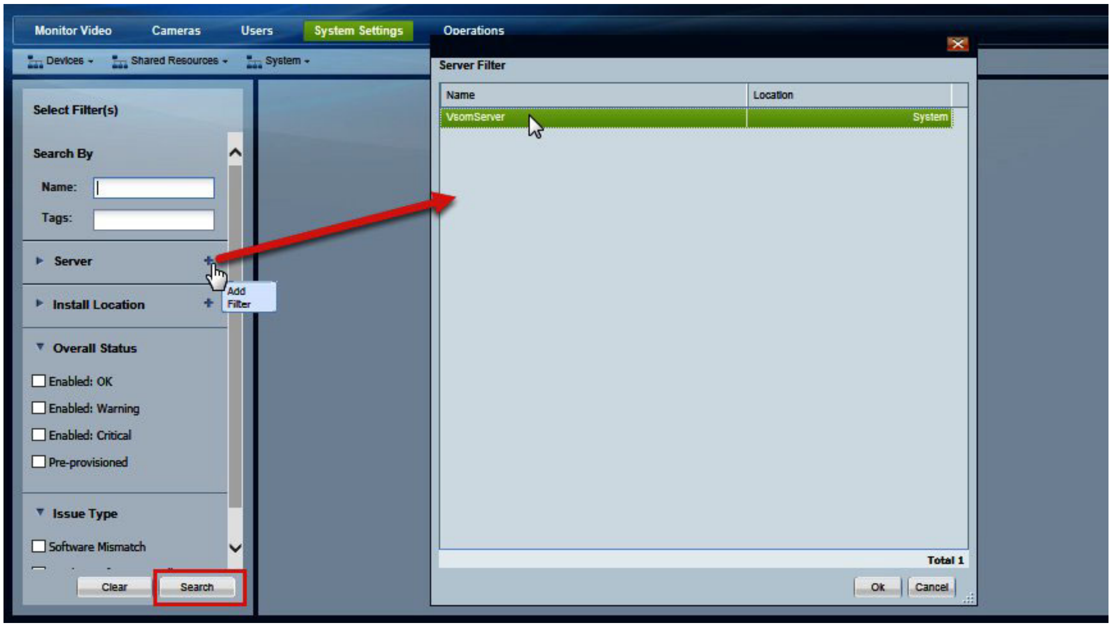
- Maintenance mode locks the server configuration so configuration changes cannot be made by other users. This keeps the server config in a stable state during the upgrade.

Step 4 Upload the new software file(s) to the Operations Manager server.

Only one software file for each server operating system (OS) can be present on the server. If a new software file is uploaded, then the old file for that OS is deleted. See the "Usage Notes" section on page 3-4 for more information.

a. Select **System Settings** > **Software Management** (Figure 3-2).

Figure 3-2 Display the Server to Upgrade

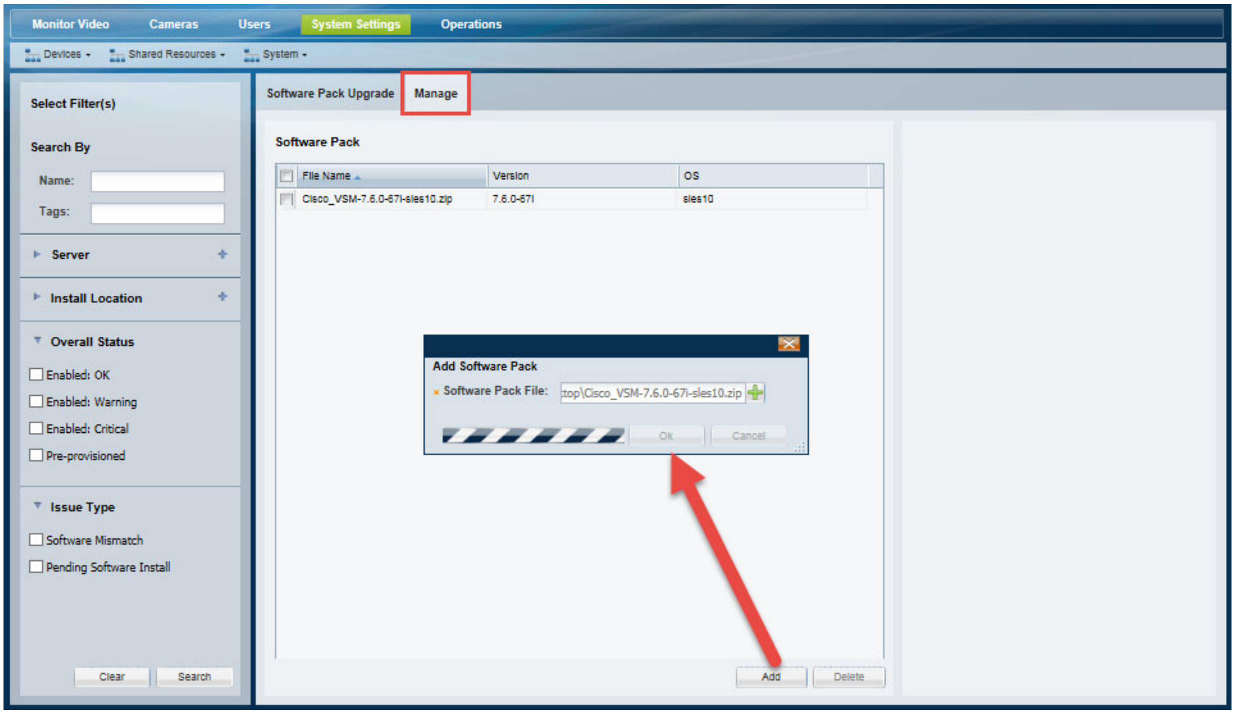


b. (Optional) Select the search filter(s), such as location or status.

c. Click **Search** to display the list of servers according to the filters. All servers are displayed if no filters are selected.

d. Select the **Manage** tab (Figure 3-3). The **Manage** tab appears only after a server is selected.

Figure 3-3 *Display the Server to Upgrade*



☐	File Name	Version	OS
☐	Cisco_VSM-7.6.0-67i-sles10.zip	7.6.0-67i	sles10

Software Pack File: top\Cisco_VSM-7.6.0-67i-sles10.zip

e. Click **Add**.

f. In the pop-up window, click ✚ and select a valid `.zip` software pack file from a local or network disk. For example: `Cisco_VSM-7.6.0-1-sles10.zip`

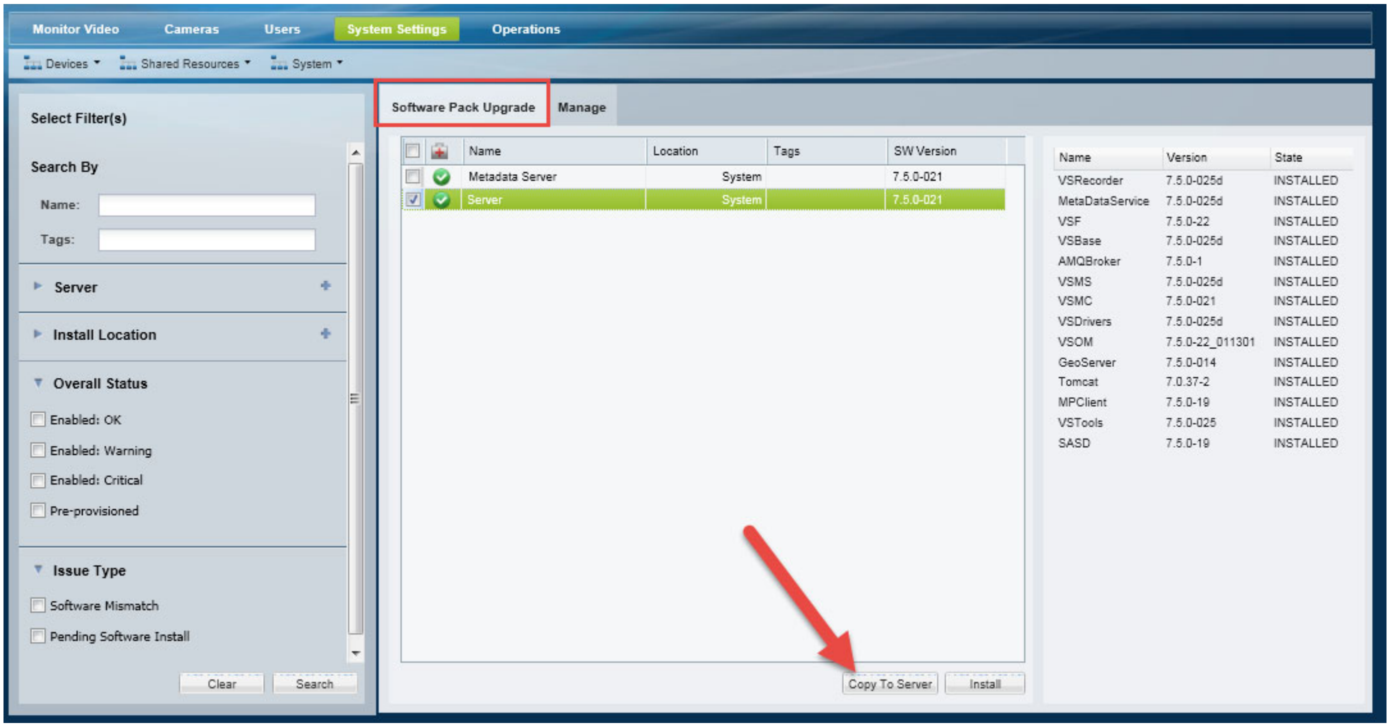
g. Click **OK**.

h. Wait for the software file to upload to the Operations Manager server. The filename will be displayed in the Software Pack list (Figure 3-3).

Step 5 Copy the upgrade software to the other servers that are managed by the Operations Manager (Figure 3-4).

Copying the software files to the other servers allows those servers to be upgraded. You can copy the software to the servers without installing it. This allows you to stage the software on all of the servers before performing the upgrade.

Figure 3-4 Copy the Software to the Additional Servers



		Name	Location	Tags	SW Version
□	✓	Metadata Server	System		7.5.0-021
☑	✓	Server	System		7.5.0-021

Name	Version	State
VSRecorder	7.5.0-025d	INSTALLED
MetaDataService	7.5.0-025d	INSTALLED
VSF	7.5.0-22	INSTALLED
VSBase	7.5.0-025d	INSTALLED
AMQBroker	7.5.0-1	INSTALLED
VSMS	7.5.0-025d	INSTALLED
VSMC	7.5.0-021	INSTALLED
VSDrivers	7.5.0-025d	INSTALLED
VSOM	7.5.0-22_011301	INSTALLED
GeoServer	7.5.0-014	INSTALLED
Tomcat	7.0.37-2	INSTALLED
MPClient	7.5.0-19	INSTALLED
VSTools	7.5.0-025	INSTALLED
SASD	7.5.0-19	INSTALLED

a. Select the **Software Pack Upgrade** tab.

b. Make sure that maintenance mode is on (the icon is grey when maintenance mode is on).

c. (Optional) Use the filters to narrow the list of servers.

d. Click **Search** to display the list of servers according to the filters. All servers are displayed if no filters are selected.

e. Click **Copy To Server** (Figure 3-4) to copy the new server software from the Operations Manager server to the selected server(s).

f. Wait for the file copy job to complete.

Note The server must have enough disk space to hold the upgrade files. See Upgrade Fails Due To Insufficient Disk Space, page 12-2 for more information.

Step 6 Install the new software on the Operations Manager server.

Upgrade the Operations Manager before updating the other servers. See Server Upgrade Sequence, page 3-4.

a. Verify that the correct software file for the Operations Manager OS is uploaded (see "Usage Notes") and that maintenance mode is on (the icon is grey).

b. Select the Operations Manager server from the **Software Pack Upgrade** tab.

For example: `VsomServer`.

c. Click **Install** to install the system software package that was copied to the server.

d. Wait for a series of status messages to appear while the status server is prepared and the upgrade package is extracted and verified.

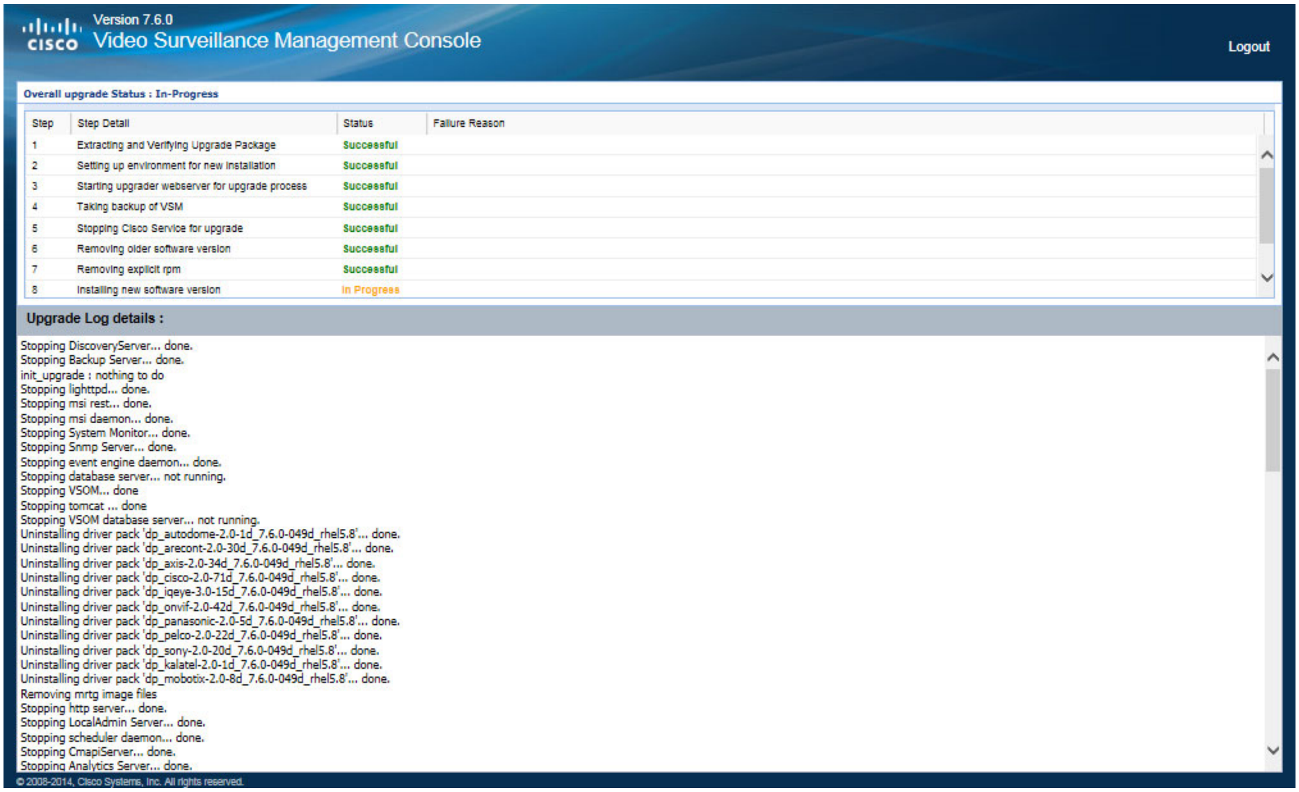
This can take a few minutes.

e. (Optional) Re-login, when instructed, using the localadmin username and password (the credentials used for the Cisco VSM Management Console) to view the Operations Manager upgrade status.

- Click **OK** when prompted to log in.
- Enter the password for the localadmin username.
- View the Operations Manager upgrade status (Figure 3-5).

Note To view this same status window for any server being upgraded to Release 7.6 or later, log in to the Cisco VSM Management Console. To view the upgrade status of additional servers using the Operations Manager, open the server configuration page, select **Status** > **Service Jobs** and select **Upgrade Server** from the menu (Figure 3-7).

Figure 3-5 Server Upgrade Status



Overall upgrade Status : In-Progress

Step	Step Detail	Status	Failure Reason
1	Extracting and Verifying Upgrade Package	Successful	
2	Setting up environment for new installation	Successful	
3	Starting upgrader webserver for upgrade process	Successful	
4	Taking backup of VSM	Successful	
5	Stopping Cisco Service for upgrade	Successful	
6	Removing older software version	Successful	
7	Removing explicit rpm	Successful	
8	Installing new software version	In Progress	

Upgrade Log details :

```
Stopping DiscoveryServer... done.
Stopping Backup Server... done.
init_upgrade : nothing to do
Stopping lighttpd... done.
Stopping msi rest... done.
Stopping msi daemon... done.
Stopping System Monitor... done.
Stopping Snmp Server... done.
Stopping event engine daemon... done.
Stopping database server... not running.
Stopping VSOM... done
Stopping tomcat ... done
Stopping VSOM database server... not running.
Uninstalling driver pack 'dp_autodome-2.0-1d_7.6.0-049d_rhel5.8'... done.
Uninstalling driver pack 'dp_arecont-2.0-30d_7.6.0-049d_rhel5.8'... done.
Uninstalling driver pack 'dp_axis-2.0-34d_7.6.0-049d_rhel5.8'... done.
Uninstalling driver pack 'dp_cisco-2.0-71d_7.6.0-049d_rhel5.8'... done.
Uninstalling driver pack 'dp_iqeye-3.0-15d_7.6.0-049d_rhel5.8'... done.
Uninstalling driver pack 'dp_onvif-2.0-42d_7.6.0-049d_rhel5.8'... done.
Uninstalling driver pack 'dp_panasonic-2.0-5d_7.6.0-049d_rhel5.8'... done.
Uninstalling driver pack 'dp_pelco-2.0-22d_7.6.0-049d_rhel5.8'... done.
Uninstalling driver pack 'dp_sony-2.0-20d_7.6.0-049d_rhel5.8'... done.
Uninstalling driver pack 'dp_kalatel-2.0-1d_7.6.0-049d_rhel5.8'... done.
Uninstalling driver pack 'dp_mobotix-2.0-8d_7.6.0-049d_rhel5.8'... done.
Removing mrtg image files
Stopping http server... done.
Stopping LocalAdmin Server... done.
Stopping scheduler daemon... done.
Stopping CmapiServer... done.
Stopping Analytics Server... done.
```

f. Wait for the operation to complete and the server to restart. This can take up to 90 minutes (or less) depending on the server load.

g. Re-login to the Operations Manager, when instructed (you may need to refresh the browser to display the Operations Manager login page).

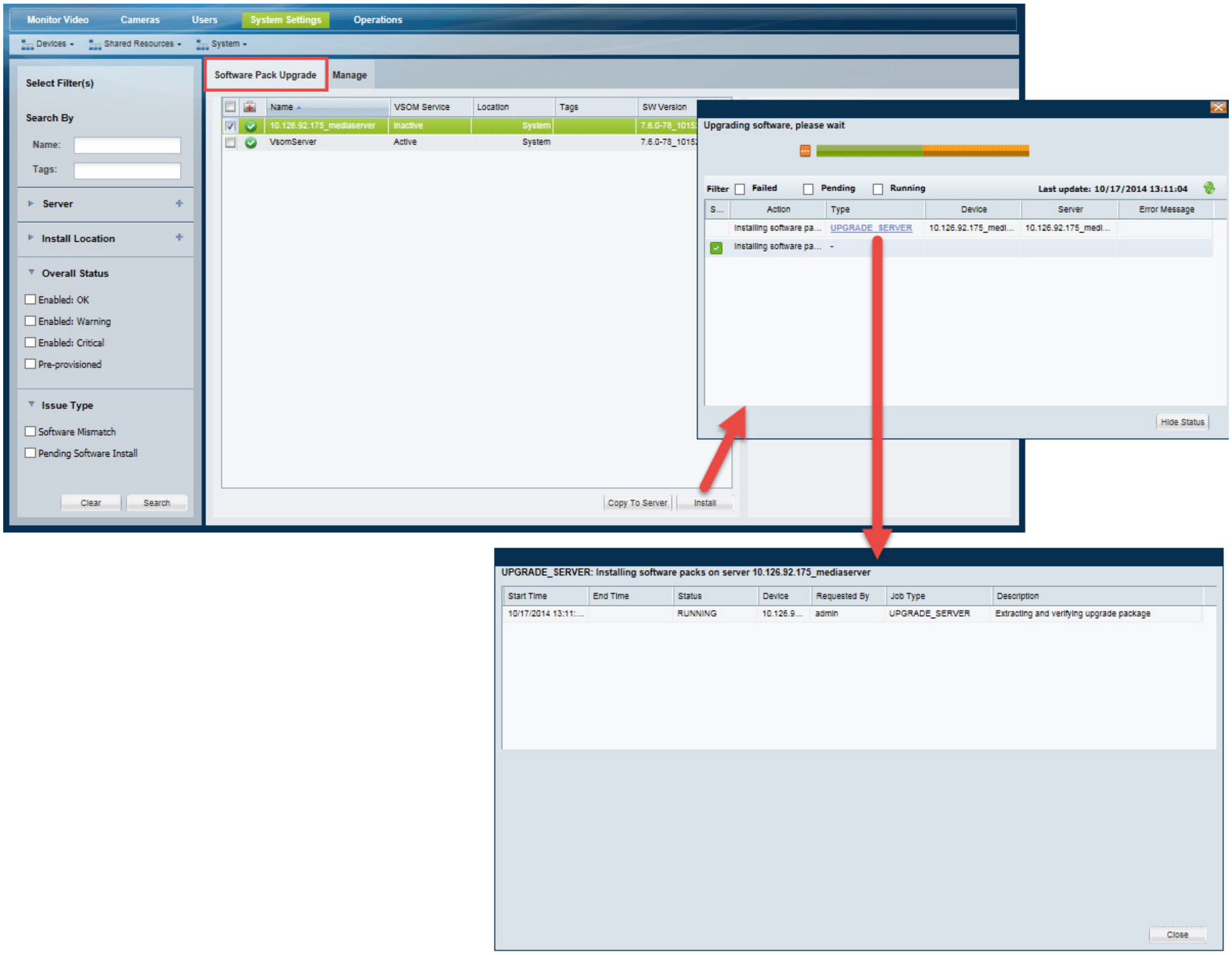
h. Continue to Step 7 to upgrade each additional server to the same version that is running on the Operations Manager.

Note If the upgrade fails, see the "Recovering From a Failed Upgrade" section on page 3-12.

Step 7 Install the new software on the additional servers that are managed by the Operations Manager (Figure 3-6).

- **a.** Re-login to the Operations Manager (you may need to refresh the browser to display the Operations Manager login page).
- **b.** Make sure that maintenance mode is on (the icon is grey ✎ when maintenance mode is on).
- **c.** Verify that the software upgrade file was copied from the Operations Manager to the servers that will be upgraded, as described in Step 5.
- **d.** Select **System Settings** > **Software Management**.
- **e.** Select the **Software Pack Upgrade** tab.
- **f.** (Optional) Use the filters to narrow the list of servers.
- **g.** Click **Search** to display the list of servers according to the filters. All servers are displayed if no filters are selected.
- **h.** Select one or more servers from the list.
- **i.** Click **Install** to install the system software package (Figure 3-6).

Figure 3-6 Upgrading Additional Servers



		Name	VSOM Service	Location	Tags	SW Version
☑	✓	10.126.92.175_mediaserver	Inactive	System		7.6.0-78_1015
□	✓	VsomServer	Active	System		7.6.0-78_1015

Upgrading software, please wait

Filter □ Failed □ Pending □ Running   Last update: 10/17/2014 13:11:04

S...	Action	Type	Device	Server	Error Message
	Installing software pa...	UPGRADE_SERVER	10.126.92.175_medi...	10.126.92.175_medi...	
✓	Installing software pa...	-			

UPGRADE_SERVER: Installing software packs on server 10.126.92.175_mediaserver

Start Time	End Time	Status	Device	Requested By	Job Type	Description
10/17/2014 13:11:...		RUNNING	10.126.9...	admin	UPGRADE_SERVER	Extracting and verifying upgrade package

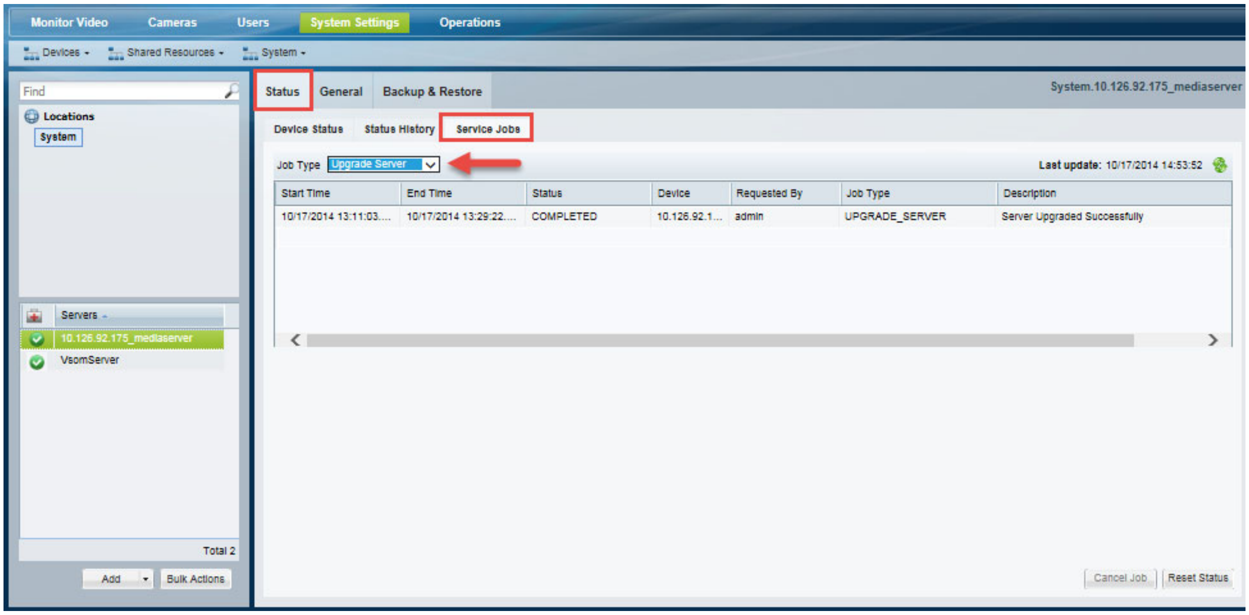
j. (Optional) In the Job window pop up window, click the “UPGRADE SERVER” link to view the job details.

k. Wait for up to 90 minutes for the upgrade job to complete and the server(s) to restart.

l. (Optional) View the upgrade job details (Figure 3-7):

- Go to **Devices** > **Servers** and select the server.
- Select the **Status** tab.
- Select the **Service Jobs** tab.
- Select the **Upgrade server** job type.

Figure 3-7 Server Upgrade Status



Job Type: Upgrade Server

Last update: 10/17/2014 14:53:52

Start Time	End Time	Status	Device	Requested By	Job Type	Description
10/17/2014 13:11:03....	10/17/2014 13:29:22....	COMPLETED	10.126.92.1...	admin	UPGRADE_SERVER	Server Upgraded Successfully

Note If the upgrade fails, see the "Recovering From a Failed Upgrade" section on page 3-12.

Step 8 Clear the cache in each user's web browser. If not cleared, the browser may attempt to use outdated content and display the error message "Operation failed: Authentication failed, this request is not allowed" until the page is refreshed.

Recovering From a Failed Upgrade

If the upgrade fails or is interrupted, an error message ("work order file exists") may appear when you attempt to perform the upgrade again. This can be caused by a corrupted or incomplete upgrade file.

To address this issue, do the following:

Procedure

Step 1 Resolve the issue that caused the upgrade to fail. For example:

- Make sure the upgrade file is complete and not corrupted. Re-download the file again, if necessary.
- Make sure the upgrade can complete without interruption.

Step 2 Log in to the Cisco VSM server that was being updated and execute the server clean-up script.

Note This script cleans up the system so the upgrade can be attempted again. The script does not resolve the specific issue(s) that caused the upgrade failure. Resolve the cause of the upgrade failure first before attempting it again.

a. Log in using the *localadmin* username and password (the same credentials used to access the Cisco VSM Management Console).

b. Enter the following command to perform the server cleanup:

```
[localadmin@linux:~ ]# sudo /usr/BWhttpd/bin/upgrade_cleanup.sh
```

Step 3 Repeat the System Software Upgrade Procedure, page 3-5.

Deleting a Software Pack File

To delete a software pack that was copied to the Operations Manager server, do the following:

Step 1 Select **System Settings** > **Software Management**. (Figure 3-1).

Step 2 Select the **Manage** tab.

Step 3 Select a software pack file name.

Step 4 Click **Delete**.

CHAPTER 4

System Software Upgrade: Restore from an Older Release

This document describes how to upgrade servers to a Cisco VSM release that is more that 3 releases newer than the currently running system software. See the following for more information.

Tip To upgrade the system software from a server that is only 1 to 3 releases old, see System Software: Direct Upgrades.

Contents

Refer to the following topics for more information:

- Upgrade Methods, page 4-2
- Prerequisites, page 4-2
- Server Upgrade Sequence, page 4-3
- Upgrade Procedure Summary, page 4-3
- Backup the Existing Server, page 4-4
- Restore the Backup to a New Server, page 4-6
  - Restore a Federator, Standalone VSOM, Map or Metadata Server, page 4-6
  - Restore a Standalone Media Server, page 4-8
  - Restore VSOM High Availability (VSOM HA) Servers, page 4-9
  - Restore a Co-located Server (VSOM with Media Server), page 4-10

Related Information

- Cisco Video Surveillance Management Console Administration Guide
- Release Notes for Cisco Video Surveillance Manager

Upgrade Methods

Table 4-1 Upgrade Methods

Upgrading From...	Upgrade Method	More Information
From the previous 3 releases	Directly upgrade the system software on the server	System Software: Direct Upgrades
Release 7.6 and later (except for 3 most recent releases)	Backup and restore to a new server For example, backup the configuration and historical data from a release 7.8 server and restore it to a new Release 7.12 server. **Note** Only backups that include configuration + historical data are supported. Configuration-only backups are not supported and will cause a config mismatch in cameras.	Upgrade Procedure Summary (this chapter)
Release 7.2 and earlier	For older releases, first upgrade to 7.6 then use the instructions in this chapter to upgrade to latest version.	See the following for your release: • Upgrade Procedure Summary • Cisco Video Surveillance Management Console Administration Guide • Release Notes for Cisco Video Surveillance Manager

Prerequisites

- Before you backup the old server, create a new Cisco VSM server running Release 7.12 with same role (that is running on old server) enabled. See Understanding Server Services, page 1-8.

  For example, to backup and restore an Operations Manager server, you must first enable the VSOM service on the new physical or virtual machine.
- The new and old servers must be on the same subnet.
- Upgrading the server software may also require camera or encoder firmware upgrades. Failure to upgrade device firmware can cause camera failure after the server upgrade is complete.
  - See the Release Notes for Cisco Video Surveillance Manager for information on the supported firmware versions.
  - See the "Upgrading Cisco Camera and Encoder Firmware" section on page 6-1 instructions to upgrade Cisco device firmware.
- IPTables Rules: Backup and restore does not work for IPTables rules. If you have custom rules in your Cisco VSM environment, create a backup of the IPTables rules on the older server and restore it on the server running the new Cisco VSM release.
- Only backups that include configuration + historical data are supported for upgrades. Configuration-only backups are not supported and will cause a config mismatch in cameras.

Server Upgrade Sequence

Cisco VSM servers should be upgraded in the following recommended order (depending on server type) to maximize access to video, minimize downtime, and ensure the integrity of video and configuration data.

1. Federator server
2. Operations Manager server
3. Map Server (if installed as a stand-alone server)
4. Failover Media Servers
5. Primary Media Servers
    a. Servers acting as Dynamic Proxy servers
    b. Servers not acting as Dynamic Proxy servers
    c. Redundant Media Servers
6. Long-term Storage Media Servers
7. Metadata Server

Upgrade Procedure Summary

If the servers in your deployment are running system software more than 3 releases older than the current release, use the backup and restore method described in this document. For example, backup a release 7.8 server and restore it to a new Release 7.12 server.

Important: Upgrade all servers according to the Server Upgrade Sequence.

1. Install a new physical or virtual server running the latest Cisco VSM release.
2. Backup the old server configuration and historical data.

    Only backups that include configuration + historical data are supported for upgrades. Configuration-only backups are not supported and will cause a config mismatch in cameras.
3. On the new server, restore server services backup file (such as Federator, VSOM, Media Server, Map or Metadata).
    - **Uncheck** the option **Include System Configuration**. This option must be deselected for server services restore.
4. On the new server, restore the CDAF backup files.
    - **Check** the option **Include System Configuration**. This will change the IP address and other network configurations to the same as the old server.
5. After the servers are upgraded, you must upgrade the cameras, encoders, and monitoring workstations (PCs) to the supported release. See Upgrading an Existing System, page 1-3.

Note This method is supported when upgrading to Cisco VSM Release 7.12 or later.

Backup the Existing Server

To backup an earlier Cisco VSM release, such as 7.6.0, 7.7.0, 7.8.0:

Step 1 Login to the Cisco VSM Management Console (see the Cisco Video Surveillance Management Console Administration Guide).

Step 2 Go to **Backup and Restore** and click **Backup Now** (Figure 4-1).

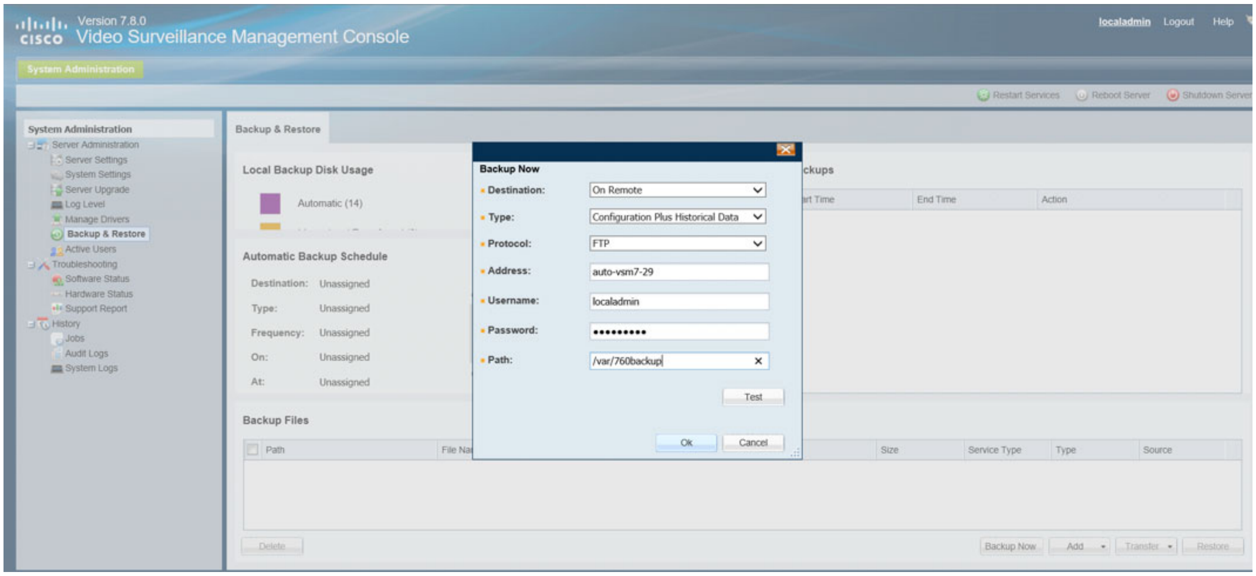
Step 3 Enter the following settings:

a. Destination: **On Remote**

b. Type: **Configuration Plus Historical Data**

c. FTP/SFTP server details: Enter the protocol, IP address, username, password and PATH according the FTP server configuration.

Figure 4-1 Backup to Remote



Automatic Backup Schedule

Destination: Unassigned
Type: Unassigned
Frequency: Unassigned
On: Unassigned
At: Unassigned

Backup Now

- Destination: On Remote
- Type: Configuration Plus Historical Data
- Protocol: FTP
- Address: auto-vsm7-29
- Username: localadmin
- Password: •••••••••
- Path: /var/760backup

d. Click **Test** to test the connection. If the connection is successful click **OK**.

Step 4 Backup files are cerated in the following format: one file is for the Management Console role, and the remaining files are for the server services, such as Operations Manager (VSOM), Media Server, Map Server, etc. that are currently active on the machine.

File name format: <server_role>_<server_name>_backup_config_date.tar.gz

Example: CDAF_MyMediaServer_backup_config_20180117_00005000.tar.gz

The below table shows example backup file names,

Standalone VSOM	CDAF_<server_name>_backup_config_date.tar.gz VSOM_<server_name>_backup_config_date.tar.gz
Co-located VSOM with Media Server	CDAF_<server_name>_backup_config_date.tar.gz VSOM_<server_name>_backup_config_date.tar.gz VSMS_<server_name>_backup_config_date.tar.gz
Primary Media Server	CDAF_<server_name>_backup_config_date.tar.gz VSMS_<server_name>_backup_config_date.tar.gz
Co-located VSOM and Primary Media Server with Map Server	CDAF_<server_name>_backup_config_date.tar.gz VSMS_<server_name>_backup_config_date.tar.gz VSOM_<server_name>_backup_config_date.tar.gz GIS_geoserver_<server_name>_backup_config_date.tar.gz
Co-located VSOM Server with Map Server	CDAF_<server_name>_backup_config_date.tar.gz VSOM_<server_name>_backup_config_date.tar.gz GIS_geoserver_<server_name>_backup_config_date.tar.gz
Failover Media Server	CDAF_<server_name>_backup_config_date.tar.gz VSMS_<server_name>_backup_config_date.tar.gz
Redundant Media Server	CDAF_<server_name>_backup_config_date.tar.gz VSMS_<server_name>_backup_config_date.tar.gz
LTS	CDAF_<server_name>_backup_config_date.tar.gz VSMS_<server_name>_backup_config_date.tar.gz
Map Server	CDAF_<server_name>_backup_config_date.tar.gz GIS_geoserver_<server_name>_backup_config_date.tar.gz
MetaData Server	CDAF_<server_name>_backup_config_date.tar.gz METADATASERVICE_<server_name>_backup_config_date.tar.gz

Step 5 All files are saved in the directory path configured for the FTP/SFTP server.

Step 6 In the Management Console, go to **Jobs** and verify that the backup job was successfully completed. Also verify that the backup files were created on the remote FTP server.

Restore the Backup to a New Server

Restore a Federator, Standalone VSOM, Map or Metadata Server

Use these instructions to restore the following Cisco VSM servers:

- Federator
- Standalone VSOM
- Standalone Map
- Standalone Metadata Server

Procedure

Step 1 Before you begin, backup the server as described in Backup the Existing Server, page 4-4.

Step 2 Power off the old server.

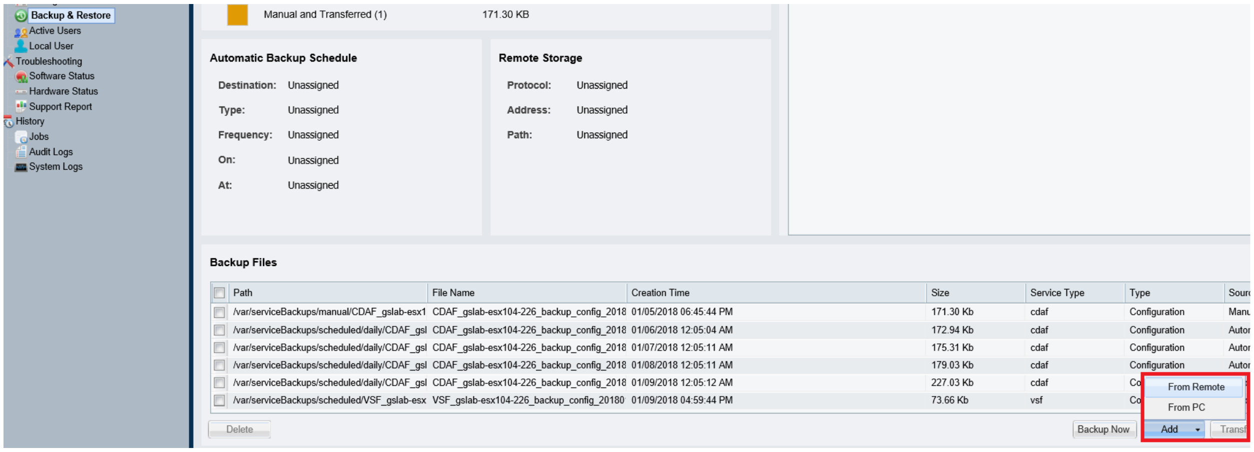
Step 3 Login to the Cisco VSM Management Console on the new server (running the new Cisco VSM release).

Step 4 On the new server, restore the server services backup file (such as Federator, VSOM, Map or Metadata).

Only backups that include configuration + historical data are supported for upgrades. Configuration-only backups are not supported and will cause a config mismatch in cameras.

a. Click **Backup and Restore** and select **Add > From Remote** (Figure 4-2).

Figure 4-2 Restore From Remote



Manual and Transferred (1) 171.30 KB

Automatic Backup Schedule

Destination: Unassigned
Type: Unassigned
Frequency: Unassigned
On: Unassigned
At: Unassigned

Remote Storage

Protocol: Unassigned
Address: Unassigned
Path: Unassigned

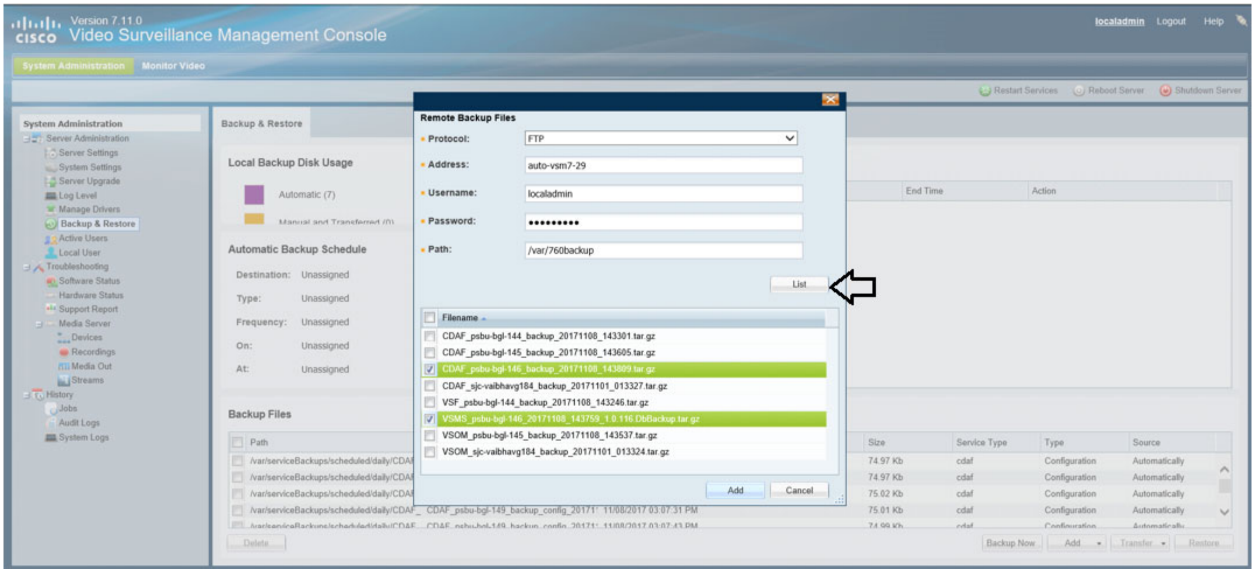
Backup Files

□	Path	File Name	Creation Time	Size	Service Type	Type	Sour
□	/var/serviceBackups/manual/CDAF_gslab-esx1	CDAF_gslab-esx104-226_backup_config_2018	01/05/2018 06:45:44 PM	171.30 Kb	cdaf	Configuration	Manu
□	/var/serviceBackups/scheduled/daily/CDAF_gsl	CDAF_gslab-esx104-226_backup_config_2018	01/06/2018 12:05:04 AM	172.94 Kb	cdaf	Configuration	Autor
□	/var/serviceBackups/scheduled/daily/CDAF_gsl	CDAF_gslab-esx104-226_backup_config_2018	01/07/2018 12:05:11 AM	175.31 Kb	cdaf	Configuration	Autor
□	/var/serviceBackups/scheduled/daily/CDAF_gsl	CDAF_gslab-esx104-226_backup_config_2018	01/08/2018 12:05:11 AM	179.03 Kb	cdaf	Configuration	Autor
□	/var/serviceBackups/scheduled/daily/CDAF_gsl	CDAF_gslab-esx104-226_backup_config_2018	01/09/2018 12:05:12 AM	227.03 Kb	cdaf	Co	
□	/var/serviceBackups/scheduled/VSF_gslab-esx	VSF_gslab-esx104-226_backup_config_20180	01/09/2018 04:59:44 PM	73.66 Kb	vsf	Co	

b. Enter the FTP/SFTP server details and location where the backup is stored.

c. Click **List** (Figure 4-3).

Figure 4-3 ***Restore Backup Files***



Remote Backup Files

- Protocol: FTP
- Address: auto-vsm7-29
- Username: localadmin
- Password: •••••••••
- Path: /var/760backup

	Filename
□	CDAF_psbu-bgl-144_backup_20171108_143301.tar.gz
□	CDAF_psbu-bgl-145_backup_20171108_143605.tar.gz
☑	CDAF_psbu-bgl-146_backup_20171108_143809.tar.gz
□	CDAF_sjc-vaibhavg184_backup_20171101_013327.tar.gz
□	VSF_psbu-bgl-144_backup_20171108_143246.tar.gz
☑	VSMS_psbu-bgl-146_20171108_143759_1.0.116.DbBackup.tar.gz
□	VSOM_psbu-bgl-145_backup_20171108_143537.tar.gz
□	VSOM_sjc-vaibhavg184_backup_20171101_013324.tar.gz

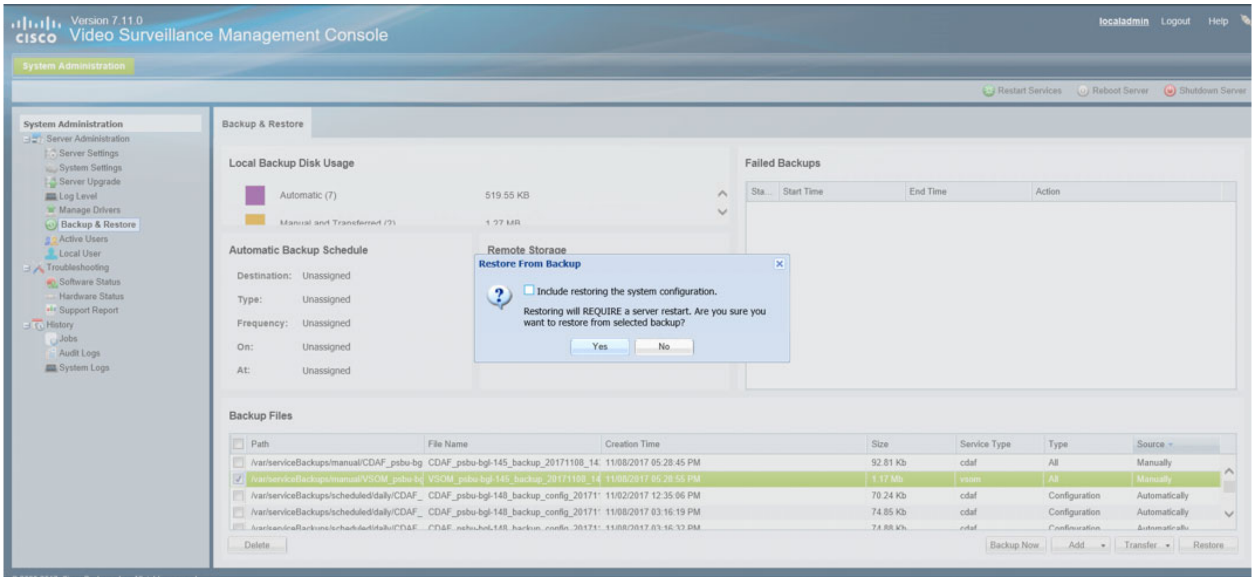
d. Select the backup files generated during the backup process and click **Add**.

e. Wait for the backup files to be copied from the FTP/SFTP server to the local machine. These files will be listed in the Backup Files field.

f. From the Backup Files list, select the correct file and click **Restore**.

g. Uncheck **Include System Configuration** and click **OK** (Figure 4-4).

Figure 4-4 ***Restore From Backup***



Automatic Backup Schedule

- Destination: Unassigned
- Type: Unassigned
- Frequency: Unassigned
- On: Unassigned
- At: Unassigned

Restore From Backup

□ Include restoring the system configuration.

Restoring will REQUIRE a server restart. Are you sure you want to restore from selected backup?

Yes No

Backup Files

	Path	File Name	Creation Time	Size	Service Type	Type	Source
□	/var/serviceBackups/manual/CDAF_psbu-bg	CDAF_psbu-bgl-145_backup_20171108_14:	11/08/2017 05:28:45 PM	92.81 Kb	cdaf	All	Manually
☑	/var/serviceBackups/manual/VSOM_psbu-bg	VSOM_psbu-bgl-145_backup_20171108_14	11/08/2017 05:28:55 PM	1.17 Mb	vsom	All	Manually
□	/var/serviceBackups/scheduled/daily/CDAF_	CDAF_psbu-bgl-148_backup_config_20171	11/02/2017 12:35:06 PM	70.24 Kb	cdaf	Configuration	Automatically
□	/var/serviceBackups/scheduled/daily/CDAF_	CDAF_psbu-bgl-148_backup_config_20171	11/08/2017 03:16:19 PM	74.85 Kb	cdaf	Configuration	Automatically

h. Wait for the server Restore operation to complete.

Step 5 On the new server, restore the CDAF backup file.

a. Log in to the Management Console on the new server.

b. Click **Backup and Restore** and select the backup file for the server service, such as Operations Manager to Maps.

c. Click **Restore**.

d. Check the option **Include System Configuration** and click **OK**.

Selecting this option will change the IP address and other network configurations to the same as the old server.

e. Log in again the new server using old IP address.

Step 6 View the log files to verify that the restore process was successfully completed. For example for a Federator server, check `/usr/BWhttpd/logs/vsf_be/vsf_be.log`. For the Console, check `/usr/BWhttpd/logs/cdaf_be/cdaf_restore.log`.

Restore a Standalone Media Server

Use these instructions to restore the following Cisco VSM servers:

- Standalone Media Server

Procedure

Step 1 Before you begin, backup the server as described in Backup the Existing Server, page 4-4.

Step 2 After the backup is complete, shutdown all Cisco services using the command **service cisco stop**.

Step 3 Copy all .smd files from the media repository to new Media Server machine.

Step 4 Power off the old server.

Step 5 On the new server, restore the Media Server backup files to the new server.

a. Login to the Cisco VSM Management Console on the new server (running the new Cisco VSM release).

b. Click **Backup and Restore** and select **Add > From Remote** (Figure 4-2).

c. Enter the FTP/SFTP server details and location where the backup is stored.

d. Click **List** (Figure 4-3).

e. Select the backup files generated during the backup process and click **Add**.

f. Wait for the backup files to be copied from the FTP/SFTP server to the local machine. These files will be listed in the Backup Files field.

g. From the Backup Files list, select the Media Server file and click **Restore**.

h. Uncheck **Include System Configuration** and click **OK** (Figure 4-4).

Step 6 On the new server, restore the CDAF backup files to the new server.

i. Log in again to the Management Console on the new server.

j. Click **Backup and Restore** and select the **CDAF** backup file.

k. Click **Restore**.

l. Check the option **Include System Configuration** and click **OK**.

   This will change the IP address and other network configurations to the same as the old server.

m. Log in again the new server using old IP address.

Step 7 View the log files to verify that the restore process was successfully completed. For example for a Media Server server, check `/usr/BWhttpd/logs/dbRestoreLog.txt`. For CDAF, check `/usr/BWhttpd/logs/cdaf_be/cdaf_restore.log`.

Restore VSOM High Availability (VSOM HA) Servers

To restore a VSOM HA setup:

Step 1 Backup the Master VSOM server.

Step 2 Backup the Peer VSOM server.

Step 3 Power off the Master and Peer servers.

Step 4 Create a new VSOM server and restore the Master server backup on the new server.

Step 5 Create a second new VSOM server and restore the Peer server backup on the new server.

Step 6 Perform the **Replace HA configuration** operation on the Master server:

a. Log in to the Operations Manager using the virtual IP address / hostname.

b. Click the pencil icon in the top right to turn maintenance mode ON.
   - The icon is grey ✏ when maintenance mode is ON.

c. Select **System Settings** > **Servers**.

d. Select the **Master** server from the list.

e. Select the **VSOM High Availability** tab.

f. Select **Device Settings** > **Replace HA Configuration**.

g. Click **OK** and wait for the job to complete.

h. Select the server **Status** tab to verify that the problem is resolved.

i. On the Master server, click the grey pencil icon ✏ in the title bar to turn maintenance mode OFF.
   - The icon is yellow ✏ when maintenance mode is off, meaning user configuration changes can be saved.

Step 7 Backup the splitbrain Media Server and restore it on the new Media Server.

Note Starting with Cisco VSM 7.11, at least one split brain Media Server. is mandatory for a VSOM HA setup. If all splitbrain media servers are down both Master and Peer server will go in standby mode. So while upgrading splitbrain media servers always make sure any one split brain media server is up and running.

Restore a Co-located Server (VSOM with Media Server)

Use these instructions to restore the following Cisco VSM servers:

- Co-located server (Operations Manager and Media Server)

Similar steps can be used to upgrade other co-located servers such as a co-located server with VSOM, Primary Media Server, and Map Server, or a co-located VSOM Server with Map Server.

Procedure

Step 1 Before you begin, backup the server as described in Backup the Existing Server, page 4-4.

Step 2 Copy all recording from the media repository to new Media Server machine.

Step 3 Power off the old server.

Step 4 Restore the **VSOM** backup files to the new server.

a. Login to the Cisco VSM Management Console on the new server (running the new Cisco VSM release).

b. Click **Backup and Restore** and select **Add > From Remote** (Figure 4-2).

c. Enter the FTP/SFTP server details and location where the backup is stored.

d. Click **List** (Figure 4-3).

e. Select the **VSOM** backup files generated during the backup process and click **Add**.

f. Wait for the backup files to be copied from the FTP/SFTP server to the local machine. These files will be listed in the Backup Files field.

g. From the Backup Files list, select the **VSOM** file and click **Restore**.

h. Uncheck **Include System Configuration** and click **OK** (Figure 4-4).

i. Log in again to the Management Console on the new server.

Step 5 Repeat Step 4 to restore the **Media Server** backup files to the new server.

- Be sure to uncheck **Include System Configuration** and click **OK** (Figure 4-4).

Step 6 Repeat Step 4 to restore the **CDAF** backup files to the new server.

- Be sure to check **Include System Configuration** and click **OK**.
- This will change the IP address and other network configurations to the same as the old server.

j. Log in again the new server using old IP address.

Step 7 View the log files to verify that the restore process was successfully completed. For example for a co-located server, check `/usr/BWhttpd/logs/vsom_be/vsom_be.log`. For CDAF, check `/usr/BWhttpd/logs/cdaf_be/cdaf_restore.log`.

CHAPTER 5

Installing and Upgrading Driver Packs

Device *driver packs* are the software packages used by Media Servers and the Operations Manager to interoperate with video devices. Driver packs are included with the Cisco VSM software, or may be added to a server to support new devices.

- Install new driver packs to add support for additional devices.
- Upgrade existing driver packs to enable support for new features.

Refer to the following topics for more information:

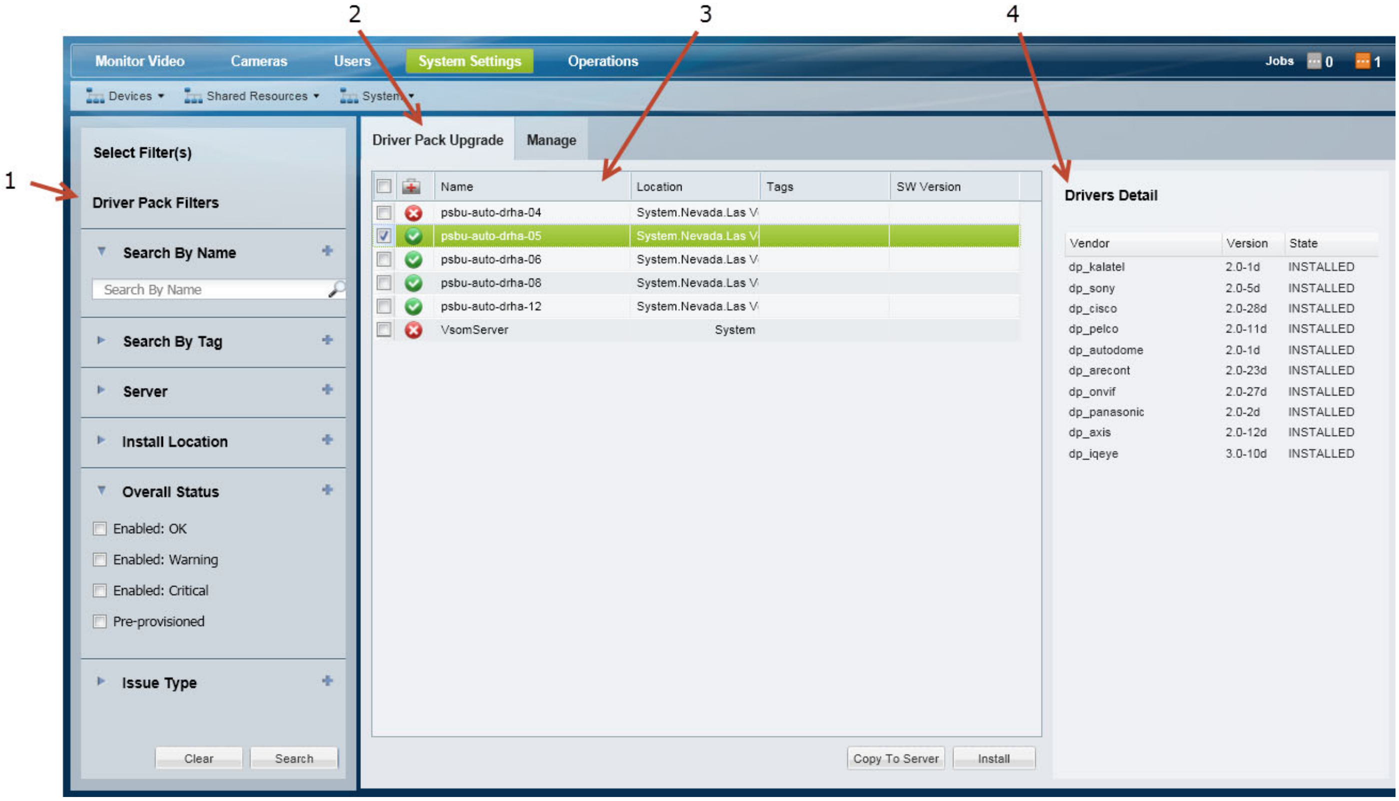
- Overview, page 5-2
- Usage Notes, page 5-3
- Driver Pack Upgrade Procedure, page 5-3

Tip See the "Understanding Cisco Video Surveillance Software" section on page 1-5 for descriptions of the different software types.

Overview

Figure 5-1 describes the main elements used to manage driver pack software. See the "Driver Pack Upgrade Procedure" section on page 5-3 for more information.

Figure 5-1 Manage Drivers



□		Name	Location	Tags	SW Version
□	☒	psbu-auto-drha-04	System.Nevada.Las V		
☑	✓	psbu-auto-drha-05	System.Nevada.Las V		
□	✓	psbu-auto-drha-06	System.Nevada.Las V		
□	✓	psbu-auto-drha-08	System.Nevada.Las V		
□	✓	psbu-auto-drha-12	System.Nevada.Las V		
□	☒	VsomServer	System		

Vendor	Version	State
dp_kalatel	2.0-1d	INSTALLED
dp_sony	2.0-5d	INSTALLED
dp_cisco	2.0-28d	INSTALLED
dp_pelco	2.0-11d	INSTALLED
dp_autodome	2.0-1d	INSTALLED
dp_arecont	2.0-23d	INSTALLED
dp_onvif	2.0-27d	INSTALLED
dp_panasonic	2.0-2d	INSTALLED
dp_axis	2.0-12d	INSTALLED
dp_iqeye	3.0-10d	INSTALLED

1 Filters used to narrow the displayed servers.

Select the filers and click **Search**. Leave all fields blank to find all servers.

2
- **Manage**—Used to copy new driver packs to the Operations Manager server.
- **Driver Pack Upgrade**—Displays the servers discovered when you click Search (use filters to narrow the results).
  - Click **Copy To Server** to copy new driver files from the Operations Manager server to the selected servers.
  - Click **Install** to install all copied driver pack files on the selected servers.

Tip See the "Driver Pack Upgrade Procedure" section on page 5-3 for more information.

3 The servers included in the search.

3 The driver packs installed for the selected server.

Usage Notes

- When updating or installing a driver pack, you first install the file on the Operations Manager, and then on the Media Servers that support the cameras or encoders. You can install the new version on all Media Servers, or only the Media Server(s) that support the affected devices. If the driver pack version is different on the Media Servers in your deployment, a *driver pack mismatch* error can occur:
  - A warning message appears if the driver pack is different on the Media Servers but the functionality or compatibility of the system is not impacted. Cameras and encoders can be configured and operate normally.
  - A critical message appears if the driver pack mismatch will impact the functionality or compatibility between the Operations Manager, Media Servers, and the video device. The upgrade is not allowed. Camera and encoder templates cannot be revised until the same driver pack version is installed on all Media Servers.
- When driver packs are updated on Cisco VSM release 7.6 and later, only cameras and encoders using that driver pack are restarted. The Media Server and other devices are not affected.
- The driver pack file format is *.zip*. For example: `dp_cisco-2.0-28d_7.2.0-12d_sles10-sp1.zip`
- See the Release Notes for Cisco Video Surveillance Manager for information on the supported driver packs in your release.
- Driver packs can only be upgraded. They cannot be downgraded.

Driver Pack Upgrade Procedure

Step 1 Obtain the new driver pack from the Cisco website.

See the following for more information:

- Downloading Cisco Software, Firmware and Driver Packs, page 1-12.
- Release Notes for Cisco Video Surveillance Manager

Step 2 Select **System Settings** > **Driver Pack Management**. (Figure 5-1).

Step 3 Display the servers to be upgraded.

a. (Optional) Select the filter(s) to display specific servers.

Tip All servers are displayed if no filters are selected.

b. Click **Search** to display the list of servers according to the filters.

c. Select a server to display the driver packs installed on that server.

Step 4 Upload a new driver pack software file to the Operations Manager server.

a. Select the **Manage** tab (Figure 5-1).

b. Click **Add**.

c. In the pop-up window, click + and select a valid *.zip* driver pack file from a local or network disk. For example: `dp_sony-2.0-15d_7.6.0-035d.zip`

d. Click **OK**.

e. Wait for the drivers to upload to the Operations Manager server.

The driver pack status is “Not Installed”.

Step 5 Copy the new driver packs from the Operations Manager server to the other servers.

Note Copying the driver packs to the other servers allows the Media Servers to be upgraded.

a. Select the **Driver Pack Upgrade** tab (Figure 5-1).

b. Select one or more servers.

c. Click **Copy To Server**.

a. Select the **Manage** tab.

Note You can copy the driver packs to the servers without installing them. This allows you to stage the software on a server without performing the upgrade, if necessary.

Step 6 Install the new driver packs on the servers.

Note Copying the driver packs to the other servers allows the Media Servers to be upgraded.

a. Select one or more servers from the **Driver Pack Upgrade** tab.

b. Click **Install** to install all driver packs that were copied to the server.

Driver packs can only be upgraded. They cannot be downgraded.

Caution Do not refresh the browser while the driver installation is in progress.

Upgrading Cisco Camera and Encoder Firmware

Firmware for Cisco cameras and encoders can be upgraded using the Operations Manager as described in the following procedure. You can upgrade a single device, or multiple devices at a time.

Refer to the following topics for more information:

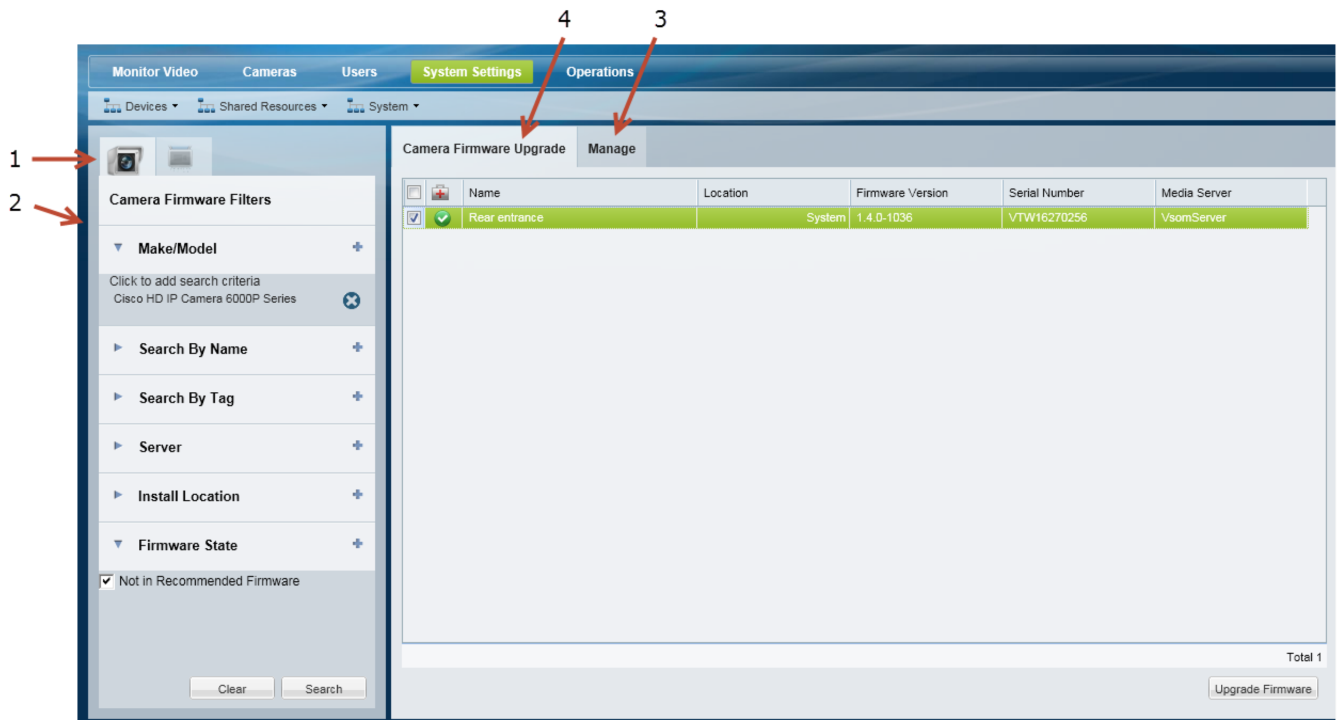
- Firmware Management Overview, page 6-2
- Usage Notes, page 6-2
- Before You Begin, page 6-3
- Upgrade the Cisco Device Firmware, page 6-3
- Reboot the Cameras, page 6-8

Note Firmware for non-Cisco cameras is upgraded using a direct connection and the device user interface. See the device documentation to upgrade or downgrade the device firmware directly on the device.

Firmware Management Overview

Figure 6-2 describes the main elements used to manage firmware. See the "Upgrade the Cisco Device Firmware" section on page 6-3 for more information.

Figure 6-1 Firmware Management



		Name	Location	Firmware Version	Serial Number	Media Server
☑	✓	Rear entrance	System	1.4.0-1036	VTW16270256	VsomServer

1	Camera and Encoder tabs—Click to select the device type you want to manage.
2	Device filters—Select a Make/Model to enable the other filter fields and manage the device firmware.
3	Manage—Used to upload firmware images to the server, which can them be installed on the camera or encoder.
4	Firmware Upgrade—Used to upgrade specific devices that were discovered using the filter search.

Tip See the "Understanding Cisco Video Surveillance Software" section on page 1-5 for information about firmware, driver packs and system software.

Usage Notes

- Upgrade firmware for non-Cisco devices using a direct connection. See device documentation for more information.
- The Cisco devices must be available on the network and enabled in Cisco VSM. If the device is not available to Cisco VSM, connect directly to the device and upgrade the drivers (see the device documentation for instructions).

- The firmware image file must be a valid file format. Because the file format is different for each camera vendor, the Operations Manager will initially accept any file format, even if invalid. However, invalid files will cause the upgrade or downgrade to fail after 2-3 minutes.
- The upgrade can fail if device configuration changes are in process when the upgrade begins. If a device configuration is started during the upgrade, then the configuration change can fail. To avoid this, verify that no device configuration changes are running or started during the firmware upgrade (open the device **Status** page; the *Jobs in Progress* field should be *No*).
- The firmware version column in the *Manage* tab is only shown after the firmware has been applied to a set of devices.
- Each Media Server can update five devices at a time.
- Only one upgrade can be executed at a time. Wait until all devices are upgraded before initiating a new request.
- The vendor and device list includes the models that support firmware upgrades using the Operations Manager.
- To downgrade device firmware, select a previous version (the device must support downgrades).

Before You Begin

Before you begin, obtain the driver firmware for your device(s).

- To obtain firmware for Cisco devices, see Downloading Cisco Software, Firmware and Driver Packs, page 1-12.
- To obtain firmware for non-Cisco products, go to the product website or contact your sales representative.
- Verify that the firmware version is supported for your Cisco Video Surveillance Manager version. See the Release Notes for Cisco Video Surveillance Manager.

Upgrade the Cisco Device Firmware

Step 1 Download the firmware image from the Cisco website or device manufacturer.

See the following for more information:

- Downloading Cisco Software, Firmware and Driver Packs, page 1-12.
- Release Notes for Cisco Video Surveillance Manager

Step 2 Choose **System Settings** > **Firmware Management**.

- You must belong to a User Group with manage permissions for *Cameras* and *Images*.

Step 3 Select the camera or encoder tab (Figure 6-1 on page 6-2).

Step 4 Use the filters to select camera (Figure 6-1).

a. Select a Make/Model from the Filters to enable the other fields and the **Search** button

b. Expand the **Make/Model**.

c. Click the entry field.

d. Select the camera model from the pop-up list.

e. Select additional filter criteria, if necessary.

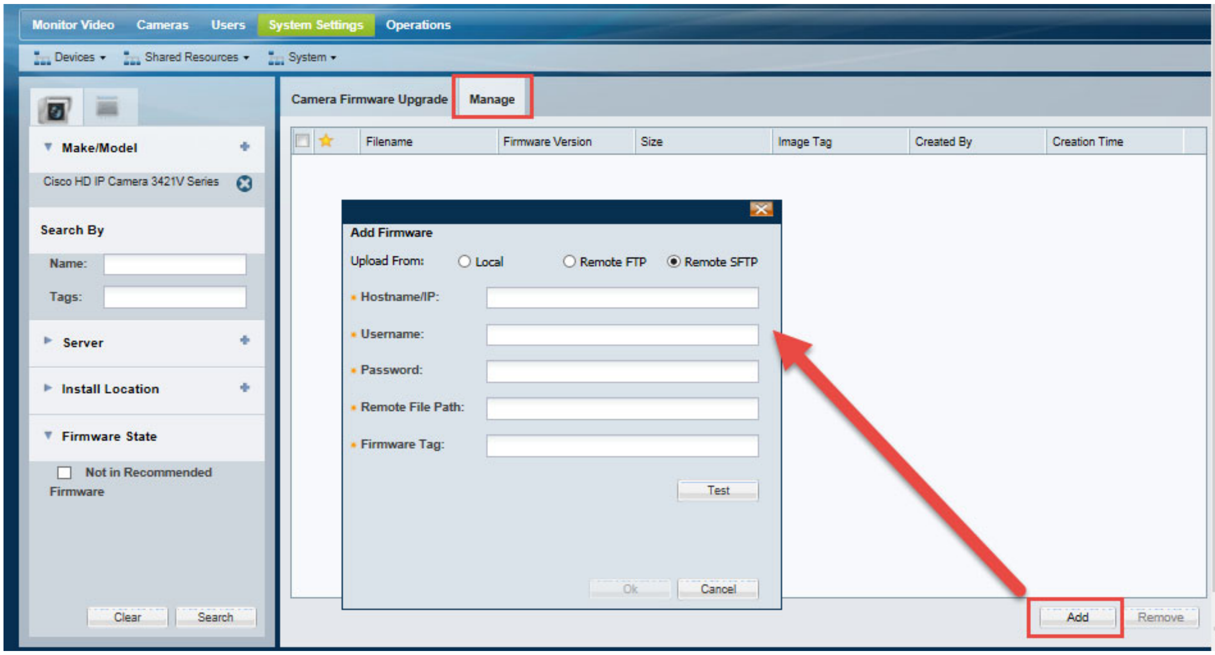
f. Click **Search**.

Step 5 (Optional) Add additional filter criteria to refine the search.

You can also click the **Make/Model**. field again to add additional device models.

Step 6 Add the firmware images (Figure 6-2):

Figure 6-2 Adding Firmware Images



Make/Model: Cisco HD IP Camera 3421V Series

Name:

Tags:

□ Not in Recommended Firmware

Upload From: ○ Local ○ Remote FTP ● Remote SFTP

* Hostname/IP:

* Username:

* Password:

* Remote File Path:

* Firmware Tag:

a. Select the **Manage** tab.

b. Click **Add**.

c. Select the image location:

- **Local**—Click + to select the location of the firmware file
- **Remote FTP—**enter the FTP connection details and remote file path. Click **Test** to verify the connection.
- **Remote SFTP—**enter the SFTP connection details and remote file path. Click **Test** to verify the connection.

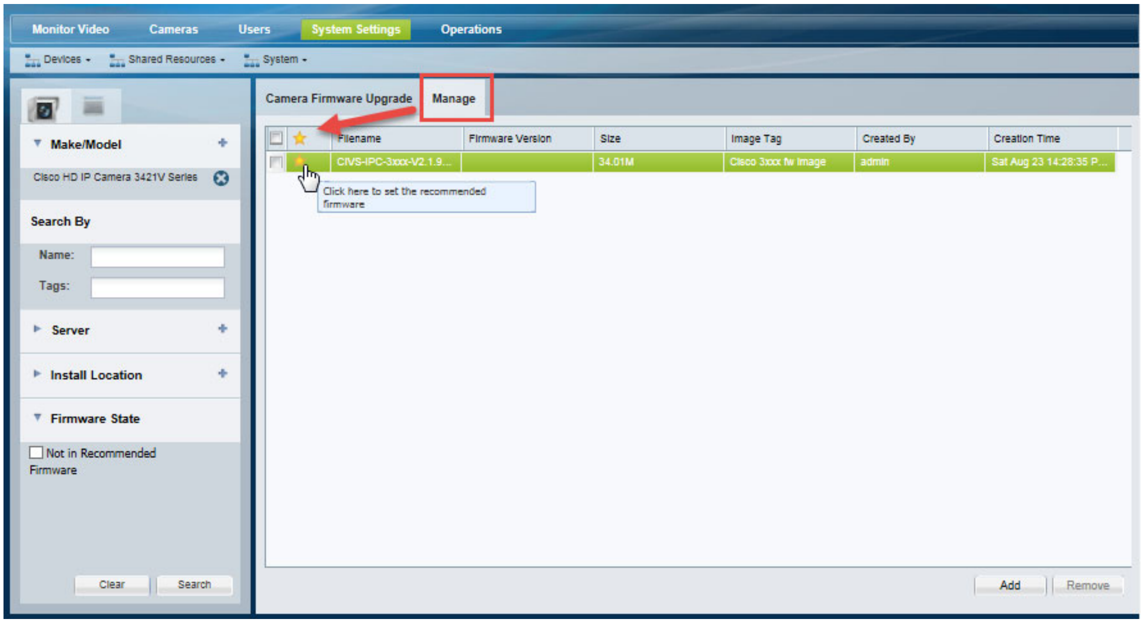
d. Enter a firmware tag that includes the firmware device model.

e. Click **OK**.

f. Wait for the file to upload and click **OK** when the success message appears.

Step 7 In the firmware list, select the star ⭐ next to a firmware image that is the recommended version for the device model. This firmware image will be used in the upgrade/downgrade (Figure 6-3).

Figure 6-3 Adding Firmware Images



Cisco HD IP Camera 3421V Series

□ Not in Recommended Firmware

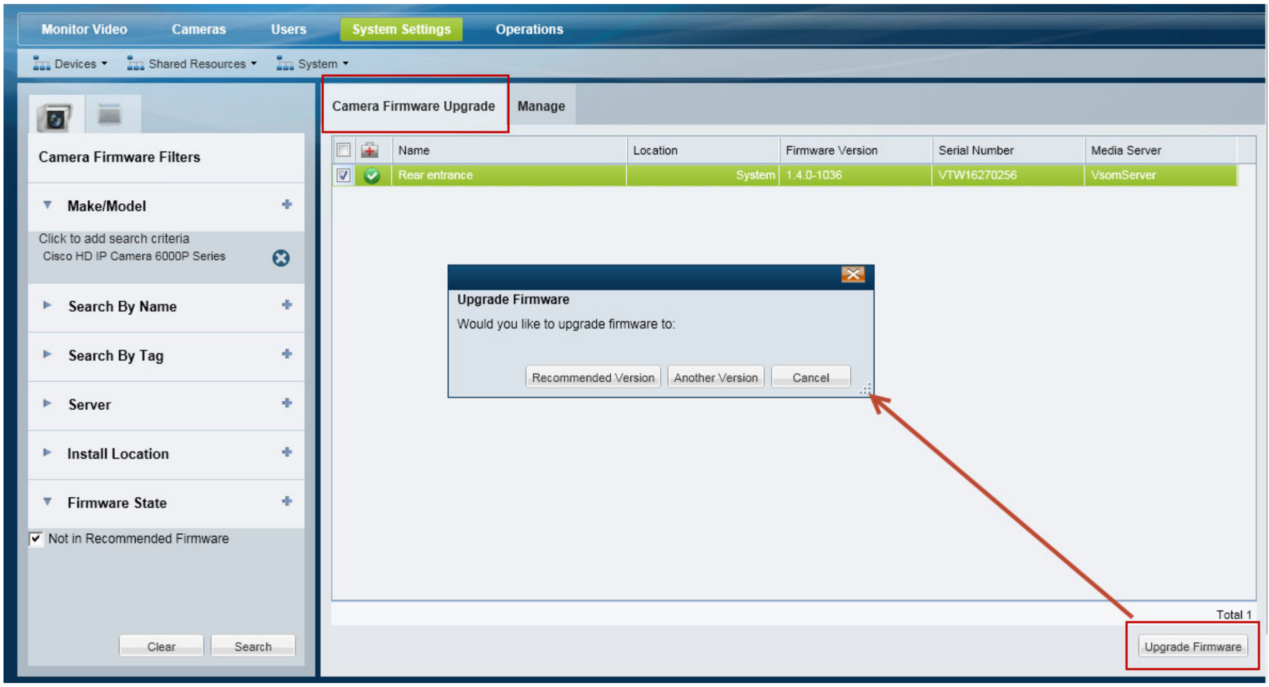
□	⭐	Filename	Firmware Version	Size	Image Tag	Created By	Creation Time
□	⭐	CIVS-IPC-3xxx-V2.1.9...		34.01M	Cisco 3xxx fw image	admin	Sat Aug 23 14:28:35 P...

Click here to set the recommended firmware

Note The Firmware version column is only displayed after the firmware has been applied to a set of devices.

Step 8 Upgrade the device firmware (Figure 6-4):

Figure 6-4 Upgrading Firmware



Click to add search criteria
Cisco HD IP Camera 6000P Series

☑ Not in Recommended Firmware

☐		Name	Location	Firmware Version	Serial Number	Media Server
☑	✓	Rear entrance	System	1.4.0-1036	VTW16270256	VsomServer

Upgrade Firmware

Would you like to upgrade firmware to:

Recommended Version | Another Version | Cancel

Note The firmware image file must be a valid file format for the camera model. Although the Operations Manager will initially accept an invalid file format, the upgrade or downgrade will fail after 2-3 minutes.

Tip Select the filter **Firmware State > Not in Recommended Firmware** to view only the devices that do not have the recommended firmware version (as defined by the star ★ in Step 6).

Tip You can also downgrade devices by selecting a previous version, if the device supports downgrades.

a. Select the **Camera Firmware Upgrade** tab (or **Encoder Firmware Upgrade** tab).

b. Select the devices to be upgraded.

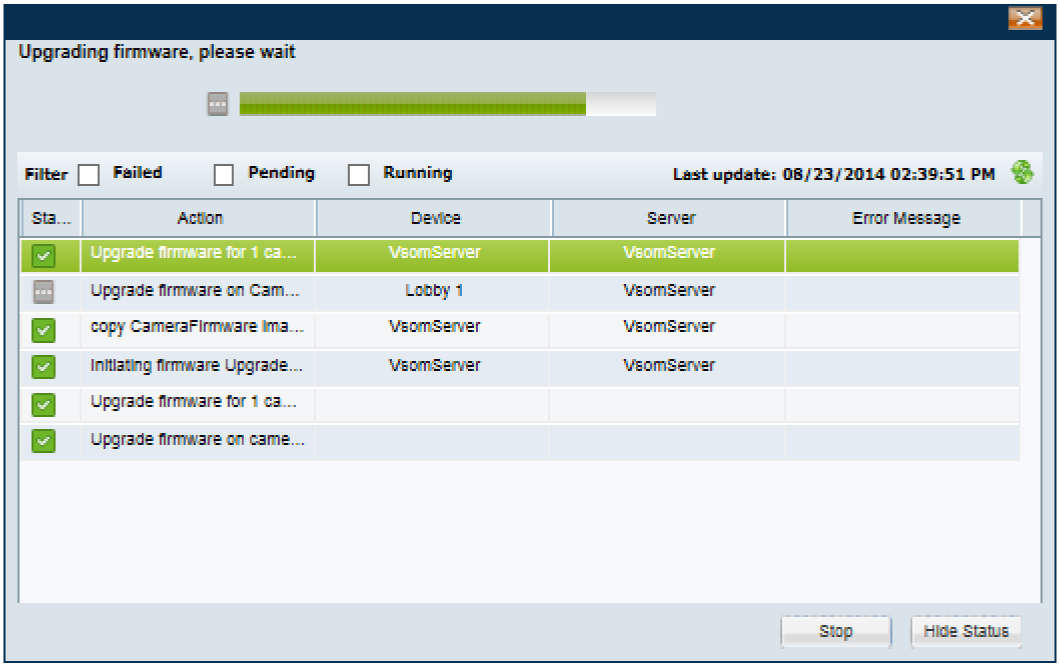
c. Click **Upgrade Firmware**.

d. Click **Recommended Version** or **Another Version**.

- **Recommended Version**—upgrade using the firmware version defined by the star ★ in Step 6. If no version was selected, then you must select a firmware version for the upgrade.
- **Another Version**—select the firmware version for the upgrade.

Step 9 Wait for the upgrade job to complete (Figure 6-5). See the "Usage Notes" section on page 6-2 if the upgrade is not successful.

Figure 6-5 Job Status



Upgrading firmware, please wait

Filter □ Failed □ Pending □ Running Last update: 08/23/2014 02:39:51 PM

Sta...	Action	Device	Server	Error Message
✓	Upgrade firmware for 1 ca...	VsomServer	VsomServer	
⋯	Upgrade firmware on Cam...	Lobby 1	VsomServer	
✓	copy CameraFirmware Ima...	VsomServer	VsomServer	
✓	Initiating firmware Upgrade...	VsomServer	VsomServer	
✓	Upgrade firmware for 1 ca...			
✓	Upgrade firmware on came...			

Reboot the Cameras

If the firmware upgrade requires a device reboot, cameras can be manually rebooted using the Cisco VSM Operations Manager. Although this is not normally required, it may be necessary depending on the camera and firmware. See the release notes for your camera firmware for more information.

Supported Cameras

Only supported cameras can be rebooted, such as Cisco, Iqeye, Onvif, and Mobotix cameras. See the Cisco VSM Release Notes for your release for updated information.

Reboot a Single Camera

Use the camera configuration page to reboot a single camera.

Procedure

Step 1 Click **Cameras**.

Step 2 Select the location and camera name.

Step 3 Select **Device Settings > Reboot**.

Step 4 Click **Yes**.

Reboot Multiple Cameras

Use bulk actions to reboot multiple cameras at the same time. Only supported cameras will be rebooted.

Procedure

Step 1 Click **Cameras**.

Step 2 Click **Bulk Actions**.

Step 3 Search for and select the cameras to be deleted

Step 4 Click **Bulk Actions > Reboot**.

Step 5 Click **Yes**.

CHAPTER 7

Installing Cisco Video Surveillance Safety and Security Desktop (Cisco SASD)

All Cisco SASD applications can be downloaded from cisco.com and installed on a monitoring workstation.

The Cisco SASD Advanced Video Player installer can also be downloaded from the browser-based Operations Manager (go to the **Operations** tab).

See the following for more information.

- Understanding the Cisco SASD Application Suite, page 7-2
- Installing the Cisco SASD Application Suite, page 7-2
- Installing the Cisco SASD Advanced Video Player, page 7-3
- Upgrading Cisco SASD Applications, page 7-5

Understanding the Cisco SASD Application Suite

The Cisco Video Surveillance Safety and Security Desktop (Cisco SASD) is a suite of applications that allow Cisco Video Surveillance users to monitor live and recorded video. The suite includes the following components.

Table 7-1 Cisco SASD Applications

Application	Description
Cisco SASD	A full-featured monitoring application that provides access to the cameras and video from a single Operations Manager. Cisco SASD includes the following workspaces and features: • Video workspace • Wall workspace • Alert workspace • Maps workspace • Forensic Analysis Tools
Cisco SASD Advanced Video Player	An advanced monitoring application that includes the following monitoring workspaces: • Video workspace • Wall workspace
Cisco SASD Wall Launcher	Launches a monitoring application for unattended workstations. “Unattended” mode allows video monitoring windows to display Video Walls without access to the Cisco SASD configuration interface. The unattended screens can remain open even is the keyboard and mouse are disconnected, and can (optionally) re-appear when the workstation is rebooted.
Cisco SASD Wall Configurator	A utility for adding and modifying the video Walls that can be selected and displayed in the monitoring workstations.
Cisco SASD Federator	A monitoring application that allows Federator users to monitor video from multiple Operations Managers.

Tip For more information, see the Cisco Video Surveillance Safety and Security Desktop User Guide.

Installing the Cisco SASD Application Suite

All Cisco SASD applications can be downloaded from the cisco.com website. This includes all components described in the Understanding the Cisco SASD Application Suite, page 7-2.

Procedure

Step 1 Go to the Cisco Video Surveillance Manager product page.

Step 2 Click Download Software.

Step 3 Select **Video Surveillance Manager Stand-alone Tools**.

Step 4 Select the release.

Step 5 Select the Cisco Video Surveillance Safety and Security Desktop application.

Step 6 Click **Download Software** next to the software package and follow the on-screen instructions.

Step 7 Locate and launch the installation file, and follow the onscreen instructions.

Step 8 Complete the on-screen instructions to install or upgrade the Cisco Multi-Pane Video Surveillance client software on your computer.

This Active X client enables video playback and other UI features.

Note: Video does not play if the Cisco Multi-Pane client software is incorrectly installed. You must have administrative privileges on the PC workstation to install the software.

Installing the Cisco SASD Advanced Video Player

You can also download the Cisco SASD Advanced Video Player installer from the browser-based Operations Manager (**Operations** tab).

Note: Microsoft .NET Framework 4.0 must be installed on the PC running Cisco SASD.

To install the Cisco SASD Advanced Video Player:

Step 1 Log in to the Cisco VSM browser-based Operations Manager:

a. Launch Internet Explorer on your Windows computer.

b. Enter the Server Name for the Cisco VSM Operations Manager.

c. From the Domain menu, choose the default “localhost” (for accounts created using the Operations Manager).

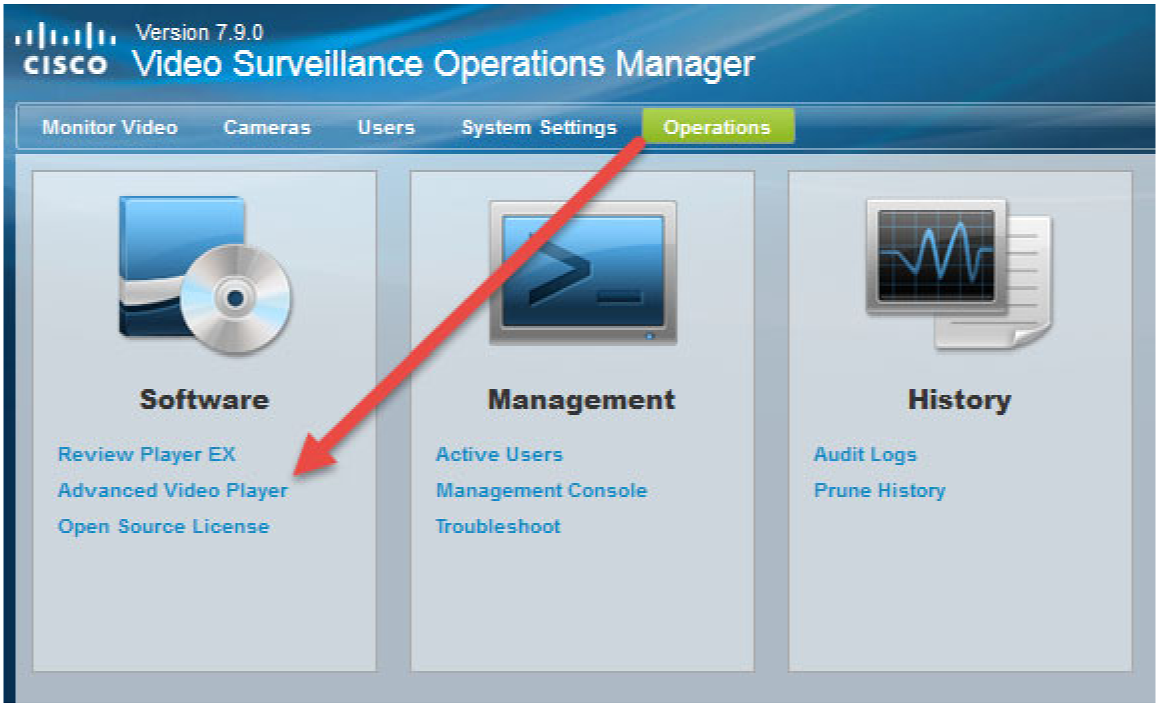
Note: Select a different Domain only if you are a user from an external database (Active Directory LDAP domain) and are instructed to do so by your system administrator.

d. Enter your username and password.

Note: Enter a new password if prompted. You must enter a new username the first time you log in or when your password periodically expires.

Step 2 Select the **Operations** tab (Figure 7-1).

Figure 7-1 Downloading the Cisco SASD Advanced Video Player Installer from the Operations Manager



Step 3 Click **Advanced Video Player** (in the *Software* pane).

Step 4 Follow the onscreen instructions to complete the installation.

Step 5 Complete the on-screen instructions to install or upgrade the Cisco Multi-Pane Video Surveillance client software on your computer.

This application is an Active X client that enables video playback and other features. Video will not play unless the Cisco Multi-Pane client software is correctly installed. You must have administrative privileges on the PC workstation to install the software.

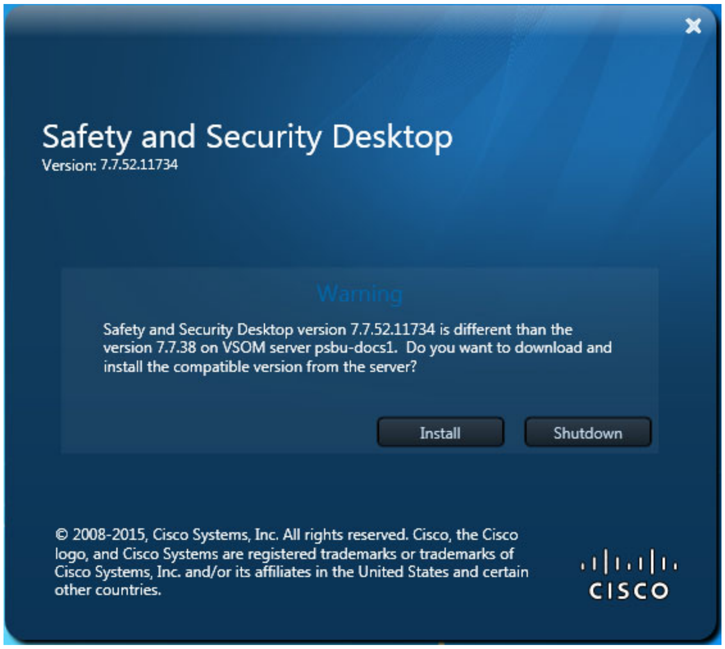
Tips:

- To access the application on your workstation, go to **Start** > **SASD Video Player**.
- You can also double-click the Safety And Security Desktop icons on your desktop, or go to **Start** > **All Programs** > **Cisco Safety And Security Desktop**.
- You can save the installer file and use it to install the application on multiple workstations.
- Users must have a valid Cisco VSM username and password to access the system.
- Go to http://www.microsoft.com/en-us/download/confirmation.aspx?id=17851 to download the installer.

Upgrading Cisco SASD Applications

If the Cisco VSM system is upgraded, you will be prompted to upgrade Cisco SASD when logging in. Select **Install**, when prompted (Figure 7-2) and follow the onscreen instructions.

Figure 7-2 Upgrading the Cisco SASD Application



Safety and Security Desktop
Version: 7.7.52.11734

Warning

Safety and Security Desktop version 7.7.52.11734 is different than the version 7.7.38 on VSOM server psbu-docs1. Do you want to download and install the compatible version from the server?

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CHAPTER 8

Upgrading Language Packs

Add language packages to display the Cisco Video Surveillance interface in additional languages.

- Language Settings, page 8-1
- Uploading Language Packs, page 8-2

Language Settings

Language settings define the user interface language, the date and time formats, and the first day of the week. Modify the following settings as needed and click **Save**.

Table 8-1 Language Settings

Setting	Description
System Language	Select a supported language for the user interface text. To upload new or revised language packs, see Uploading Language Packs, page 8-2.
Date Format	Select the date format displayed in system messages, alerts, and other generated information. For example, **MM/DD/YYYY** means that dates will appear as month, day, and year. • d = day • M = Month • y = year
Time Format	Select the time format displayed in system messages, alerts, and other generated information. For example, **hh:mm:ss tt** means that the time will be displayed as hours, minutes, and seconds, and include the AM/PM notation. • hh = hour • mm = minute • ss = second • tt = A.M. or P.M.
First day of week	Select the day that should be considered the first day of the week. For example, **Monday**.

Uploading Language Packs

Add language packages to display the Cisco Video Surveillance interface in additional languages. You must upgrade the language packs on all servers in your deployment.

Procedure

Step 1 Download the language pack from the cisco.com (see Downloading Cisco Software, Firmware and Driver Packs, page 1-12).

Step 2 Upload the language pack:

- **a.** Log in to the Cisco VSM Operations Manager.
- **b.** Go to **System Settings** > **Language Settings** > **System Language**.
- **c.** Click ➕ and select the language pack from a local or network drive.
- **d.** Click **Upload**.

Step 3 Select the language for the user interface:

- **a.** After the system is restarted, login to the Operations Manager.
- **b.** Go to **System Settings** > **Language Settings** > **System Language**.
- **c.** Select the system language.
- **d.** Click **Save**.

CHAPTER 9

Recovery Guide: CPS-UCS-1RU-K9 and CPS-UCS-2RU-K9

This document describes how to create a recovery flash drive for Cisco Video Surveillance Manager (Cisco VSM) Release 7.5 and higher, running on the Cisco Connected Safety and Security UCS Platform Series servers CPS-UCS-1RU-K9 and CPS-UCS-2RU-K9.

This bootable USB drive contains a recovery image that you can use to restore the operating system on a server, or restore the server to the factory state, if needed.

Tip Back up existing system data to a PC or FTP/SFTP server before performing the recovery to preserve system configuration and (optionally) historical data. See the Cisco Video Surveillance Operations Manager User Guide for instructions.

This document includes the following topics:

- Supported Servers, page 1
- Creating a Recovery Flash Drive, page 2
- Recovering the Operating System from a Recovery Flash Drive, page 3

Supported Servers

The Cisco VSM Release 7.5 and higher recovery images are supported by the Cisco Connected Safety and Security UCS Platform Series servers, including the following:

- Cisco Connected Safety and Security UCS C220: CPS-UCS-1RU-K9
- Cisco Connected Safety and Security UCS C240: CPS-UCS-2RU-K9

Note Other server models and servers shipped with earlier or later versions of the Cisco VSM software are not compatible with the recovery process described in this document. Be sure to download the recovery images for the specific server models.

Creating a Recovery Flash Drive

This section describes how to create a recovery flash drive by obtaining the recovery image and placing it on a USB flash drive.

Requirements

The USB flash drive that you use must:

- Have a capacity of at least 8 GB
- Contain no files other than the recovery image files

Cisco recommends using USB memory sticks that are made by Kingston or SanDisk.

Procedure

Step 1 Insert a USB drive into a PC port (see Requirements, page 9-2).

Step 2 Download the recovery image on the Windows PC:

a. Go to the Cisco Video Surveillance Manager product page.

b. Click Download Software.

c. Select **Video Surveillance Media Server Software** (including system software).

d. Select the release.

e. Click **Download Software** next to the recovery file and follow the on-screen instructions.

Step 3 Download and install a utility used to raw write a binary image to a USB disk.

For example: see the **Win32 Disk Imager** download at:
http://sourceforge.net/projects/win32diskimager/files/latest/download

Step 4 Write the recovery image to the disk:

a. Launch the disk image utility and select the binary recovery file.

b. Select the destination USB drive.

c. Follow the utility instructions to create the recovery disk.

Step 5 Remove the USB stick from the Windows PC.

Recovering the Operating System from a Recovery Flash Drive

This section describes how to use a recovery flash drive to restore the operating system on a server.

Caveats

An error "Format failed" sometimes appears during installation. This is a known issue CSCvh98843.

Workaround: Restart the recovery process.

Requirements: Before You Begin

Before you begin, do the following.

Note These tasks are important to ensure that your data is preserved and the recovery process is successful.

- Prepare a flash drive as described in the "Creating a Recovery Flash Drive" section on page 9-2.
- Disconnect any USB or external storage devices (including SAN storage) from the server.
- Installation is supported only if the RAID disks are in a non-bad, non-failed state.
- Back up existing system data on servers running services other than Media Server (such as Operations Manager, Federator, or Metadata).
  - Back up existing system data to a PC or FTP/SFTP server before performing the recovery. This allows you to restore system configurations and historical data.
  - See the Cisco Video Surveillance Operations Manager User Guide or Cisco Video Surveillance Management Console Administration Guide for instructions.

Procedure

To restore the operating system from a recovery flash drive, follow these steps:

Step 1 Complete the "Requirements: Before You Begin" tasks.

Step 2 (Servers running services other than Media Server) Back up existing system data to a PC or FTP/SFTP server before performing the recovery.

- Use the Operations Manager or Management Console UI to perform the backup.
- See the Cisco Video Surveillance Operations Manager User Guide or Cisco Video Surveillance Management Console Administration Guide for instructions.

Step 3 Power off the server on which you need to restore the operating system.

Step 4 Disconnect (unplug) any USB storage devices and any external storage (such as SAN storage connected through a fibre channel) that are connected to the server.

This ensures that only the recovery flash drive is attached to the server and prevents other storage devices from accidentally being cleared by the recovery process.

Step 5 Put the recovery flash drive in a USB port on the server and power on the server.

Step 6 When the Cisco logo appears, press the **F6** key to select the boot device.

Step 7 Select the USB recovery flash drive and press **Enter**.

Step 8 At the "boot>" prompt, type one of the following options and press **Enter**:

Table 1 Recovery Options

Recover Options	Option Description
recovery	Reinstalls the operating system. • Recorded video and configurations are preserved. • RAID configurations are preserved (only the OS partitions are formatted).
factory	Restores the server to the factory default settings: • Reinstalls the operating system • Clears and reconfigures the RAID. You must disconnect any external storage before using this option. • Recorded video and configurations are deleted **Caution** This action deletes all data and video files.
factory_raid5	Restores a Cisco Connected Safety and Security UCS C240 server to the factory default settings, including: • Reinstalls the operating system • Clears and reconfigures the RAID. You must disconnect any external storage before using this option. • Recorded video and configurations are deleted • Valid only on the Cisco Connected Safety and Security UCS C240 with 6 or 12 internal drives. **Caution** This action deletes all data and video files.
rescue	Boot to prompt from USB media. Use this option to recover a password or for other administrative tasks.

Tip To skip software re-installation remove the USB flash drive and reboot the server by pressing **CTRL+ALT+DEL** keys.

Note Ignore any "modinfo: could not find module megasar" errors that may occur during the installation. This does not impact the installation process.

Step 9 When the installation is complete, you are prompted to reboot.

Step 10 Remove the USB flash drive and reboot the server.

Step 11 Complete the Initial Setup Wizard (see Complete the Initial Setup Wizard, page 2-2).

Step 12 Use the Management Console UI to restore the configuration backups you created in Step 1. Restore your data based on the recovery method used:

- **Recovery** option—(Servers running services other than Media Server) When the Recovery option is used, restore only the CDAF (console) backup. This is because only the Media Server service is enabled after server comes back up. The configuration data is still present on the server for the other services, but you must restore the CDAF backup file to re-enable those services (that were running on the server prior to recovery).
- **Factory** options—Restore the server services in the following order:

Operations Manager Server	Stand-Alone Server (such as Media Server)	Federator Server
a. Management Console (CDAF)	**a.** Management Console (CDAF)	**a.** Management Console (CDAF)
b. Media Server (VSMS)	**b.** Media Server (VSMS)	**b.** Federator (VSF)
c. Operations Manager (VSOM)	**c.** Additional server services	
d. Additional server services		

Note CDAF runs on all servers and provides the Cisco VSM Management Console user interface and features. CDAF backups include the server database, system information, console jobs and other data. The CDAF service must be restored along with the other server services or information may be missing and system errors can occur.

Step 13 Log in to the Operations Manager UI and verify that your system configuration and video data is present.

Step 14 Use the Operations Manager to configure system, network, and related settings as appropriate for your deployment. For instructions, see the Cisco Video Surveillance Operations Manager User Guide

CHAPTER 10

Recovery Guide: CPS-UCSM4-1RU-K9 and CPS-UCSM4-2RU-K9

This document describes how to create a recovery flash drive for Cisco Video Surveillance Manager (Cisco VSM) Release 7.7.0 and higher, running on the Cisco Connected Safety and Security UCS Platform Series servers CPS-UCSM4-1RU-K9 and CPS-UCSM4-2RU-K9.

This bootable USB drive contains a recovery image that you can use to restore the operating system on a server, or restore the server to the factory state, if needed.

Tip Back up existing system data to a PC or FTP/SFTP server before performing the recovery to preserve system configuration and (optionally) historical data. See the Cisco Video Surveillance Operations Manager User Guide for instructions.

This document includes the following topics:

- Supported Servers, page 1
- Creating a Recovery Flash Drive, page 2
- Recovering the Operating System from a Recovery Flash Drive, page 3

Supported Servers

The Cisco VSM Release 7.7.0 and higher recovery images are supported by the following Cisco Connected Safety and Security UCS Platform Series servers:

- Cisco Connected Safety and Security UCS C220: CPS-UCSM4-1RU-K9
- Cisco Connected Safety and Security UCS C240: CPS-UCSM4-2RU-K9

Note Other server models and servers shipped with earlier or later versions of the Cisco VSM software are not compatible with the recovery process described in this document. Be sure to download the recovery images for the specific server models.

Creating a Recovery Flash Drive

This section describes how to create a recovery flash drive by obtaining the recovery image and placing it on a USB flash drive.

Requirements

The USB flash drive that you use must:

- Have a capacity of at least 16 GB
- Contain no files other than the recovery image files

Cisco recommends using USB memory sticks that are made by Kingston or SanDisk.

Procedure

Step 1 Insert a USB drive into a PC port (see Requirements, page 10-2).

Step 2 Download the recovery image on the Windows PC:

a. Go to the Cisco Video Surveillance Manager product page.

b. Click Download Software.

c. Select **Video Surveillance Media Server Software** (including system software).

d. Select the release.

e. Click **Download Software** next to the recovery file and follow the on-screen instructions.

Step 3 Download and install a utility used to raw write a binary image to a USB disk.

For example: see the **Win32 Disk Imager** download at:
http://sourceforge.net/projects/win32diskimager/files/latest/download

Step 4 Write the recovery image to the disk:

a. Launch the disk image utility and select the binary recovery file.

b. Select the destination USB drive.

c. Follow the utility instructions to create the recovery disk.

Step 5 Remove the USB stick from the Windows PC.

Recovering the Operating System from a Recovery Flash Drive

This section describes how to use a recovery flash drive to restore the operating system on a server.

Caveats

An error "Format failed" sometimes appears during installation. This is a known issue CSCvh98843.

Workaround: Restart the recovery process.

Requirements: Before You Begin

Before you begin, do the following.

Note These tasks are important to ensure that your data is preserved and the recovery process is successful.

- Prepare a flash drive as described in the "Creating a Recovery Flash Drive" section on page 10-2.
- Disconnect any USB or external storage devices (including SAN storage) from the server.
- Installation is supported only if the RAID disks are in a non-bad, non-failed state.
- Back up existing system data on servers running services other than Media Server (such as Operations Manager, Federator, or Metadata).
  - Back up existing system data to a PC or FTP/SFTP server before performing the recovery. This allows you to restore system configurations and historical data.
  - See the Cisco Video Surveillance Operations Manager User Guide or Cisco Video Surveillance Management Console Administration Guide for instructions.

Recovery Options

The following recovery options are available.

Table 1 Recovery Options

Recover Options	Option Description
recovery	Reinstalls the operating system. • Recorded video and configurations are preserved. • RAID configurations are preserved (only the OS partitions are formatted).
factory	Restores the server to the factory default settings: • Reinstalls the operating system. • Clears and reconfigures the RAID. You must disconnect any external storage before using this option. • Recorded video and configurations are deleted. • RAID-6 is configured on the Cisco CSS UCSM4 2RU server with 6 to 12 internal drives. **Caution** This action deletes all data and video files.

Table 1 Recovery Options

Recover Options	Option Description
factory_raid5	Restores a Cisco CSS UCSM4 2RU server to the factory default settings, including: • Reinstalls the operating system • Clears and reconfigures the RAID. You must disconnect any external storage before using this option. • Recorded video and configurations are deleted • Valid only on the Cisco CSS UCSM4 2RU with 6 to 12 internal drives. ⚠ **Caution** This action deletes all data and video files.
rescue	Boot to prompt from USB media. Use this option to recover a password or for other administrative tasks.

Procedure

To restore the operating system from a recovery flash drive, follow these steps.

This procedure is an example of the "recovery" option. See Recovery Options for additional information.

Step 1 Complete the "Requirements: Before You Begin" tasks.

Step 2 (Servers running services other than Media Server) Back up existing system data to a PC or FTP/SFTP server before performing the recovery.

- Use the Operations Manager or Management Console UI to perform the backup.
- See the Cisco Video Surveillance Operations Manager User Guide or Cisco Video Surveillance Management Console Administration Guide for instructions.

Step 3 Power off the server on which you need to restore the operating system.

Step 4 Disconnect (unplug) any USB storage devices and any external storage (such as SAN storage connected through a fibre channel) that are connected to the server.

This ensures that only the recovery flash drive is attached to the server and prevents other storage devices from accidentally being cleared by the recovery process.

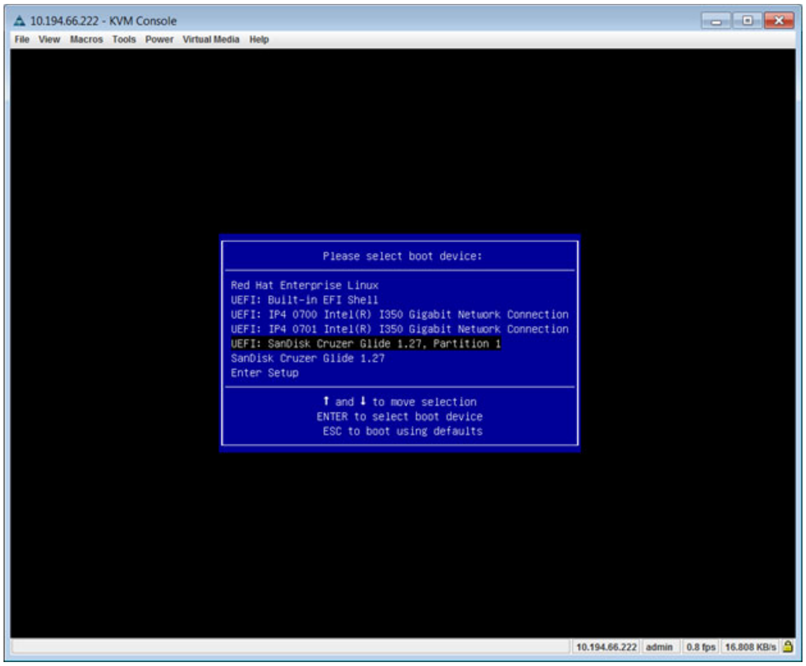
Step 5 Put the recovery flash drive in a USB port on the server and power on the server.

Step 6 When the Cisco logo appears, press the **F6** key to select the boot device.

Step 7 Select UEFI part (boot device) of the USB drive and press **Enter** (Figure 10-1).

- **Note:** The drive name depends on the USB drive manufacturer. Figure 10-1 shows a SanDisk USB drive but your drive may be different.

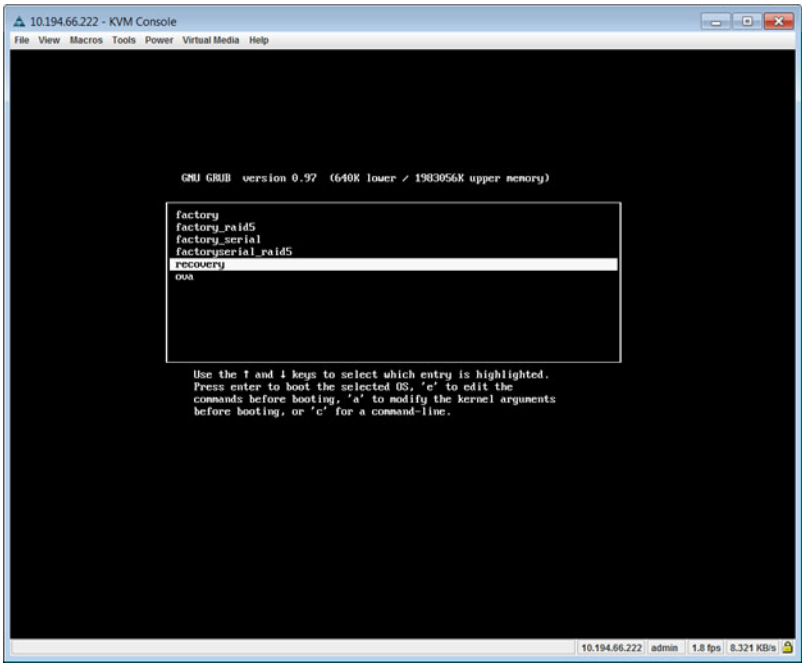
Figure 10-1 Select a Boot Device



```
           Please select boot device:

Red Hat Enterprise Linux
UEFI: Built-in EFI Shell
UEFI: IP4 0700 Intel(R) I350 Gigabit Network Connection
UEFI: IP4 0701 Intel(R) I350 Gigabit Network Connection
UEFI: SanDisk Cruzer Glide 1.27, Partition 1
SanDisk Cruzer Glide 1.27
Enter Setup

           ↑ and ↓ to move selection
          ENTER to select boot device
           ESC to boot using defaults
```

Step 8 Select **Recovery** (Figure 10-2).

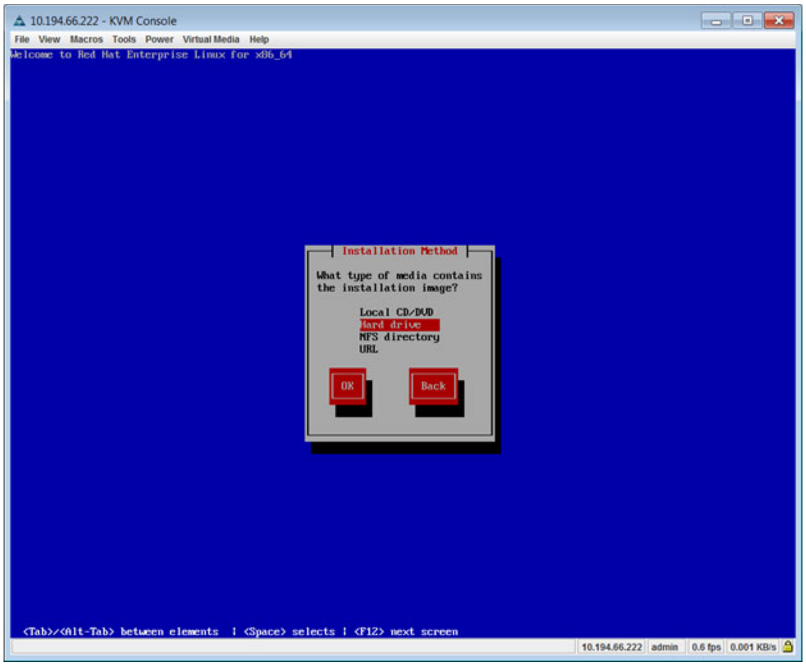
Figure 10-2 Recovery Option



```
  GNU GRUB  version 0.97  (640K lower / 1983056K upper memory)

factory
factory_raid5
factory_serial
factoryserial_raid5
recovery
ova

     Use the ↑ and ↓ keys to select which entry is highlighted.
     Press enter to boot the selected OS, 'e' to edit the
     commands before booting, 'a' to modify the kernel arguments
     before booting, or 'c' for a command-line.
```

Step 9 Select **Hard drive** as shown in Figure 10-3. The USB drive is treated as a hard disk during boot time.

Figure 10-3 Hard Drive Installation Method

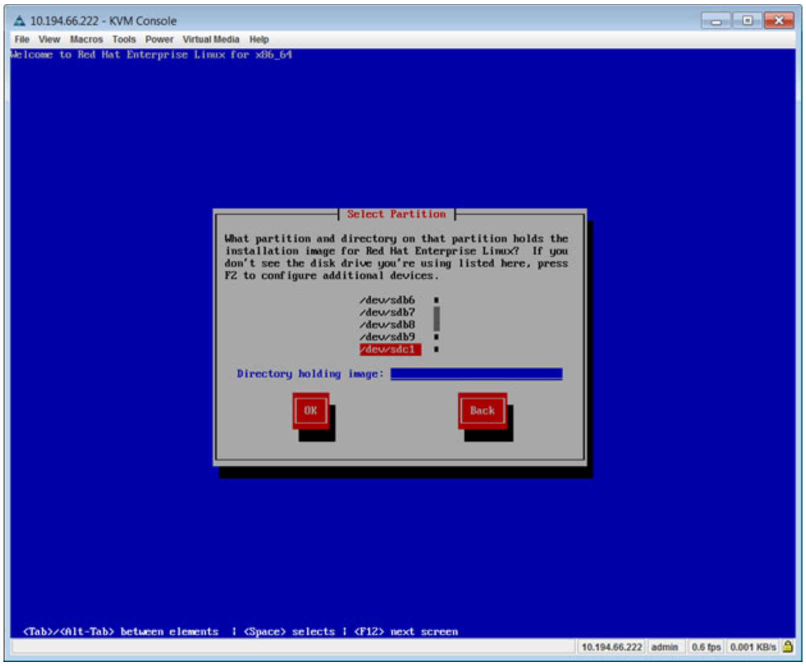

10.194.66.222 - KVM Console
File View Macros Tools Power Virtual Media Help
OK
Back
10.194.66.222
admin
0.6 fps
0.001 KB/s

```
Welcome to Red Hat Enterprise Linux for x86_64

Installation Method

What type of media contains
the installation image?

    Local CD/DVD
    Hard drive
    NFS directory
    URL

<Tab>/<Alt-Tab> between elements  | <Space> selects | <F12> next screen
```

Step 10 Select **sdc1** (Figure 10-4).

- Since the system recovery was installed with a version of Cisco VSM, several partitions are displayed that you can boot from. The first two are typically boot partitions (sda1 and sda2), the next ten partitions are OS partitions(sdb1 through sdb10), the last partition (**sdc1**) is the USB drive partition you need to select.

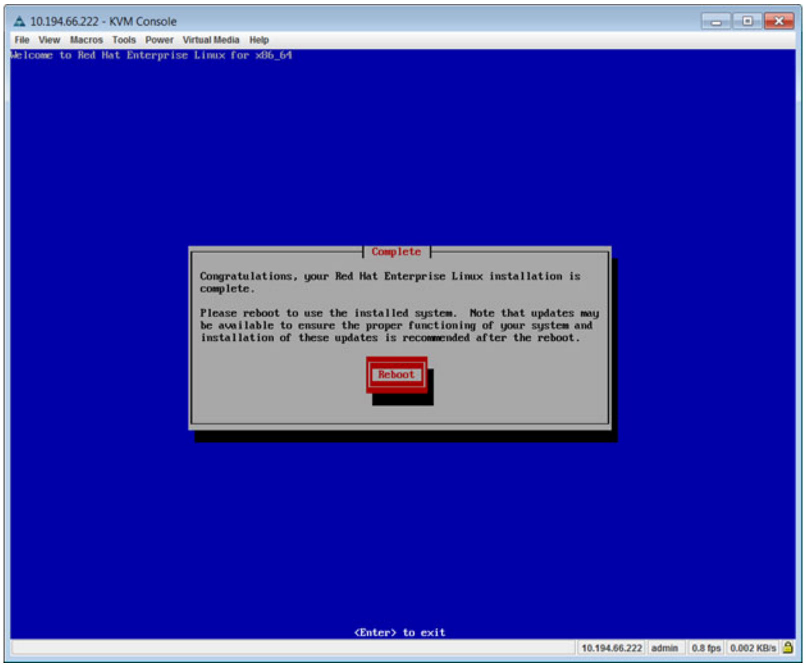
Figure 10-4 Select the Boot Partition


10.194.66.222 - KVM Console
File View Macros Tools Power Virtual Media Help
OK
Back
10.194.66.222
admin
0.6 fps
0.001 KB/s

```
Welcome to Red Hat Enterprise Linux for x86_64

Select Partition

What partition and directory on that partition holds the
installation image for Red Hat Enterprise Linux?  If you
don't see the disk drive you're using listed here, press
F2 to configure additional devices.

/dev/sdb6
/dev/sdb7
/dev/sdb8
/dev/sdb9
/dev/sdc1

Directory holding image:

<Tab>/<Alt-Tab> between elements  | <Space> selects | <F12> next screen
```

Step 11 When the installation is complete, you are prompted to reboot. (Figure 10-5).

Figure 10-5 Reboot


10.194.66.222 - KVM Console
File View Macros Tools Power Virtual Media Help
Reboot
10.194.66.222
admin
0.8 fps
0.002 KB/s

```
Welcome to Red Hat Enterprise Linux for x86_64

Complete

Congratulations, your Red Hat Enterprise Linux installation is
complete.

Please reboot to use the installed system.  Note that updates may
be available to ensure the proper functioning of your system and
installation of these updates is recommended after the reboot.

<Enter> to exit
```

Step 12 Remove the USB flash drive and reboot the server.

Step 13 Complete one of the following recovery options:

Option 1: Configuration Recovery without Using Restore Option

a. At the system prompt, enter the Linux default login credentials and set the desired password.

b. Enter the **service cisco start** command to manually start the Cisco services.

c. Enter the **chkconfig cisco on** command to manually enable Cisco services on subsequent reboots.

d. Launch a web browser and open VMS using the default Eth0 IP address **192.168.0.200**.

e. Go to **Server Settings** and do the following:

   – Click **Remove from Operations Manager**

   – Set Nic Port 1: network properties via **Settings**

   – Re-select the **Video Surveillance Operations Manager** check box

   – Click **Save**

f. The application will initialize and launch the Operations Manager login Page. All prior login credentials and device configurations will be available after login (including cameras and previous recording video files).

Option 2: Configuration Recovery Using the Restore Option (From a Previous Backup)

a. At the system prompt, enter the Linux default login credentials and set the desired password.

b. Enter the **service cisco start** command to manually start the Cisco services.

c. Enter the **chkconfig cisco on** command to manually enable Cisco services on subsequent reboots.

d. Launch a web browser and open VMS using the default eth0 IP address **192.168.0.200**.

e. Log in to the Management Console UI to restore the configuration backup:

   – Go to **Backup & Restore -> Add -> from PC or Remote**

   – locate and save the **CDAF** backup file

   – Select the file

   – **Restore**

f. Log in to the Operations Manager UI. All preserved configuration will be available including network settings, cameras, and previous recording video files.

Step 14 Use the Operations Manager to configure system, network, and related settings as appropriate for your deployment. For instructions, see the Cisco Video Surveillance Operations Manager User Guide

CHAPTER 11

Recovery Guide: KIN-UCSM5-1RU-K9 / KIN-UCSM5-2RU-K9

This document describes how to create a recovery flash drive for Cisco Video Surveillance Manager (Cisco VSM) Release 7.12 and higher, running on the Cisco Connected Safety and Security UCS Platform Series servers KIN-UCSM5-1RU-K9 and KIN-UCSM5-2RU-K9.

This bootable USB drive contains a recovery image that you can use to restore the operating system on a server, or restore the server to the factory state, if needed.

Tip Back up existing system data to a PC or FTP/SFTP server before performing the recovery to preserve system configuration and (optionally) historical data. See the Cisco Video Surveillance Operations Manager User Guide for instructions.

This document includes the following topics:

- Supported Servers, page 1
- Creating a Recovery Flash Drive, page 2
- Recovering the Operating System from a Recovery Flash Drive, page 3

Supported Servers

The Cisco VSM Release 7.12 and higher recovery images are supported by the following Cisco Connected Safety and Security UCS Platform Series servers:

- Cisco Connected Safety and Security UCS C220: KIN-UCSM5-1RU-K9
- Cisco Connected Safety and Security UCS C240: KIN-UCSM5-2RU-K9

Note Other server models and servers shipped with earlier or later versions of the Cisco VSM software are not compatible with the recovery process described in this document. Be sure to download the recovery images for the specific server models.

Creating a Recovery Flash Drive

This section describes how to create a recovery flash drive by obtaining the recovery image and placing it on a USB flash drive.

Requirements

The USB flash drive that you use must:

- Have a capacity of at least 8 GB
- Contain no files other than the recovery image files

Cisco recommends using USB memory sticks that are made by Kingston or SanDisk.

Procedure

Step 1 Insert a USB drive into a PC port (see Requirements, page 11-2).

Step 2 Download the recovery image on the Windows PC:

a. Go to the Cisco Video Surveillance Manager product page.

b. Click Download Software.

c. Select **Video Surveillance Media Server Software** (including system software).

d. Select the release.

e. Click **Download Software** next to the recovery file and follow the on-screen instructions.

Step 3 Download and install a utility used to raw write a binary image to a USB disk.

For example: see the **Win32 Disk Imager** download at:
http://sourceforge.net/projects/win32diskimager/files/latest/download

Step 4 Write the recovery image to the disk:

a. Launch the disk image utility and select the binary recovery file.

b. Select the destination USB drive.

c. Follow the utility instructions to create the recovery disk.

Step 5 Remove the USB stick from the Windows PC.

Recovering the Operating System from a Recovery Flash Drive

This section describes how to use a recovery flash drive to restore the operating system on a server.

Caveats

An error “Format failed” sometimes appears during installation. This is a known issue CSCvh98843.

Workaround: Restart the recovery process.

Requirements: Before You Begin

Before you begin, do the following.

Note These tasks are important to ensure that your data is preserved and the recovery process is successful.

- Prepare a flash drive as described in the “Creating a Recovery Flash Drive” section on page 11-2.
- Disconnect any USB or external storage devices (including SAN storage) from the server.
- Installation is supported only if the RAID disks are in a non-bad, non-failed state.
- Back up existing system data on servers running services other than Media Server (such as Operations Manager, Federator, or Metadata).
  - Back up existing system data to a PC or FTP/SFTP server before performing the recovery. This allows you to restore system configurations and historical data.
  - See the Cisco Video Surveillance Operations Manager User Guide or Cisco Video Surveillance Management Console Administration Guide for instructions.

Recovery Options

The following recovery options are available.

Table 1 Recovery Options

Recover Options	Option Description
recovery	Reinstalls the operating system. • Recorded video and configurations are preserved. • RAID configurations are preserved (only the OS partitions are formatted).
factory	Restores the server to the factory default settings: • Reinstalls the operating system. • Clears and reconfigures the RAID. You must disconnect any external storage before using this option. • Recorded video and configurations are deleted. • RAID-6 is configured on the KIN-UCSM5-2RU-K9 2RU server with 6 to 12 internal drives. **Caution** This action deletes all data and video files.

Table 1 Recovery Options

Recover Options	Option Description
factory_raid5	Restores a Cisco CSS UCSM5 2RU server to the factory default settings, including: • Reinstalls the operating system • Clears and reconfigures the RAID. You must disconnect any external storage before using this option. • Recorded video and configurations are deleted • Valid only on the Cisco CSS UCSM5 2RU with 6 to 12 internal drives. ⚠ **Caution** This action deletes all data and video files.
rescue	Boot to prompt from USB media. Use this option to recover a password or for other administrative tasks.

Procedure

To restore the operating system from a recovery flash drive, follow these steps.

This procedure is an example of the “recovery” option. See Recovery Options for additional information.

Step 1 Complete the “Requirements: Before You Begin” tasks.

Step 2 (Servers running services other than Media Server) Back up existing system data to a PC or FTP/SFTP server before performing the recovery.

- Use the Operations Manager or Management Console UI to perform the backup.
- See the Cisco Video Surveillance Operations Manager User Guide or Cisco Video Surveillance Management Console Administration Guide for instructions.

Step 3 Power off the server on which you need to restore the operating system.

Step 4 Disconnect (unplug) any USB storage devices and any external storage (such as SAN storage connected through a fibre channel) that are connected to the server.

This ensures that only the recovery flash drive is attached to the server and prevents other storage devices from accidentally being cleared by the recovery process.

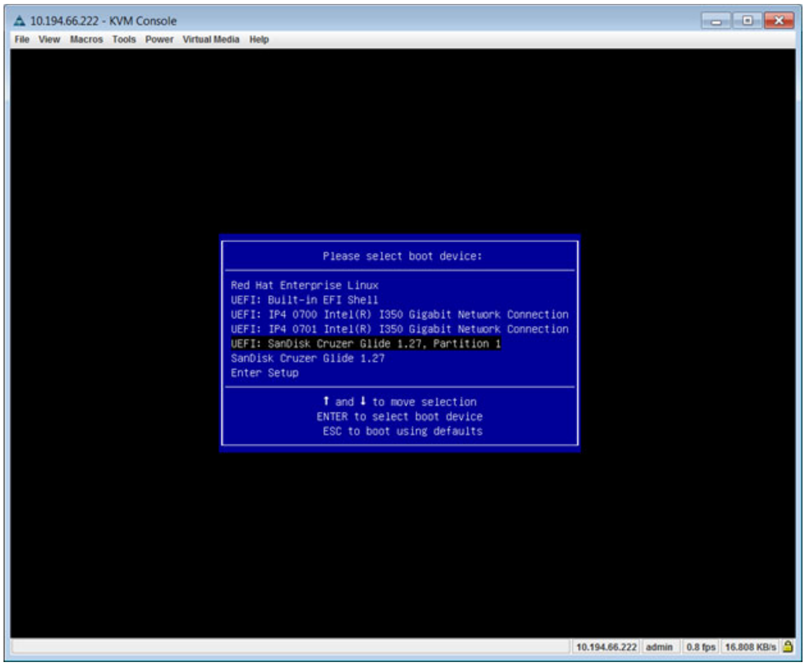
Step 5 Put the recovery flash drive in a USB port on the server and power on the server.

Step 6 When the Cisco logo appears, press the **F6** key to select the boot device.

Step 7 Select UEFI part (boot device) of the USB drive and press **Enter** (Figure 11-1).

- **Note:** The drive name depends on the USB drive manufacturer. Figure 11-1 shows a SanDisk USB drive but your drive may be different.

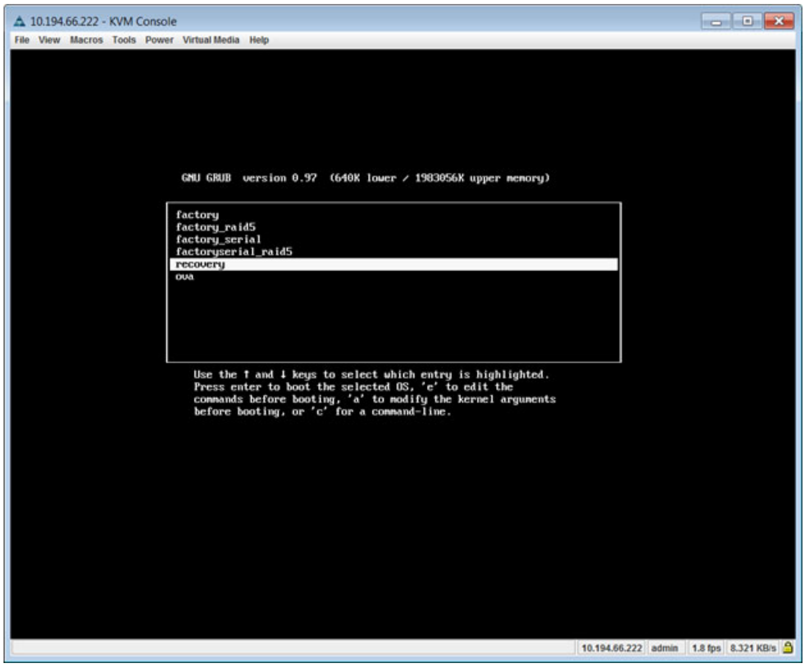
Figure 11-1 Select a Boot Device


10.194.66.222 - KVM Console
File View Macros Tools Power Virtual Media Help
10.194.66.222 admin 0.8 fps 16.808 KB/s

```
Please select boot device:

Red Hat Enterprise Linux
UEFI: Built-in EFI Shell
UEFI: IP4 0700 Intel(R) I350 Gigabit Network Connection
UEFI: IP4 0701 Intel(R) I350 Gigabit Network Connection
UEFI: SanDisk Cruzer Glide 1.27, Partition 1
SanDisk Cruzer Glide 1.27
Enter Setup

↑ and ↓ to move selection
ENTER to select boot device
ESC to boot using defaults
```

Step 8 Select **Recovery** (Figure 11-2).

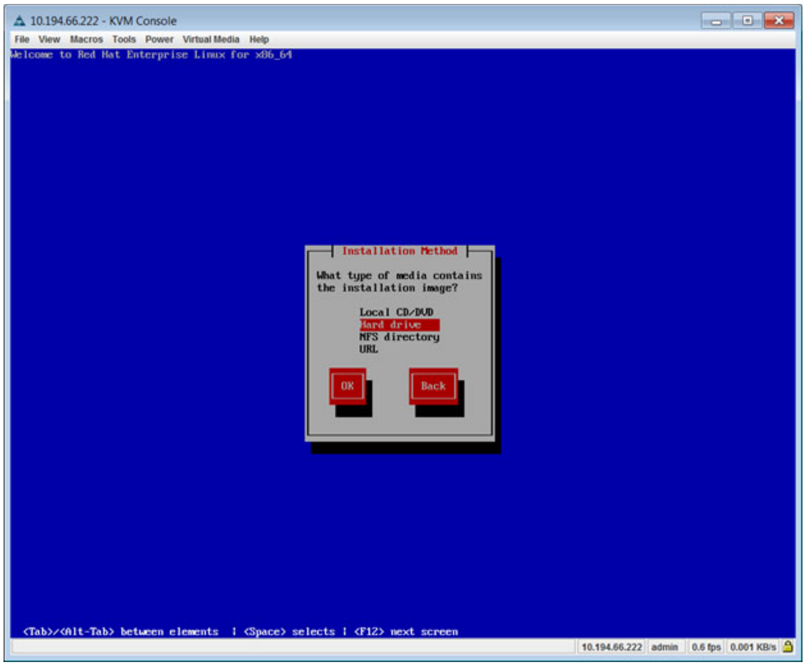
Figure 11-2 Recovery Option


10.194.66.222 - KVM Console
File View Macros Tools Power Virtual Media Help
10.194.66.222 admin 1.8 fps 8.321 KB/s

```
GNU GRUB  version 0.97  (640K lower / 1983056K upper memory)

factory
factory_raid5
factory_serial
factoryserial_raid5
recovery
ova

Use the ↑ and ↓ keys to select which entry is highlighted.
Press enter to boot the selected OS, 'e' to edit the
commands before booting, 'a' to modify the kernel arguments
before booting, or 'c' for a command-line.
```

Step 9 Select **Hard drive** as shown in Figure 11-3. The USB drive is treated as a hard disk during boot time.

Figure 11-3 Hard Drive Installation Method

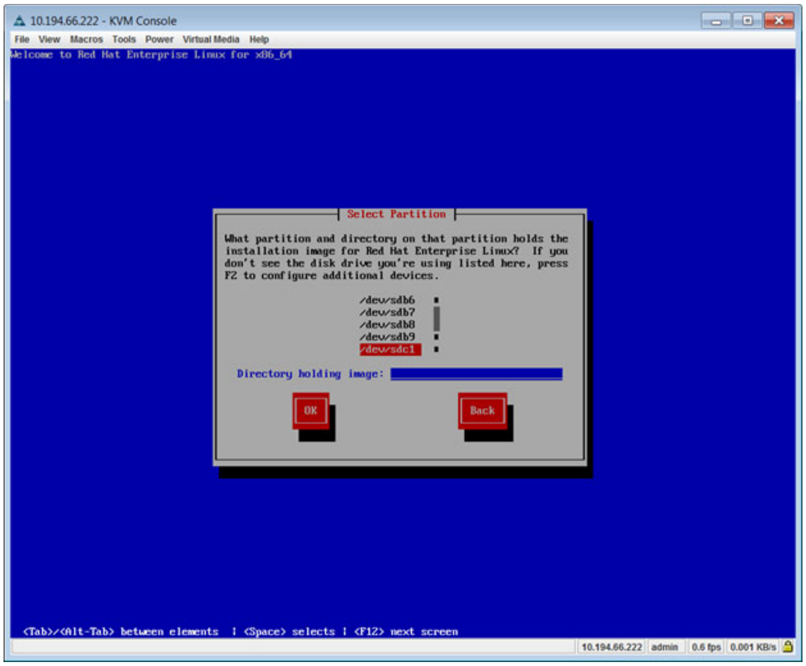


```
Welcome to Red Hat Enterprise Linux for x86_64

Installation Method

What type of media contains
the installation image?

Local CD/DVD
Hard drive
NFS directory
URL

<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen
```

Step 10 Select **sdc1** (Figure 11-4).

- Since the system recovery was installed with a version of Cisco VSM, several partitions are displayed that you can boot from. The first two are typically boot partitions (sda1 and sda2), the next ten partitions are OS partitions(sdb1 through sdb10), the last partition (**sdc1**) is the USB drive partition you need to select.

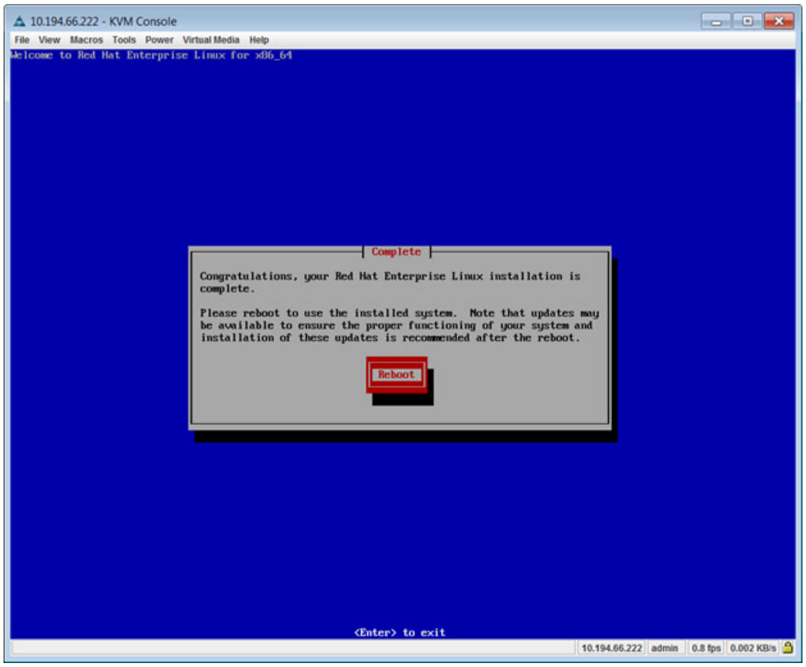
Figure 11-4 Select the Boot Partition


10.194.66.222 - KVM Console
File View Macros Tools Power Virtual Media Help
10.194.66.222
admin
0.6 fps
0.001 KB/s

```
Welcome to Red Hat Enterprise Linux for x86_64

                 ┤ Select Partition ├
 What partition and directory on that partition holds the
 installation image for Red Hat Enterprise Linux?  If you
 don't see the disk drive you're using listed here, press
 F2 to configure additional devices.

                   /dev/sdb6
                   /dev/sdb7
                   /dev/sdb8
                   /dev/sdb9
                   /dev/sdc1

   Directory holding image:

          OK                          Back

 <Tab>/<Alt-Tab> between elements  | <Space> selects | <F12> next screen
```

Step 11 When the installation is complete, you are prompted to reboot. (Figure 11-5).

Figure 11-5 Reboot


10.194.66.222 - KVM Console
File View Macros Tools Power Virtual Media Help
10.194.66.222
admin
0.8 fps
0.002 KB/s

```
Welcome to Red Hat Enterprise Linux for x86_64

                        ┤ Complete ├
 Congratulations, your Red Hat Enterprise Linux installation is
 complete.

 Please reboot to use the installed system.  Note that updates may
 be available to ensure the proper functioning of your system and
 installation of these updates is recommended after the reboot.

                           Reboot

                        <Enter> to exit
```

Step 12 Remove the USB flash drive and reboot the server.

Step 13 Complete one of the following recovery options:

Option 1: Configuration Recovery without Using Restore Option

a. At the system prompt, enter the Linux default login credentials and set the desired password.

b. Enter the **service cisco start** command to manually start the Cisco services.

c. Enter the **chkconfig cisco on** command to manually enable Cisco services on subsequent reboots.

d. Launch a web browser and open VMS using the default Eth0 IP address **192.168.0.200**.

e. Go to **Server Settings** and do the following:

   - Click **Remove from Operations Manager**
   - Set Nic Port 1: network properties via **Settings**
   - Re-select the **Video Surveillance Operations Manager** check box
   - Click **Save**

f. The application will initialize and launch the Operations Manager login Page. All prior login credentials and device configurations will be available after login (including cameras and previous recording video files).

Option 2: Configuration Recovery Using the Restore Option (From a Previous Backup)

a. At the system prompt, enter the Linux default login credentials and set the desired password.

b. Enter the **service cisco start** command to manually start the Cisco services.

c. Enter the **chkconfig cisco on** command to manually enable Cisco services on subsequent reboots.

d. Launch a web browser and open VMS using the default eth0 IP address **192.168.0.200**.

e. Log in to the Management Console UI to restore the configuration backup:

   - Go to **Backup & Restore -> Add -> from PC or Remote**
   - locate and save the **CDAF** backup file
   - Select the file
   - **Restore**

f. Log in to the Operations Manager UI. All preserved configuration will be available including network settings, cameras, and previous recording video files.

Step 14 Use the Operations Manager to configure system, network, and related settings as appropriate for your deployment. For instructions, see the Cisco Video Surveillance Operations Manager User Guide

Troubleshooting

- Uploading the Software Pack Fails, page 12-1
- Upgrade Fails Due To Insufficient Disk Space, page 12-2

Uploading the Software Pack Fails

In Cisco VSM Release 7.5/7.5.1, if the web page is refreshed or closed while a software pack is being uploaded, then the upload process is interrupted and the next upload attempt may fail.

To resolve this:

1. Log in to the server's Linux prompt using the **localadmin** username and password.
2. Go to `/usr/BWhttpd/vsom_be/swpacks/`
3. Delete the .zip that does not include the corresponding .xml file.
4. After deleting this file, upload the software pack again.

In following example, `Cisco_VSM-7.7.0-79i-rhel6.zip` does not have the corresponding .xml file. You must delete `Cisco_VSM-7.7.0-79i-rhel6.zip` file.

```
[root@VSOM-server swpacks]# ll
total 5143528
-rw-r--r-- 1 root root      10768 Jul 21 12:41 Cisco_VSM-7.7.0-79i-rhel5.xml
-rw-r--r-- 1 root root 1817932723 Jul 21 12:39 Cisco_VSM-7.7.0-79i-rhel5.zip
-rw-r--r-- 1 root root 1995307522 Jul 21 18:44 Cisco_VSM-7.7.0-79i-rhel6.zip
-rw-r--r-- 1 root root       1596 Jul 21 12:47 Cisco_VSM-7.7.0-79i-sles10.xml
-rw-r--r-- 1 root root 1448552841 Jul 21 12:45 Cisco_VSM-7.7.0-79i-sles10.zip
```

Upgrade Fails Due To Insufficient Disk Space

Each Cisco VSM server must have enough disk space to hold the software upgrade image and to complete the upgrade. See the following for more information.

Minimum Disk Space Required for Copy Operation

The Cisco VSM server must have enough disk space in the `/var/` directory to store the software pack that is copied to the server. Otherwise, the "Copy to server" operation will fail when uploading the software pack from the Operations Manager server to the additional servers.

Tip To clean the `/var/` directory and make additional space available, move core files from `/var/BWhttpd/cores/` to any other media partition.

Minimum Disk Space for Upgrade

Cisco VSM servers require the following minimum amount of disc space in /usr/BWhttpd/ for below OS,

Table 12-1 Minimum Disk Space Requirements

Operating System	Minimum Disk Space in /usr/BWhttpd/
SuSE	1298284 KB
RHEL 6	1188484 KB
RHEL 5	1418812 KB

If the server has less than the minimum disk space required, the software upgrade will fail and the following error is displayed: "Upgrade preparation failed, Minimum space required to install VSM is not available".

APPENDIX A

Related Documentation

Use one of the following methods to access the Cisco Video Surveillance (Cisco VSM) documentation:

- Click **Help** at the top of the screen to open the online help system.
- Download PDF versions at **Operations** > **Help**.
- Go to the Cisco Video Surveillance documentation web site.
- See the Cisco Video Surveillance 7 Documentation Roadmap for descriptions and links to Cisco Video Surveillance documentation, server and storage platform documentation, and other related documentation.
- See the Release Notes for Cisco Video Surveillance Manager for more information about changes specific to your deployment.

APPENDIX B

Revision History

See the Release Notes for Cisco Video Surveillance Manager for more information about installation and upgrade changes specific to your deployment.

Table B-1 Revision History

Date	Change Summary
May, 2019	Added notes to clarify that only backups that include configuration + historical data are supported for upgrades. Configuration-only backups are not supported and will cause a config mismatch in cameras. See System Software Upgrade: Restore from an Older Release, page 4-1.
November, 2018	Updated for release 7.12
June, 2018	Added support for the KIN-UCSM5-1RU-K9 and KIN-UCSM5-2RU-K9 servers.
February, 2018	• Added System Software Upgrade: Restore from an Older Release. • Other minor updates.
March 17, 2017	Corrected supported release numbers in Chapter 10, "Recovery Guide: CPS-UCSM4-1RU-K9 and CPS-UCSM4-2RU-K9.".
January, 2017	Minor updates for Release 7.9.
May, 2016	Added support for the CPS-UCSM4-1RU-K9 and CPS-UCSM4-2RU-K9 servers.
October, 2015	Updated recovery instructions to clarify requirement to backup and restore. See Recovering the Operating System from a Recovery Flash Drive, page 9-3.
August, 2015	Release 7.7 updates
April, 2015	Initial draft for Release 7.6.