



Release Notes for Cisco Video Surveillance Manager Release 6.3.2 MR3

November 21, 2012

This document provides important information for the following Cisco Video Surveillance Manager (VSM) release 6.3.2 Maintenance Release (MR) 3 products:

- Cisco Video Surveillance Operations Manager (VSOM)
- Cisco Video Surveillance Media Server (VSMS)

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Introduction

Cisco Video Surveillance Manager consists of the following products:

- **Cisco Video Surveillance Media Server (VSMS)**—The core component of the Cisco Video Surveillance Software Suite, the Media Server enables the collection and routing of video from a wide range of cameras; event-tagging, record-on-motion, and recording of video for review and archive; secure local, remote, and redundant video archive capabilities; and bandwidth management for both live distribution and historical recording.
- **Cisco Video Surveillance Operations Manager (VSOM)**—Allows organizations to quickly and effectively configure and manage video throughout the enterprise. Provides a secure web portal to configure, manage, display, and control video throughout an IP network, and the ability to manage a large number of security assets and users, including Media Server instances, cameras, encoders, DVRs, and event sources, and digital monitors powered by Virtual Matrix.
- **Cisco Video Surveillance Virtual Matrix (VSVM)**—Enables flexible delivery of live and recorded video to command centers and provides high-availability access to network video for continuous monitoring applications. Virtual Matrix capabilities include aggregation and display of video from the Media Server platform on almost any number of digital monitors distributed across the IP network. Authorized users and integrated applications control the video that is displayed on any number of digital monitors.

VSM Security Best Practices

Securing Cisco Video Surveillance Manager 4.1/6.1: Best Practices and Recommendations provides best practices and recommendations for helping to ensure the security of VSOM, VSMS, video devices, and client PCs in a Cisco VSM environment. This document also applies to VSM 6.3.2 MR3. To access this document, go to the following URL, click the **Products** link, then click the **Cisco Network-Centric Video Surveillance products** link:

<http://www.cisco.com/go/physicalsecurity>

New and Changed Information

Cisco VSM 6.3.2 MR3 includes resolution of several caveats and support for Cisco Video Surveillance 6000 Series High Definition IP cameras.

Important Notes

The following important notes apply to VSM 6.3.2 MR3:

- [Considerations When Using Two Graphics Cards, page 3](#)
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Considerations When Using Two Graphics Cards

VSM 6.3.2 MR3 supports dual graphic cards, which enable the user of up to four monitors. When using two graphics cards, they must each be the same model.

When using four monitors, the total number of video streams of each type that can be displayed is the same as when using a single graphic card and two monitors.

Camera Firmware Upgrade Considerations

Cisco occasionally provides new firmware versions for Cisco IP cameras. The new camera firmware versions typically contain new features and improvements that are supported by VSM. See the release notes for these new firmware versions for details.

Cisco strongly recommends that, after upgrading to VSM 6.3.2 MR3, the firmware on existing camera models be upgraded to the new versions. These new camera firmware versions are required for any new cameras added to the system, and if any configuration changes, are required for existing cameras.

VSM 6.3 and later provide a feature for Camera Firmware Upgrade that simplifies and automates this process.

Software Installation Considerations

VSM 6.3.2 MR3 includes a Java Runtime Environment (JRE) in the release package. This update is new as of VSM 6.3.1 and changes how the software is installed compared to previous VSM releases.



Caution

It is important that the VSM 6.3.2 software installation and upgrade instructions in the *Upgrading Cisco Video Surveillance Manager from Release 6.3.1 to Release 6.3.2* document is followed to ensure proper removal of any previous JRE components and proper installation of the new JRE. If the installation and upgrade instructions are not performed correctly, new features in VSM 6.3.2 MR2 may not work properly. This document can be obtained from the following URL

http://www.cisco.com/en/US/products/ps10818/prod_installation_guides_list.html

Synchronizing the Linux Server System Time to the Hardware Clock

A Linux server includes a hardware clock and the system time. For proper system operation, these items should be kept synchronized. Linux maintains clock synchronization as follows:

- On system boot up, system time is initialized from the hardware clock
- On normal system shutdown, the hardware clock is updated from the system time

Cisco recommends that you immediately set the hardware clock to the system time in either of the following situations:

- You manually change the system time
- NTP becomes functional for the server for the first time

To manually set the hardware clock to the current system time, enter this command:

```
shell> hwclock --systohc
```

In addition, you might find the following Linux commands to be useful:

- To display the Linux system time, enter this command:
shell > **date**
- To display the hardware clock time, enter this command:
shell > **hwclock**

Health Dashboard Bandwidth Monitoring

The Health Dashboard can only report the NIC Health for the Eth0 port because bandwidth monitoring is supported only on the Eth0 port. Bandwidth monitoring is not supported for other ports.

Using Video Playback Synchronization

Synchronization has been updated and optimized for playback performance. Two or more video archives may be selected and synchronized. Individual video archives can be added or removed from the synchronization. Synchronization supports fast forward playback and seeking across gaps in the video streams. Other advanced playback functions (step forward, step reverse, and play reverse) are not supported.

Using Legacy Encoders Cards

A multiservices platform with legacy encoder cards (CIVS-ES cards) and the Video Surveillance Encoder Servers do not support camera feeds from other devices, such as IP cameras and standalone encoders.

Trick Play Buttons

Trick play buttons are disabled when any selected video panes display archives that include a MPEG-2 media type, or Bosch or SmartSight video devices.

Displaying New Video Resolutions in Virtual Matrix

If you are upgrading VSM and want to display video images with the new 1600 x1050 and 1600 x1200 resolutions, you must merge the hydra_state file manually. For information about this procedure, contact the Cisco Technical Assistance Center (TAC).

Using VSM when VMR is Disabled

When Video Mixing Renderer (VMR) is not supported by a PC and is disabled, be aware of the following affect on the VSM system:

- Motion configuration—Displays video window without motion configuration rectangles
- Digital zoom—Not available
- Hue, saturation, luminosity, contrast—Not available
- Alpha blending of VMR toolbar—Not available
- .CVA files—Review Player displays a message that .CVA is not supported on a machine without VMR and does not load the file
- High-definition video does not render
- Overall client performance is degraded
- Trick play with multiple panes consumes a significant amount of CPU and memory resources

- Use of dual monitors is not supported on a client PC that is running Windows 7 when VMR is disabled.



Note

You can disable VMR on a PC that does not support it by running the Cisco Video Surveillance Workstation Profile Tool.

Using the Workstation Profiling Tool

You can use the Cisco Video Surveillance Workstation Profile Tool 6.2.1 to validate the performance of your client workstation for use with VSM 6.3.2 MR3.



Note

For client workstations running Windows XP Service Pack 3 (SP3), the Cisco Video Surveillance Workstation Profile Tool may erroneously identify SP3 as an issue. However, VSM 6.3.2 MR3 supports client workstations running Windows XP SP3, so the SP3 issue identified by the Cisco Video Surveillance Workstation Profile Tool can be ignored.

Streaming Issues with IP Camera Firmware 1.0.1 through 1.0.7

VSM 6.3.2 MR3 does not stream video from Cisco IP camera 4x00 models that are running firmware 1.0.1 through 1.0.7 when video quality is set to greater than 80 in VSOM by using batch administration.

Bit Rates In VSOM and Cisco IP Camera 2600 Series Models do not Match in Some Situations

The bit rates that are displayed in VSOM and in the camera web interface do not match when you are using a Cisco IP camera 2600 series model and set the bit rate for the camera feed to 56 Kbps or 1500 Kbps.

In this case, the bit rates appear as follow. In each case, the camera web interface display is correct.

- When VSOM displays a bit rate of 56 Kbps, the camera web interface displays 64 Kbps
- When VSOM displays a bit rate of 1500 Kbps, the camera web interface displays 1200 Kbps

Video Analytics Events May Not be Generated in All Cases

If a Cisco IP camera that supports video analytics is not sufficiently calibrated for video analytics, it may not generate all video analytics events. The default calibration should work approximately 80% of the time. To achieve a higher level of accuracy, you can tune the calibrations settings manual. For more information about calibration, see *Cisco Video Surveillance Analytics User Guide*.

Archive Clipping Format Limitation in Event Inbox

Choosing the BWM or BMX format when creating a clip for a Default Analytics Event in the Event Inbox is not supported.

Retry Interval if Secondary Stream Starts Before Primary Stream

If a secondary video stream starts before a primary stream, VSM attempts to restart the streams so that streaming performs properly (primary stream first, then secondary stream). The retry interval is approximately 90 seconds. In this situation, an endpoint error occurs until the streaming performs properly.

WMV Archive Clip may Skip Frames

If you create a 5 minute regular archive that is configured as follows for a Cisco Video Surveillance 4500 high-definition IP camera, then create from this archive a WMV archive clip that is at least 2 minutes long, the WMV archive clip may skip frames when it is played back in Cisco Review Player:

- Media Type—H264
- Resolution—1080p
- Format—PAL
- Bitrate—2000 kbps

To avoid this playback issue, choose a VBR quality of 70 or 85 when you create the archive clip.

Required Format for Dates in VSOM

When you enter a value in any date field in VSOM, enter the date in the following format, where *mm* is a two-digit representation of the month, *dd* is a two-digit representation of the date, and *yyyy* is a four-digit representation of the year:

mm/dd/yyyy

PTZ Performance when using a Cisco Standalone Video Encoder

When using VSOM to control PTZ on a device that is connected to a Cisco Standalone Video Encoder, there may be an end-to-end latency of up to 400 ms. This behavior is expected, particularly when using a joystick.

Obtaining a Driver Pack

VSM may require a driver pack update to work with certain cameras. To obtain documentation and important information about Cisco VSM and system requirements, go to the following URL, click the **Products** link, then click the **Cisco Network-Centric Video Surveillance products** link. See the Download Software section for information about obtaining driver packs.

<http://www.cisco.com/go/physicalsecurity>

Client Error Messages

This section describes error messages may occur on a client PC when displaying a live or recorded video feed fails.

Endpoint Error: *proxy_name* Unreachable

This message can occur in these situations:

- Video is not streaming from the camera, so VSMS must start it streaming again, and it takes longer than 8 seconds for VSMS to receive video and start sending it to the client. The client software times out if it does not receive initial video data within 8 seconds.
- The VSMS host is unable to receive video from the camera. For example, the camera may be offline.
- While the camera feed is being viewed, it is removed by another user.
- The camera feed does not exist on the VSMS host.

Suggested resolutions:

- Select the camera a second time. If the camera was not streaming the first time, VSMS initiates a connection to the camera and starts streaming. However, the browser may have timed out while waiting for streaming to start and a second request within 30 seconds will catch the stream before it can stop again. If this approach is successful, the camera is not being recorded (if the camera was being recorded, the server does not stop streaming from the camera.)
- Verify that camera is online and reachable from the VSMS host.
- Check the VSMS log file to for errors for this camera feed. The log file is `/usr/BWhttpd/logs/ims.log` and is on the VSMS host that manages the camera. This file logs messages about each camera process. For example, this message indicates that the camera AXIS216FD is unreachable at the IP address 10.10.51.23:

```
2010-04-19 07:49:51.788 [ proxy(1349).p_AXIS216FD BE_PROXY=1 <axis_jpeg_v3.cpp:95> ]
Failed to connect to device <10.10.51.23> on port <80>
```

No archive available for *archive_name*

This message can occur if loading archive video data takes too long and the system times out. This error should not occur unless there is a problem reading the archive data from the storage location.

Suggested resolution:

Verify that the archive is running and that it contains video data: On the VSOM Administrator page, click **Servers**, then click the name of the VSMS server with this archive. The archives tab shows a list of all archives and their status, and the time of the first and last video frame. When the recorded video expires, the first frame and last frame times are empty.

Server Error: *server_address* Unavailable

This message can occur if the client PC is unable to reach the VSMS host when requesting a video feed. For example, there may be a network problem or the server may be offline.

Suggested resolutions:

- Check the client PC network connectivity; the computer must be able to reach each VSMS host by using the host name or IP address that is configured for this server in the VSOM Administration page.
- Verify that the server is online and responding.

Client Error: Insufficient Client Resources

This message can occur if the video software on the client PC is unable to set up the necessary resources to handle the video feed. For example, an inadequate graphics interface may be in use, graphics drivers may be out of date, or the computer cannot handle additional video feeds.

Suggested resolutions:

- Select the camera second time. If the error occurs again, VSMS is unable to stream video from the camera.
- Try to view a different video feed to see if there is an issue with the computer playing any video or with the specific video feed.
- Try to view the problem video feed from a different computer to see if there is an issue with the computer playing the specific video feed.
- Update the drivers for the computer graphics interface.
- Use a client PC with the recommended hardware:
 - Windows XP Service Pack 3, Microsoft Internet Explorer 7
 - Intel 950 i7 Core, 3.07 GHz, 6 GB DDR3 (3.5 GB usable)
 - Nvidia GeForce GTX 275 1.7GB PCIE
 - Gigabit Ethernet network connection required
- Use Microsoft DebugView to log the problem occurring:
 1. Download the Microsoft DebugView program from Microsoft.com.
 2. Install and then launch the program.
 3. Under Options, uncheck the **Force Carriage Returns** check box and check the **Clock Time** and **Show Milliseconds** check boxes.
 4. Leave DebugView running in the background and start your browser.
 5. Reproduce the issue in the browser.
 6. Save the DebugView log to a file and write a description of the process to that produced the issue, and then contact the Cisco Technical Assistance Center (TAC).

Using Cisco VSM with Cisco Standalone 4-Port and 8-Port Video Encoders

VSM 6.3.2 MR3 supports the Cisco standalone 4-port and 8-port video encoders, which can be configured under VSM as CIVS-SENC-4P and CIVS-SENC-8P encoder types respectively.

The following sections provide information that applies to these encoders:

- [Guidelines for Encoders, page 9](#)
- [Configuring Encoders in VSM, page 11](#)
- [Security and Authentication for Encoders, page 11](#)

Guidelines for Encoders

The following guidelines apply when you use a Cisco 4-port and 8-port encoder with VSM:

- VSM does not support the activity adaptive streaming for dynamic frame rate control feature on the encoder.
- An encoder supports one input channel per port. The VSMS driver for the encoder supports the configuration of the input and receive events from the encoder.

Table 1 describes how various VSM functions are supported by the encoders.

Table 1 Encoder Support for VSM Functionality

VSM Functionality	Encoder Support
General VSM Functionality	
Video resolutions.	D1, 4CIF, CIF.
Transport types.	UDP, TCP, multicast.
Media types.	H.264, MPEG4, MJPEG.
NTSC and PAL resolutions.	Both are supported. The encoder auto-detects the format of the video feed. The format cannot be configured on the encoder.
Camera Controls.	As supported by the Pelco D Serial pass-through protocol.
Unidirectional audio.	Not supported.
Configuration of encoder video settings.	Supported.
Configuration of motion detection.	The encoder supports 3 motion windows. Motion notification is through an HTTP tunnel.
Support for alarm input.	Supported
Control outputs.	Not supported.
Firmware upgrades.	Supported from the Upgrade of Encoder Firmware from the VSM Management Console interface.
Secondary streams.	The 4-port encoder supports a primary and secondary stream from each encoder port. The primary and secondary streams can be any combination of H.264, MPEG4, and MJPEG The 8-port encoder currently supports only one stream per port.
Support for serial pass-through PTZ commands to attached PTZ cameras.	Support provided for Pelco D serial pass-through PTZ commands to an analog camera connected to the encoder.
Contact closure configuration and receiving events from the encoder	Supported for inbound contact closure configuration and events from the encoder.
Motion Detection Functionality	
Motion configuration	Supported on the primary stream only.
Number of detection regions per port.	3.
Number of mask regions.	0.
Number of motion detection + mask regions.	3.
Sensitivity setting for each motion window.	0 through 100
Minimum object size.	The encoder supports a motion detection percentage, which is mapped to a minimum object size in VSOM.

Table 1 Encoder Support for VSM Functionality (continued)

VSM Functionality	Encoder Support
Camera Control Functionality	
White balance.	Auto and Manual.
Focus.	Auto, Near, Far.
Iris.	Supported.

Configuring Encoders in VSM

The Cisco standalone 4-port and 8-port video encoders appear as options in a variety of windows in the VSOM web-based interface. In most cases, the encoders are shown as CIVS-SENC-4P (for the 4-port encoder), CIVS-SENC-8P (for the 8-port encoder), or a similar name.

The windows in which the encoders can appear include the following:

- Add a New Encoder window, Details tab, Encoder Type drop-down list
- Encoder Information window, Details tab, Encoder Information area
- Encoders window, List of Encoders, Encoder Type column
- Analog Cameras window, List of Analog Cameras, Encoder Name column
- Camera Feeds window

Security and Authentication for Encoders

Authenticated access to the web-based GUI for the Cisco standalone 4-port and 8-port video encoders and to RTSP streaming is supported by settings in the encoder and in VSM.

By default, the root password and RTP streaming authentication both are disabled. However, Cisco recommends that you enable these items and that you set suitable passwords by using the web-based GUI for the encoders. In this GUI:

- The root password is set on the Security page
- Authentication of HTTP access is enabled on the HTTP page
- Authentication of RTP streaming is enabled on the Network page

In addition, the following configuration settings should be made in the web-based GUID for the encoders:

- The HTTP Authentication option should be set to the default value of **basic**.
- The RTSP Authentication option should be set to the default value of **basic**.

In VSM, authentication should be enabled when a Cisco standalone 4-port and 8-port video encoder is added. VSM honors the credentials that are set in the encoder GUI.

Using Cisco VSM with the Cisco Video Surveillance 2000 Series and 2500 Series Standard Definition IP Camera

You can use a Cisco Video Surveillance 2000 series standard definition IP camera model (2421, 252xV, 253xV, 2500, and 2500W) with this version of VSM, but be aware that the IP camera includes features that are not currently integrated with VSM.

The following sections provide information about using VSM with these standard definition IP camera models:

- [Standard Definition IP Camera Models 2421, 252xV, 253xV, 2500, and 2500W Features that VSM Does Not Support](#), page 12
- [Guidelines for Using a Standard Definition IP Camera model 2421, 252xV, 253xV, 2500, and 2500W with VSM](#), page 13

Standard Definition IP Camera Models 2421, 252xV, 253xV, 2500, and 2500W Features that VSM Does Not Support

Table 2 provides information about the compatibility of Cisco standard definition IP camera models 2421, 252xV, 253xV, 2500, and 2500W running firmware release 2.1.7 or later and VSM 6.3.2 MR3.



Note

The VSM driver that this release includes is compatible only with Cisco IP camera firmware 2.1.2 or later. It is highly recommended that the current SD camera firmware be used with this VSM release. You must upgrade standard definition cameras to a supported version.

Table 2 **2421, 252xV, 253xV, 2500, and 2500W IP Camera Features Compatibility for Firmware Release 2.1.7 or Later and VSM 6.3.2 MR3**

Feature	Standard Definition IP Camera Implementation	Compatibility with Firmware Release 2.1.7 or Later
Alarm events outputs	2 out / FTP clip / e-mail.	Not supported.
Alarm inputs	2 in.	Fully supported.
Audio	Simplex / half duplex / full duplex.	Not supported.
Cisco Discovery Protocol (CDP)	Sends CDP discovery messages.	Not supported.
Event scheduling	You can schedule event notification from the IP camera web interface.	Not configurable by using VSM. If configured by using the IP camera, the schedule applies to notifications sent to VSM.
Event notification	E-mail, FTP, HTTP, or API alerts if an event occurs.	Includes the VSM event notification API only.
IP Filter	Allows controlling access to the IP camera by IP address.	Not configurable by using VSM.
PTZ (RS-485)	Enables pan, tilt, zoom (PTZ) functions.	PTZ Preset support only.

Table 2 **2421, 252xV, 253xV, 2500, and 2500W IP Camera Features Compatibility for Firmware Release 2.1.7 or Later and VSM 6.3.2 MR3 (continued)**

Feature	Standard Definition IP Camera Implementation	Compatibility with Firmware Release 2.1.7 or Later
QoS	Quality of Service (QoS) for audio streams, video streams, or both.	Not configurable by using VSM. If configured by using the IP camera, QoS marking affects only streams between the IP camera and the Media Server.
SNMP	Provides options for configuring SNMP settings.	Not configurable by using VSM.
Multicast	Streaming UDP multicast.	Supported.

Guidelines for Using a Standard Definition IP Camera model 2421, 252xV, 253xV, 2500, and 2500W with VSM

The following guidelines apply when you use a standard definition IP camera model 2421, 252xV, 253xV, 2500, or 2500W with VSM:

- The IP camera must be installed and configured as described in *Cisco Video Surveillance IP Camera User Guide* for the standard definition IP camera.
- You must create a separate user account with administrator privileges for each Media Server. Configuration connections for a Media Server are limited just as they are for user sessions. Viewing and managing video streams from VSM requires administrator-level privileges.

Using Cisco VSM with the Cisco Video Surveillance 2600 Series Standard Definition IP Camera

You can use a Cisco Video Surveillance 2600 series standard definition IP camera with this version of VSM, but be aware that the IP camera includes features that are not currently integrated with VSM.

The following sections provide information about using VSM with these standard definition IP camera models:

- [2600 Series Standard Definition IP Camera Features that VSM Does Not Support, page 14](#)
- [Guidelines for Using a 2600 Series Standard Definition IP Camera with VSM, page 14](#)
- [Using Dual Stream Modes for a 2600 Series Standard Definition IP Camera when used with VSM, page 15](#)

2600 Series Standard Definition IP Camera Features that VSM Does Not Support

Table 2 provides information about the compatibility of 2600 series standard definition IP camera models running firmware release 4.2.0 or later and VSM 6.3.2 MR3.

Table 3 2600 Series IP Camera Features Compatibility for Firmware Release 4.2.0 or Later and VSM 6.3.2 MR3

Feature	Standard Definition IP Camera Implementation	Compatibility with Firmware Release 4.2.0 or Later
Alarm events outputs	2 out / FTP clip / e-mail.	Not supported.
Alarm inputs	2 in.	Fully supported.
Audio	Simplex / half duplex / full duplex.	Not supported.
Cisco Discovery Protocol (CDP)	Sends CDP discovery messages.	Not supported.
Event scheduling	You can schedule event notification from the IP camera web interface.	Not configurable by using VSM. If configured by using the IP camera, the schedule applies to notifications sent to VSM.
Event notification	E-mail, FTP, HTTP, or API alerts if an event occurs.	Includes the VSM event notification API only.
IP Filter	Allows controlling access to the IP camera by IP address.	Not configurable by using VSM.
PTZ (RS-485)	Enables pan, tilt, zoom (PTZ) functions.	PTZ Preset support only.
QoS	Quality of Service (QoS) for audio streams, video streams, or both.	Not configurable by using VSM. If configured by using the IP camera, QoS marking affects only streams between the IP camera and the Media Server.
SNMP	Provides options for configuring SNMP settings.	Not configurable by using VSM.
Multicast	Streaming UDP multicast.	Supported.

Guidelines for Using a 2600 Series Standard Definition IP Camera with VSM

The following guidelines apply when you use a 2600 series standard definition IP camera with VSM:

- The IP camera must be installed and configured as described in *Cisco Video Surveillance IP Camera User Guide* for your camera model (available at http://www.cisco.com/en/US/products/ps11251/products_user_guide_list.html).
- You must create a separate user account with administrator privileges for each Media Server. Configuration connections for a Media Server are limited just as they are for user sessions. Viewing and managing video streams from VSM requires administrator-level privileges.

Using Dual Stream Modes for a 2600 Series Standard Definition IP Camera when used with VSM

Table 4 describes the dual stream modes that are supported when using a 2600 series standard definition IP camera with VSM.

Table 4 Supported Dual-Stream Modes for a 2600 Series Standard Definition IP Camera when used with VSM

Dual Streaming	Primary Channel Resolutions	Secondary Channel Resolutions
H.264 + MJPEG	4 CIF or CIF	CIF
H.264 + H.264	4 CIF or CIF	CIF
MPEG-4 + MJPEG	4 CIF or CIF	CIF
MPEG-4 + MPEG-4	4 CIF or CIF	CIF

The following modes are not supported when using a 2600 series standard definition IP camera with VSM:

- Dual stream setting of H.264 + MPEG-4 (primary + secondary)
- Dual stream setting of MPEG-4 + H.264 (primary + secondary)
- Dual MJPEG is NOT supported
- 2CIF mode is supported in single streaming mode but is not supported in dual streaming mode

Using Cisco VSM with the Cisco Video Surveillance 2900 Series Standard Definition PTZ IP Cameras

You can use a Cisco Video Surveillance 2900 series standard definition PTZ IP camera with VSM 6.3.2 MR3, but be aware that the cameras include features that are not currently integrated with VSM.



Note

The VSM driver that this release includes is compatible only with Cisco IP camera firmware 1.5.9 or later.

The following sections provide information about using VSM with these 5000 series high definition IP cameras:

- [2900 Series Standard Definition IP Camera Features that VSM Does Not Support](#), page 15
- [Guidelines for Using a 2900 series standard definition PTZ IP Camera with VSM](#), page 16

2900 Series Standard Definition IP Camera Features that VSM Does Not Support

Table 5 lists the 2900 series standard definition PTZ IP camera features that are not compatible with VSM.

Table 5 2900 Series Standard Definition PTZ IP Camera Features not Currently Compatible with VSM

Feature	Implementation Notes
Audio	Simplex / half duplex / full duplex
Event scheduling	You can schedule event notification from the high definition IP camera web interface
QoS	Quality of Service (QoS) for audio streams, video streams, or both
Unicast/multicast (TCP/UDP)	VSM does not support multicast

Guidelines for Using a 2900 series standard definition PTZ IP Camera with VSM

The following guidelines apply when you use a 2900 series standard definition PTZ IP camera with VSM:

- The camera must be installed and configured as described in *Cisco Video Surveillance IP Camera User Guide* for your camera (available at http://www.cisco.com/en/US/products/ps11252/products_user_guide_list.html).
- You must create a separate user account with administrator privileges for each Media Server. Configuration connections for a Media Server are limited just as they are for user sessions. Viewing and managing video streams from VSM requires administrator-level privileges.

Using Cisco VSM with the Cisco Video Surveillance 4000 Series High Definition IP Cameras

You can use a Cisco Video Surveillance 4000 series high definition IP camera with VSM 6.3.2 MR3, but be aware that the high definition camera includes features that are not currently integrated with VSM.



Note

The VSM driver that this release includes is compatible only with Cisco IP camera firmware 2.0.0 or later. It is highly recommended that the current HD camera firmware level be used with this VSM release.

The following sections provide information about using VSM with these 4000 series high definition IP cameras:

- [4000 Series High Definition IP Camera Features that VSM Does Not Support](#)
- [4000E Series High Definition IP Camera Features that VSM Does Not Support, page 18](#)
- [Guidelines for Using a 4000 Series High Definition IP Camera with VSM](#)

4000 Series High Definition IP Camera Features that VSM Does Not Support

Table 6 provides information about the compatibility of 4000 series high definition IP camera models running firmware release 2.3.0 or later and VSM 6.3.2 MR3.

Table 6 4000 Series IP Camera Features Compatibility for Firmware Release 2.3.0 or Later and VSM 6.3.2 MR3

Feature	High Definition IP Camera Implementation	Compatibility with Firmware Release 2.3.0 or Later
Alarm events outputs	2 out / e-mail.	Not supported.
Alarm inputs	2 in.	Fully supported.
Audio	Simplex / half duplex / full duplex.	Not supported.
Cisco Discovery Protocol (CDP)	Sends CDP discovery messages.	Not supported.
Event scheduling	You can schedule event notification from the IP camera web interface.	Not configurable by using VSM. If configured by using the IP camera, the schedule applies to notifications sent to VSM.
Event notification	E-mail, HTTP, or API alerts if an event occurs.	Includes the VSM event notification API only.
IP Filter	Allows controlling access to the IP camera by IP address.	Not configurable by using VSM.
PTZ (RS-485)	Enables pan, tilt, zoom (PTZ) functions.	PTZ Preset support only.
QoS	Quality of Service (QoS) for audio streams, video streams, or both.	Not configurable by using VSM. If configured by using the IP camera, QoS marking affects only streams between the IP camera and the Media Server.
SNMP	Provides options for configuring SNMP settings.	Not configurable by using VSM.
Multicast	Streaming UDP multicast.	Supported.
Frame rate	Supports frame rates up to 60 fps for resolutions of 720p and lower.	Supports up to 30 fps for all resolutions.
Unicast/multicast (TCP/UDP)	Supports TCP/UDP.	Supports UDP unicast and multicast, but not TCP.

4000E Series High Definition IP Camera Features that VSM Does Not Support

Table 6 provides information about the compatibility of 4000E series high definition IP camera models running firmware release 3.1.0 or later and VSM 6.3.2 MR3.

Table 7 4000E Series IP Camera Features Compatibility for Firmware Release 3.1.0 or Later and VSM 6.3.2 MR3

Feature	High Definition IP Camera Implementation	Compatibility with Firmware Release 3.1.0 or Later
Alarm events outputs	2 out / e-mail.	Not supported.
Alarm inputs	2 in.	Fully supported.
Audio	Simplex / half duplex / full duplex.	Not supported.
Cisco Discovery Protocol (CDP)	Sends CDP discovery messages.	Not supported.
Event scheduling	You can schedule event notification from the IP camera web interface.	Not configurable by using VSM. If configured by using the IP camera, the schedule applies to notifications sent to VSM.
Event notification	E-mail, HTTP, or API alerts if an event occurs.	Includes the VSM event notification API only.
IP Filter	Allows controlling access to the IP camera by IP address.	Not configurable by using VSM.
PTZ (RS-485)	Enables pan, tilt, zoom (PTZ) functions.	PTZ Preset support only.
QoS	Quality of Service (QoS) for audio streams, video streams, or both.	Not configurable by using VSM. If configured by using the IP camera, QoS marking affects only streams between the IP camera and the Media Server.
SNMP	Provides options for configuring SNMP settings.	Not configurable by using VSM.
Multicast	Streaming UDP multicast.	Supported.
Frame rate	Supports frame rates up to 60 fps for resolutions of 720p and lower.	Supports up to 30 fps for all resolutions.
Unicast/multicast (TCP/UDP)	Supports TCP/UDP.	Supports UDP unicast and multicast, but not TCP.

Guidelines for Using a 4000 Series High Definition IP Camera with VSM

The following guidelines apply when you use a 4000 series high definition IP camera with VSM:

- The high definition IP camera must be installed and configured as described in *Cisco Video Surveillance IP Camera User Guide* for the high definition IP camera.

- You must to create a separate user account with administrator privileges for each Media Server. Configuration connections for a Media Server are limited just as they are for user sessions. Viewing and managing video streams from VSM requires administrator-level privileges.

Using Cisco VSM with the Cisco Video Surveillance 5000 Series High Definition IP Cameras

You can use a Cisco Video Surveillance 5000 series high definition IP camera with VSM 6.3.2 MR3, but be aware that the high definition cameras include features that are not currently integrated with VSM.



Note

The VSM driver that this release includes is compatible only with Cisco IP camera firmware 1.5.9 or later.

The following sections provide information about using VSM with the 5000 series high definition IP cameras:

- [5000 Series High Definition IP Camera Features that VSM Does Not Support](#)
- [Guidelines for Using a 5000 Series High Definition IP Camera with VSM](#)

5000 Series High Definition IP Camera Features that VSM Does Not Support

[Table 8](#) lists the 5000 series high definition IP camera features that are not compatible with VSM.

Table 8 5000 Series High Definition IP Camera Features not Currently Compatible with VSM

Feature	Implementation Notes
Audio	Simplex / half duplex / full duplex
Event scheduling	You can schedule event notification from the high definition IP camera web interface
QoS	Quality of Service (QoS) for audio streams, video streams, or both
Unicast/multicast (TCP/UDP)	VSM does not support multicast

Guidelines for Using a 5000 Series High Definition IP Camera with VSM

The following guidelines apply when you use a 5000 series high definition IP camera with VSM:

- The high definition IP camera must be installed and configured as described in *Cisco Video Surveillance IP Camera User Guide* for your camera (available at http://www.cisco.com/en/US/products/ps11027/products_user_guide_list.html).
- You must to create a separate user account with administrator privileges for each Media Server. Configuration connections for a Media Server are limited just as they are for user sessions. Viewing and managing video streams from VSM requires administrator-level privileges.

Using Cisco VSM with the Cisco Video Surveillance 6000 Series High Definition IP Cameras

You can use a Cisco Video Surveillance 6000 series high definition IP camera with VSM 6.3.2 MR3, but be aware that the high definition cameras include features that are not currently integrated with VSM.



Note

The VSM driver that this release includes is compatible only with Cisco IP camera firmware 1.1.1-3 or later. It is highly recommended that the current HD camera firmware level be used with this VSM release.

The following sections provide information about using VSM with the 6000 series high definition IP cameras:

- [6000 Series High Definition IP Camera Features that VSM Does Not Support](#)
- [6000 Series High Definition IP Camera Features that VSM Does Not Support](#)

6000 Series High Definition IP Camera Features that VSM Does Not Support

Table 9 provides information about the compatibility of 6000 series high definition IP camera models running firmware release 1.1.1-3 or later and VSM 6.3.2 MR3.

Table 9 **6000 Series IP Camera Features Compatibility for Firmware Release 1.1.1-3 or Later and VSM 6.3.2 MR3**

Feature	High Definition IP Camera Implementation	Compatibility with Firmware Release 1.1.1-3 or Later
Alarm events outputs	1 out.	Not supported.
Alarm inputs	1 in.	Fully supported.
Cisco Discovery Protocol (CDP)	Sends CDP discovery messages.	Not supported.
Event scheduling	You can schedule event notification from the IP camera web interface.	Not configurable by using VSM. If configured by using the IP camera, the schedule applies to notifications sent to VSM.
Event notification	E-mail, HTTP, or API alerts if an event occurs.	Includes the VSM event notification API only.
IP Filter	Allows controlling access to the IP camera by IP address.	Not configurable by using VSM.
QoS	Quality of Service (QoS) for audio streams, video streams, or both.	Not configurable by using VSM. If configured by using the IP camera, QoS marking affects only streams between the IP camera and the Media Server.
SNMP	Provides options for configuring SNMP settings.	Not configurable by using VSM.
Multicast	Streaming UDP multicast.	Supported.

Table 9 6000 Series IP Camera Features Compatibility for Firmware Release 1.1.1-3 or Later and VSM 6.3.2 MR3 (continued)

Feature	High Definition IP Camera Implementation	Compatibility with Firmware Release 1.1.1-3 or Later
Unicast/multicast (TCP/UDP)	Supports TCP/UDP.	Supports UDP unicast and multicast, but not TCP.
960 x 544 resolution	Supported by the camera.	Not supported in the VSM 6.3.2 MR3 release.

Guidelines for Using a 6000 Series High Definition IP Camera with VSM

The following guidelines apply when you use a 6000 series high definition IP camera with VSM:

- The high definition IP camera must be installed and configured as described in *Cisco Video Surveillance IP Camera User Guide* for your camera (available at http://www.cisco.com/en/US/products/ps12663/tsd_products_support_series_home.html).
- You must create a separate user account with administrator privileges for each Media Server. Configuration connections for a Media Server are limited just as they are for user sessions. Viewing and managing video streams from VSM requires administrator-level privileges.

Using Cisco VSM with 16 x D1 and 8 x D1 Video Capture Cards

VSM 6.3.2 MR3 supports the Cisco 16 x D1 and 8 x D1 video capture cards. These cards capture and compress standard definition analog video streams, and are available in the following configurations:

- CIVS-ENC-8P—8 channel video capture card
- CIVS-ENC-16P—16 channel video capture card

For detailed information about these cards see Appendix A, “16 x D1 and 8 x D1 Video Capture Cards,” in *Cisco Physical Security Multiservices Platform Series User Guide*.

The following guidelines apply when you use the 16 x D1 and 8 x D1 video capture cards with VSM:

- The cards must be installed and configured as described in *Cisco Physical Security Multiservices Platform Series User Guide*.

Table 10 provides an overview of the 16 x D1 and 8 x D1 video capture cards implementation.

Table 10 16 x D1 and 8 x D1 Video Capture Cards Implementation Summary

Feature	Implementation Notes
Maximum H.264 frame rates	<ul style="list-style-type: none"> • Primary video stream—D1 up to 30 fps • Secondary video stream—2CIF up to 15 fps
Motion JPEG frame rates	<ul style="list-style-type: none"> • Primary video stream—D1 up to 15 fps • Secondary video stream—2CIF up to 10 fps
Resolution	<ul style="list-style-type: none"> • Primary channel—CIF, 2CIF, 4CIF, D1 • Secondary channel—CIF, 2CIF
Bitrate	56 Kbps to 6 Mbps

Troubleshooting an IP Camera

If you experience difficulty when using a Cisco IP camera with VSM, refer to these troubleshooting guidelines:

- Verify that VSM is installed properly
- Verify no firewalls are conflicting on VSM servers
- Verify that the default gateway is configured for the high definition IP camera
- Verify that your web browser supports ActiveX controls
- Verify that the user name and password are configured identically for the camera and the VSOM high definition IP camera settings
- Verify that the appropriate graphics card is installed in the system on which you are displaying video
- Verify that VSM configures the high definition IP camera using the default port address of 80
- Verify the camera is configured to use HTTPS for API access
- Verify that the VSMS can reach the camera over the network

Orderability Matrix

Table 11 shows the orderability matrix for versions of SuSE Linux Enterprise Server (SLES) and various Cisco Video Surveillance hardware platforms and Cisco VSM releases.

Table 11 SLES and Cisco Video Surveillance Hardware/Software Orderability Matrix

Hardware	Cisco VSM Release	SLES Version
Multiservices Platform for Physical Security	6.3.2	SLES 10, SP 1
Multiservices Platform for Video Surveillance	3.1.1/5.1.1	SLES 10, SP 1
	4.0/6.0	
	4.1.1/6.1.1	
	4.2/6.2	
	4.2.1/6.2.1	
	6.3/6.3.1/6.3.2 ¹	
Legacy Cisco Video Surveillance servers	3.1.1/5.1.1 ²	SLES 9, SP 3
Legacy Cisco Video Surveillance international servers (CIVS-MSA1R-250)	3.1.1/5.1.1	SLES 9, SP 3
	4.0/6.0	SLES 10, SP 1
	4.1.1/6.1.1	
	4.2/6.2	

1. CIVS 1-RU & CIVS 2-RU models come with VSM 6.3.1. You can upgrade to Cisco VSM 6.3.2.
2. You can upgrade to Cisco VSM 6.3.2 on legacy Cisco Video Surveillance servers.

Known Issues when using VSM 6.3.2 MR3 with a Cisco Video Surveillance IP Camera

Table 12 describes known issues when using VSM 6.3.2 MR3 with a Cisco Video Surveillance IP Camera.

Table 12 Known Issues when Using VSM 6.3.2 MR3 with a Cisco IP Camera

Known Issues	Customer Affect	Notes
Known issues when using VSM 6.3.2 MR3 with an SD IP Camera		
Stuttering video is seen in JPEG and MPEG-4 live proxies.	Live playback is not smooth.	More prevalent with VMR configured.
The camera interface must be closed for VSM to function.	VSM cannot configure proxies on a camera while a user is viewing video.	—
Using motion detection on dual streams causes issues. Motion detection must be set up on only the primary stream.	Configuring motion detection on the dual streams of a single camera causes motion detection notifications to behave unexpectedly.	Motion events detected on the primary stream may be used for both archives.
Known issues when using VSM 6.3.2 MR3 with a 4000 Series HD IP Camera		
Performance tests show a latency of 1,000 milliseconds.	A latency of at least 1 second under best network conditions. This issue is most noticeable when using pan-tilt mounts.	Seen with 1080p H.264 streams up to 30 fps.
High definition streams can take from 6 to 13 seconds to render.	For HD IP camera streams, many operations take 6 to 13 seconds (variable GoP affects timing), including seeking, switching play directions, start up, and resume after pausing.	You may also experience the same start up issues that occur with the SD camera. To work around this issue, select a feed a second time. To work around this issue, delete and then reconfigure the camera in VSOM.
Using motion detection on dual streams causes issues. Motion detection must be set up on only the primary stream.	Configuring motion detection on the dual streams of a single camera causes motion detection notifications to behave unexpectedly.	Motion events detected on the primary stream may be used for both archives.
Known issues when using VSM 6.3.2 MR3 with a 5000 Series HD IP Camera		
Enabling motion detection limits the maximum bitrate to 4.6Mb/s.	Cannot use bitrates higher than 4.6Mb/s when motion detection is enabled.	—
Known issues when using VSM 6.3.2 MR3 with a 6000 Series HD IP Camera		
When dual streams are configured on a Media Server, the primary stream can take approximately 60 seconds to start rendering.	Rendering of the primary stream video takes 60 or more seconds after the configuration of the primary and secondary streams is complete.	Applicable when both primary and secondary video streams are configured.
Mismatch in the position of the Motion window coordinates in the camera browser, which results in the window not rendering correctly.	Does not affect functionally because you still receive the events for the configured motion window coordinates.	Functionally correct behavior in VSM, even though the location of motion windows in the camera browser and in the VSOM UI do not match.

Table 12 Known Issues when Using VSM 6.3.2 MR3 with a Cisco IP Camera (continued)

Known Issues	Customer Affect	Notes
Known issues when using VSM 6.3.2 MR3 with an All Cameras		
Standalone clips in .AVI and .WMV formats play back at incorrect speeds.	Occurs because these clip container formats use only a single frame rate. When frame rates of a clip segment change or do not match what is expected, these clips play too slow or too fast.	Limitations of container format. Use .CVA format instead.

Caveats

This section includes the following topics:

- [Using the Software Bug Toolkit, page 24](#)
- [Open Caveats, page 25](#)
- [Resolved Caveats, page 26](#)

Using the Software Bug Toolkit

You can use the Bug Toolkit to find information about most caveats for Cisco VSM releases, including a description of the problems and available workarounds. The Bug Toolkit lists both open and resolved caveats.

To access Bug Toolkit, you need the following items:

- Internet connection
- Web browser
- Cisco.com user ID and password

To use the Software Bug Toolkit, follow these steps:

Procedure

-
- Step 1** To access the Bug Toolkit, go to <http://tools.cisco.com/Support/BugToolKit/>.
- Step 2** Log in with your Cisco.com user ID and password.
- Step 3** To look for information about a specific problem, enter the bug ID number in the **Search for bug ID** field, then click **Go**.
- Step 4** To look for information if you do not know the bug ID number:
- Choose **Security** from the Select Product Category menu.
 - Choose the desired product from the Select Product menu.
 - Choose the version number from the Software Version menu.

- d. Under Advanced Options, choose **Use default settings** or **Use custom settings**. The default settings search for severity 1, 2, and 3 bugs, open and fixed bugs, and only bugs containing bug details. Use the custom settings to change the severity and status parameters, or to search for keywords within the bug headline and description.

Open Caveats

Table 13 lists caveats that are open in this release.

Table 13 **Open Caveats**

ID	Description
CSCtd94428	When Internet Explorer memory use approaches 2 GB, system becomes unstable
CSCte58314	Video encoder card (CIVS-ENC): I-frame from another channel seen
CSCtg93029	H264 CVA clip is displaying green screen at the end in RPlayer
CSCth89305	VSMC console password not preserved during upgrade from 4.2/6.2 to 6.3
CSCth98507	Video encoder card (CIVS-ENC): Pink and green video with offset observed
CSCti99620	CIVS-ENC: Ethpci driver crash when “service cisco restart” is executed
CSCtj33735	VSOM: Adding MS server with overlapping IP address causes severe delay
CSCtj46234	Synched mutlipane mixed media archive view do not sync during fast play
CSCtj54558	VSOM allows creating CVA clip from time range with no video
CSCtj68661	Grid coordinate mappings are inconsistent between web UI and VSOM
CSCtj71403	CIVS-ENC: Thick horizontal lines seen on solid colors in JPEG stream
CSCtj71422	Browser freezes when single pane HD stream is moved to second monitor
CSCtj73682	Cisco Video Encoder (CIVS-ENC): Macroblocking observed in JPEG streams
CSCtk16891	Video not recorded with constant motion more than 2 hours
CSCtn46068	DVR: Pause - Play, not playing Mpeg4 feed and hangs if L button clicked
CSCtn71780	Play reverse at 32x speed after play forward at 32x speed freezes video
CSCto84017	Configuring overlapping motion detection and mask regions may cause VSOM to hang
CSCto87514	Supported Device List shows Cisco SD and HD cameras as PTZ
CSCtq50113	VSMC Upgrades sometime fail for multiple 4500/4300 cameras
CSCtq56175	Batch admin does not check dual streams config
CSCtq99230	VSMS RPM package g fails to install on SLES10SP1 64bit
CSCtw46694	SENC-Startup time takes up to 14secs to stream in VSOM
CSCtw61281	SENC: Latency for PTZ operations are up to 400 milliseconds
CSCtx25458	Single digit date entries to VSOM calendar causing problems
CSCtx51804	SENC: Cannot upgrade firmware for an encoder without an analog camera
CSCtx65202	SENC pixilation seen at start of h264 and mpeg4 live feed
CSCtx95121	SENC: Missing RTP packets during motion configuration

Table 13 *Open Caveats (continued)*

ID	Description
CSCty18467	SENC:JPEG streaming in a view needs client reconnect after cisco restart
CSCuc87794	Cisco 6xxx Primary with VBR, FPS not set correctly for bit rate > 10000

Resolved Caveats

Table 14 lists caveats that are resolved in this release.

Table 14 *Resolved Caveats*

ID	Description
CSCth43078	Camera name in record now event description too much truncated
CSCtj06455	Java script error while creating BWX clips)
CSCtq87026	Op Page PTZ Console incorrectly showing a Toggle icon for Kalatel cameras
CSCtq87235	Scheduled archives stopping unexpectedly with automatic sync
CSCtq87305	Cisco 2900 is listed under Device Trigger though it does not support
CSCtq94161	SmartSearch freezes after acknowledging warning message
CSCtr10205	Batch admin update for analog camera resets PTZ config
CSCtr29570	SmartSearch send event will fail to seek on VSOM (H264/MPEG4)
CSCtr38806	Secure Login does not work with VSOM server IP address
CSCtr86105	VSMC failed upload firmware file to the wired & wireless camera
CSCts81008	SmartSearch: Do partial index when given start and stop times
CSCtu27937	Scheduled archives stopping after 10 mins (SR 617849595)
CSCtx15611	Cannot create archive clip for archive that spans 12/31/2011 to 1/1/2012
CSCty02490	Momentary PTZ movement commands do not stop with CIVS-IPC-29xx driver
CSCty13924	MediaOut utilizing too much CPU
CSCty23049	Client hangs while switching feeds after mouse moves over video pane
CSCty29882	Set default date MM/DD/YYYY format for start and stop for archive clip
CSCty77434	Firmware upgrade failure in Cisco 2900 Camera but succeeds in VSOM
CSCua32197	Proxies fail to start for Teleste MPC-Ex JPEG, but work for MPEG4
CSCub99569	Firmware upgrade on 2600 VSMC report fails to upgrade
CSCuc52821	VSM 6.3.2-40d/44d: MediaOut connection issues after running for few hours

Obtaining Documentation, Software, and Related Information

To obtain documentation and important information about Cisco VSM and about system requirements, go to the following URL, click the **Products** link, then click the **Cisco Network-Centric Video Surveillance products** link:

<http://www.cisco.com/go/physicalsecurity>

To access the self-service portal and obtain software, documents, and tools, log in to the Cisco Support Center at <http://www.cisco.com/support/>. You must be a registered user of Cisco.com to access this page. You must have a current Cisco support contract that is linked to your Cisco.com account to download software and obtain help from the Cisco Technical Assistance Center.

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