Installing and Upgrading Cisco Video Surveillance Encoding Server (VSES)

Contents

This document provides the following information and instructions:

Installation and Initial Configuration:

1. Verify minimum system requirements—System Requirements, page 2
2. Understand general installation information—Before You Install, page 4
3. Obtain the VSES software—Obtaining VSES Software, page 3
4. Perform pre-installation procedures—Before You Install, page 4
5. Install J2SDK—Installing J2SE 1.4.2 SDK for Linux (all platforms), page 8
6. Install the VSES software—Installing VSES, page 9
7. Configure video repositories for archives and clips—Configuring VSES, page 10

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

After installation:

8. (Recommended) Back up the VSES configuration—Backing up VSES, page 10, and Restoring VSES, page 11
9. (As needed) Upgrade VSES to a new software release—Upgrading VSES, page 12

System Requirements

This section describes the requirements of the server and client systems on which you install VSES.

The server must meet the following minimum requirements:

- Hardware
  - Cisco CIVS-ES-XX-XXXXX
  - CIVS-MSP-1RU with a CIVS-ES-16EC
  - CIVS-MSP-4RU with 1-2 CIVS-ES-16EC
- Operating System (one of the following):
  - SuSE Linux Enterprise Server 9 Service Pack 3 (SLES9-SP3)
  - SuSE Linux Enterprise Server 10 Service Pack 1 (SLES10-SP1)
- Software License Key
  - Obtain a VSES license key by contacting vsm-license@cisco.com

A client PC must meet the following minimum requirements:

- Hardware
  - 1.7 GHz Pentium III if running 1 video window
  - 1.7 GHz Pentium 4 if running 2 video windows
  - 3.2 GHz Pentium 4 with hyperthreading enabled if running 4 video windows
  - 1 GB DRAM
  - ATI or Nvidia DirectX 9 compatible graphics interface. The graphics interface and Drivers must support DirectX Acceleration, Direct3D Acceleration, and AGP texture acceleration and have at least 128 MB of video memory.

- Operating system:
  - Microsoft Windows XP SP2 (32-bit)
- Software:
  - Microsoft Internet Explorer 6.0
  - Microsoft DirectX 9.0c

Installation Notes

- The Pegasus MJPEG video decoder is installed automatically with the VSES client.
- Cisco recommends that you use NTP source to maintain the correct time on the server. Configuring NTP should be done before video recording is configured. The hardware clock should be set to use UTC time and the appropriate time zone for the server. If you are using SUSE, you can use YaST to configure the server time.
- The performance of client devices can vary depending on client configuration and applications.

Obtaining VSES Software

The VSES software is available from

http://tools.cisco.com/support/downloads/pub/Redirect.x?mdfid=281550158

You must log in to the Cisco website to access the software. Select the Cisco Video Surveillance Encoding Server Software software version for the appropriate for your Linux version.

Before You Install

Before you install VSES, you must configure the video repositories and install all software pre-requisites.

Preparing Video Repositories

Video that is recorded by VSES is stored in repositories on storage volumes that are dedicated for recording video by VSES. The repositories must be separate partitions from the operating system partitions. Network attached storage, such as NFS or CIFS volumes are not supported.

To create a repository, partition and format a storage volume, then configure the operating system to access the partition.

Each repository has a mount point to specify the path through which the files are accessed. The common convention for naming repositories is "/media#," with /media0 used for a repository on the operating system volume, and /media1 - /mediaN used for additional storage volumes.

Repository Greater than 2 TiB

To create partitions greater than 2 TiB, the volume must use a GPT partition table and must be a different storage volume from the operating system volume. The GPT partition table does not work on the boot volume.

Note The following steps erase the partition table on the specified volume, which deletes all data on the volume.

Procedure

Step 1 Login to the VSES server and follow these steps to create a partition GPT table on the volume:

```
linux:~ # parted -- /dev/<device> mklabel gpt
Replace <device> with the volume device name, such as /dev/sdb.V
```

Step 2 Verify that the volume is using the correct partition type:

```
linux:~ # parted -- /dev/sdb print
Disk geometry for /dev/sdb: 0kB - 10TB
Disk label type: gpt
Number  Start   End     Size    File system  Name            Flags
Information: Do not forget to update /etc/fstab, if necessary.
```

Make sure that the disk label type is set to GPT. After creating the GPT partition table, use the standard following methods for partitioning and formatting the partitions.

Creating Partitions

Creating partitions in SLES9-SP3 & SLES10-SP1

Use the SUSE YaST to partition, format, and configure repositories. If any of the volumes are greater than 2TiB you must first follow the steps above to create a GPT partition table on each volume. Cisco recommends using the XFS file system for optimal video recording performance.

Procedure

Step 1 Open the YaST Control Center.\

Step 2 Navigate to System, Partitioner.

Step 3 Enter Yes to create new partitions as required for video storage. The creation process may take some time.

Step 4 Choose **Create** and set the FileSystem = XFS and MountPoint = /media#.

Step 5 Choose **Apply**, **Finish**, **Quit**, and **Quit**.

Step 6 Change ownership of the mounted partitions to nobody.nobody.

```
shell> chown nobody.nobody /media1
```

Creating partitions in Red Hat Enterprise 4

Open a shell session and run the following commands to create a repository. The Ext3 file system should be used to format the repository.

Procedure

Step 1 Create new partitions:

```
Shell> parted -- /dev/sdb mkpart primary ext3 0 -0
```

Step 2 Use mkfs to make the partitions:

```
Shell> mkfs -t ext3 /dev/sdb1
```

Note: This command destroys all data that resides on that partition.

Step 3 Create a new directory.

```
shell> mkdir /media1
```

Note: Each volume needs a unique directory for a mount point.

Step 4 Add a new line to /etc/fstab, substituting the appropriate device name and mount point:

```
dev/sdb1        /media1        ext3    defaults     1 2
```

Step 5 Mount the newly created partitions. (Usage: mount /dev/sdb1 /media1.)

Step 6 Change ownership of the mounted partitions to nobody.nobody:

```
shell> chown nobody: /media1
```

Software Prerequisites

In additional to the default SUSE or Red Hat installation, the following software packages are required. Unless otherwise indicated, all packages are provided by the operating system, refer to the media from the operating system vendor to locate the necessary files.

- All platforms
  - Sun J2SE 1.4.2 SDK
  - db1
  - libelf
  - sysstat
- SLES10-SP1-64
  - libelf-32-bit
- RHEL4
  - perl-Digest-SHA1
  - perl-Digest-HMAC
  - perl-Net-SNMP[1]
  - perl-Crypt-DES [1]
  - perl-Socket6 [1]

1. These packages are not provided by Red Hat. Compatible versions can be found on the Internet.

Installing J2SE 1.4.2 SDK for Linux (all platforms)

VSES uses the Sun Java SDK 1.4.2. Follow these steps to download and install this package before you install VSES.

Procedure

Step 1 Download Java 2 SDK, Standard Edition, v. 1.4.2 from the Sun Microsystems website at http://java.sun.com/j2se/1.4.2/download.html. Although the version must be version 1.4.2, the build number may vary. The downloaded filename is similar to j2sdk-1_4_2_19-linux-i586-rpm.bin, adjust the commands in the following steps if your file name is different.

Step 2 Copy the downloaded file to the VSES server.

Step 3 On the VSES server, extract the J2SDK .rpm file with the command:

```
shell> sh <filename>
```

This process creates a new file

Step 4 Agree to the license as applicable.

Step 5 Install the extracted J2SDK rpm file with the command:

```
shell> rpm -ivh <filename>
```

Step 1 Create symbolic link /usr/java/java to the installed J2SDK for VSES as follows:

```
shell> cd /usr/java
shell> ln -s j2sdk1.4.2_19 java
```

Step 2 Verify the symbolic link with the command:

```
shell> ls -l /usr/java/
total 0
drwxr-xr-x 8 root root 376 Sep 26 10:15 j2sdk1.4.2_19
lrwxrwxrwx 1 root root  13 Sep 26 10:16 java -> j2sdk1.4.2_19
```

Installing VSES

Copy the downloaded .zip file with the VSES software to the server and then follow these steps:

Procedure

Step 1 Extract the contents of the downloaded .zip file. Cisco recommends that you create a directory for the extracted contents.

```
shell> mkdir vses-6.1.0
shell> unzip Cisco_VSES-6.1.0-xx-xxxxx.zip -d vses-6.1.0
```

Step 2 Verify that all files are present:

```
shell> cd vses-6.1.0
shell> ls -1
Cisco_VSBase-6.1.0-xx-xxxxx-i686.rpm
Cisco_VSBWT-6.1.0-xx-xxxxx-i686.rpm
Cisco_VSDocs-6.1.0-xx-noarch.rpm
Cisco_VSDrivers-6.1.0-xx-xxxxx-i686.rpm
Cisco_VSES-6.1.0-xx-xxxxx-i686.rpm
Cisco_VSMS-6.1.0-xx-xxxxx-i686.rpm
Cisco_VSRecorder-6.1.0-xxxxx-sp3-i686.rpm
Cisco_VSVM-6.1.0-xx-xxxxx.i586.rpm
Cisco_VSTools-6.0.0-noarch.rpm
```

Step 3 Install each of VSES .rpm file:

```
shell> rpm -ivh Cisco_VSBase-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSRecorder-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSMS-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSES-6.1.0-xx-xxxxx-i686.rpm
shell> rpm -ivh Cisco_VSDrivers-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSBWT-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSDocs-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSTools-6.0.0-noarch.rpm
```

Configuring VSES

After you install VSES, perform the following steps to use the Management Console (VSMC) to set repositories for archives, clips and events. The VSMC authentication information is:

Userid: root

password: secur4u

Procedure

Step 1 Open a web browser from a Windows PC and enter http://<server name/IP address>/vsmc.html.

Step 2 Click the Encoding Server link to access the VSES configuration. You are prompted to authenticate.

Step 3 Enter the license key on the VSES configuration page.

Step 4 Check the Local Archives Repositories check box.

Step 5 Click **Update**.

Step 6 Click **Restart Server**, **Restart Now**, and **Verify**.

Backing up VSES

After configuring VSES, you can back up the VSES configuration.

Procedure

Step 1 In a web browser, open http://<Server HostName>/vsmc.html and navigate to the Encoding Server Backup on the Console page.

Step 2 Click **Download**.

Step 3 When prompted, save the .tar file to a secure directory.

The VSES backup file is named VSES_<ServerName>_backup_timestamp. For example, VSES_PST_backup_20070327153851.tar.

Restoring VSES

To restore the VSES configuration, follow these steps:

Note This process is not intended for copying a configuration from VSES server to another VSES server.

Procedure

Step 1 Obtain a new license key by sending the MAC address of the server that you want to restore to license@broadware.com.

Step 2 Enter the following command to stop the server:

```
shell>  /etc/init.d/cisco stop
```

Step 3 Uninstall the VSES packages.

Step 4 Reinstall the VSES packages.

Step 5 Perform the following steps to extract the backed up VSES configuration data to the new server. This process extracts all necessary configuration files, including proxy, archive, and event data.

a. Locate the VSES backup file that was created by using the VSES console Backup command.

b. Use SSH to access the new VSES server as the root user.

c. Copy the VSES backup file from its current location to the VSES server.

d. From the SSH command line, enter:

```
shell> tar -Pxvf <filename>.tar
```

Example:

```
shell> tar -Pxvf VSES_PST_backup_20070327153851.tar
```

Step 6 Restart the server.(

```
Shell> /etc/init.d/cisco restart).
```

Step 7 Open the Management Console and enter the license, and set the storage, PTZ, and other configuration information as needed.

Upgrading VSES

To upgrade VSES, follow these steps:

Procedure

Step 1 Extract the contents of the downloaded .zip file. Cisco recommends that you create a directory for the extracted contents.

```
shell> mkdir vses-6.1.0
shell> unzip Cisco_VSES-6.1.0-xx-xxxxx.zip -d vses-6.1.0
```

Step 2 Verify that all files are present:

```
shell> cd vses-6.1.0
shell> ls -1
Cisco_VSBase-6.1.0-xx-xxxxx-i686.rpm
Cisco_VSBWT-6.1.0-xx-xxxxx-i686.rpm
Cisco_VSDocs-6.1.0-xx-noarch.rpm
Cisco_VSDrivers-6.1.0-xx-xxxxx-i686.rpm
Cisco_VSES-6.1.0-xx-xxxxx-i686.rpm
Cisco_VSMS-6.1.0-xx-xxxxx-i686.rpm
Cisco_VSRecorder-6.1.0-xxxxx-sp3-i686.rpm
Cisco_VSVM-6.1.0-xx-xxxxx.i586.rpm
Cisco_VSTools-6.0.0-noarch.rpm
```

Step 3 Stop the VSES service:

```
shell> /etc/init.d/cisco stop
```

Step 4 VSDrivers must be removed prior to uninstalling Cisco_VSES. Uninstall all previous MS modules including some (but not all) of the following based on the previously installed version:

```
shell>  rpm -e Cisco_VSBWT
shell>  rpm -e Cisco_VSDocs
shell>  rpm -e Cisco_VSTools
shell>  rpm -e Cisco_VSMS
shell>  rpm -e Cisco_VSRecorder
shell>  rpm -e Cisco_VSDrivers
shell>  rpm -e Cisco_VSES
shell>  rpm -e Cisco_VSBase
```

If the Cisco Video Surveillance Operations Manager (VSOM) is installed you may get an error message when uninstalling the Cisco_VSBase package; to uninstall the Cisco_VSBase package run

```
shell>  rpm -e Cisco_VSBase --nodeps
```

This will leave the VSOM module installed.

Step 5 Run the following commands in the following order to install VSES 6.1.0:

```
shell> rpm -ivh Cisco_VSBase-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSRecorder-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSMS-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSES-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSDrivers-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSBWT-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSDocs-6.1.0-xx-xxxxx-i586.rpm
shell> rpm -ivh Cisco_VSTools-6.1.0-noarch.rpm
```