Cisco Analog Video Gateway Installation and Upgrade Guide

Last Update: September 7, 2010

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Cisco Analog Video Gateway Installation and Upgrade Guide

CONTENTS

Overview of Cisco Analog Video Gateway Software Installation

Last Updated: September 7, 2010

This guide provides the set of Cisco Analog Video Gateway command-line interface (CLI) commands and graphical user interface (GUI) options for installing and upgrading the Cisco Analog Video Gateway software.

Features for version 1.2.2 and earlier versions of the Cisco Analog Video Gateway network module are supported. To view the product feature history, see the *Release Notes for the Cisco Video Management and Storage System*, which lists feature support for the Cisco Analog Video Gateway versions.

Complete the appropriate tasks and procedures in this guide before you perform the administrative tasks described in the *Cisco Analog Video Gateway CLI Administrator Guide* and in the *Cisco Analog Video Gateway XML API Guide*.

This guide is describes installation of the Cisco Analog Video Gateway software. It does not provide information on installing Cisco routers or other Cisco network modules. For information about those topics, see the "Additional References" section on page 4.

This chapter contains the following sections:

Software Upgrade Process

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

Upgrading an existing Cisco Analog Video Gateway system involves the following procedures:

1. Follow the appropriate upgrade process.
2. If necessary, run the initialization wizard. See the *Cisco Analog Video Gateway XML API Guide* for the procedure for running the initialization wizard.
3. Configure new features, if appropriate. See the *Cisco Analog Video Gateway CLI Administrator Guide* or the *Cisco Analog Video Gateway XML API Guide*.

Types of Cisco Analog Video Gateway Software Installations and Upgrades

When you receive the Cisco Analog Video Gateway module, the application software required to configure and run the module is preinstalled at the factory. After the module hardware is installed in your ISR and connected to the network, the application software only needs to be installed again if the original software has been corrupted or if you need to upgrade the application. There are several software installation methods to install new or upgrade software on the Cisco Analog Video Gateway software. Choosing a procedure depends on the type of installation required.

Software Installation and Upgrade Prerequisites

Before installing or upgrading the Cisco Analog Video Gateway software, complete the following steps to ensure a successful installation or upgrade:

1. Stop both the live and archive video streaming of all directly connected Cisco Video Management and Storage System modules.
2. Log into the Cisco Analog Video Gateway module CLI as a privileged EXEC user and configure the module.
3. Use the **show video session connection** command to verify that no active stream is running on the system.

   Note It may take up to a minute for all the video streams to be removed.

4. Configure the Cisco Analog Video Gateway module and use the **write** command to save the newly changed running configuration.
5. Install or upgrade the Cisco Analog Video Gateway software using the procedure option selected in "Software Installation and Upgrade Options" section on page 2.
6. After rebooting the module, restart the live and archive video streaming on the Cisco Video Management and Storage System module.

Software Installation and Upgrade Options

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

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

Note This procedure does not perform incremental upgrades.

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

Platforms and Cisco IOS Software Images

Cisco Analog Video Gateway software applications use a set of commands that are similar in structure to Cisco IOS software commands. However, the Cisco Analog Video Gateway commands do not affect the Cisco IOS configuration.

The Cisco Analog Video Gateway hardware module and platform uses the Cisco IOS command-line interface (CLI) commands for its operation.

See the *Release Notes for the Cisco Video Management and Storage System* for detailed information about the Cisco Analog Video Gateway hardware and software platforms.

Uninterruptible Power Supply Recommendations

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

Cisco IOS Release 12.3(4)T supports automatic switchover to the UPS device if the following configuration is added to the router:

```
line aux 0
privilege level 15
modem Dialin
```

```
autocommand service-module service-engine slot/0 shutdown no-confirm
```

where *slot* is the Cisco Analog Video Gateway module slot number.

Additional References

The following sections provide references related to the Cisco Analog Video Gateway module.

Related Documents

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

Related Cisco IOS Documents

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

Standards and RFCs

RFC	Title
RFC 768	User Datagram Protocol
RFC 793	Transmission Control Protocol
RFC 826	*Ethernet Address Resolution Protocol*
RFC 959	*File Transfer Protocol*
RFC 1165	Network Time Protocol
RFC 1350	The TFTP Protocol
RFC 1889	Real-time Transport Protocol (RTP) that provides end-to-end network transport functions suitable for applications transmitting real-time data, such as audio, video, or simulation data, over multicast or unicast network services
RFC 2032	Scheme for packetizing an H.261 video stream for transport using RTP with any of the underlying protocols that carry RTP
RFC 2190	Scheme for packetizing an H.263 video stream for transport using RTP H.263 video stream for video coding at very low data rates
RFC 3016	RTP payload formats that specify how MPEG-4 Audio and MPEG-4 Visual streams are to be fragmented and mapped directly onto RTP packets
RFC 3164	The Berkeley Software Distribution (BSD) Syslog Protocol
RFC 3984	RTP payload format that allows for packetizing of one or more Network Abstraction Layer Units (NALUs), produced by an H.264 video encoder, in each RTP payload

Technical Assistance

Description	Link
For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at: Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.	http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

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

Activating IP Connectivity on a New System

Last Updated: September 7, 2010

This chapter contains procedures for activating IP connectivity for the Cisco Analog Video Gateway:

Task List

Note The Cisco Analog Video Gateway software is installed on the Cisco Analog Video Gateway module at the factory. Spare modules also ship with the software installed.

Table 1 lists procedures required for configuring a new installation of Cisco Analog Video Gateway module:

Table 1 Task List for Installing Cisco Analog Video Gateway Software on a New System

Checklist	Check Off
1. Configure the IP addressing between the module and the router. See the "Activating IP Connectivity to Cisco Analog Video Gateway Software" section on page 8.	❑
2. Begin configuring the Cisco Analog Video Gateway software. See the *Cisco Analog Video Gateway CLI Administrator Guide* and the *Cisco Analog Video Gateway XML API Guide* for the configuration tasks. After configuring the Cisco Analog Video Gateway module, use the **write** command to save the newly changed running configuration. **Note** The *Cisco Analog Video Gateway XML API Guide* describes the procedure for performing initial configuration tasks using the initialization wizard tool, which uses a graphical user interface (GUI). If you want to use CLI commands to perform the configuration tasks covered by the initialization wizard (for example, if you want to use a configuration script), you can skip the initialization wizard by using the **web skipinitwizard** command in Cisco Analog Video Gateway EXEC mode. This command turns off the initialization wizard. You cannot turn it on or restart it unless you reimage the Cisco Analog Video Gateway module.	❑

Activating IP Connectivity to Cisco Analog Video Gateway Software

After you install the Cisco Analog Video Gateway module, activate the IP communication link between the system and the Cisco Analog Video Gateway application.

Prerequisites

The following information is required for activating the software:

- Slot and unit numbers of the Cisco Analog Video Gateway module on the Cisco IOS router that hosts the Cisco Analog Video Gateway.
- IP address and subnet mask of the Cisco IOS router that hosts Cisco Analog Video Gateway or the unnumbered interface type and number.
- IP address of the Cisco Analog Video Gateway module. This IP address must be on the same subnet as the IP address of the Cisco IOS router that hosts the Cisco Analog Video Gateway module.
- IP address of the default gateway of the Cisco router. This IP address must be the same IP address as the Cisco IOS router that hosts the Cisco Analog Video Gateway.

SUMMARY STEPS

1. **interface video-service-engine** *slot/unit*
2. **ip unnumbered** *if-type number*
3. **service-module ip address** *ip-address subnet-mask*
4. **service-module ip default-gateway** *gw-ipaddr*
5. **exit**
6. **ip route** *service-module-ip-address subnet-mask* **video-service-engine** *slot/unit*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**interface video-service-engine** *slot/unit* **Example:** `Router(config)# interface video-service-engine 2/0` `Router(config-if)#`	Enters Cisco IOS interface configuration mode.
Step 2	`Router(config-if)#` **ip unnumbered** *if-type slot/unit* **Example:** `Router(config-if)# ip unnumbered gigabitethernet 0/1`	Specifies the interface IP unnumbered interface type and slot/unit numbers for the Cisco IOS router that hosts the Cisco Analog Video Gateway.

	Command or Action	Purpose
Step 3	**service-module ip address** *ip-address subnet-mask* **Example:** `Router(config-if)# service-module ip address 10.0.0.9 255.0.0.0`	Specifies the IP address of the Cisco Analog Video Gateway module interface. This IP address must be on the same subnet as the IP address of the Cisco IOS router that hosts the Cisco Analog Video Gateway.
Step 4	**service-module ip default-gateway** *gw-ipaddr* **Example:** `Router(config)# service-module ip default-gateway 10.0.100.10`	Specifies the IP address of the Cisco IOS router that hosts the Cisco Analog Video Gateway.
Step 5	**exit** **Example:** `Router(config-if)# exit` `Router(config)#`	Exits Cisco IOS interface configuration mode.
Step 6	**ip route** *service-moudule-ip-address subnet-mask* **video-service-engine** *slot/unit* **Example:** `Router(config)# ip route 10.0.0.9 255.0.0.0` `video-service-engine 2/0`	Sets the IP route IP address and subnet mask of the Cisco Analog Video Gateway video network module.

Examples

The following example shows the IP connectivity activation procedure:

```
Router(config)# interface video-service-engine 2/0
Router(config-if)# ip unnumbered gigabitethernet 0/1
Router(config-if)# service-module ip address 10.0.0.9 255.0.0.0
Router(config-if)# service-module ip default-gateway 10.0.100.10
Router(config-if)# exit
Router(config)# ip route 10.0.0.9 255.0.0.0 video-service-engine 2/0
```

The following example displays the output of the **show running-config** command:

```
Router# show running-config interface v2/0

interface Video-Service-Engine2/0
ip unnumbered GigabitEthernet0/1
service-module ip address 10.0.0.9 255.0.0.0
service-module ip default-gateway 10.0.100.10
no keepalive
!
ip route 0.0.0.9 255.0.0.0 Video-Service-Engine2/0
```

What to Do Next

After you configure connectivity to the Cisco Analog Video Gateway module, run the initialization wizard to begin configuring the Cisco Analog Video Gateway database. See *Cisco Analog Video Gateway XML API Guide*.

Note If you want to use CLI commands to perform the configuration tasks covered by the initialization wizard (for example, if you want to use a configuration script), you can skip the initialization wizard by using the **web skipinitwizard** command in Cisco Analog Video Gateway EXEC mode. This command turns off the initialization wizard. You cannot turn it on or restart it unless you reimage the Cisco Analog Video Gateway module.

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

Last Updated: September 7, 2010

This chapter provides the procedures for upgrading from a previous release of Cisco Analog Video Gateway software to a later release by using the "upgrade" online software installer in the application.

Note The Cisco Analog Video Gateway version 1.2.1 cannot be upgraded to version 1.2.2. Instead, complete the installation steps as described in Installing New Software Using the Online Installer (Backup and Restore Required).

An *upgrade* installation replaces only the files on the disk that are necessary for creating the new software image. Your existing configuration will not be erased. Although Cisco recommends that you first back up your configuration files and restore them after installing the upgraded software, this backup and restore not required.

Note Only the configuration files of the Cisco Analog Video Gateway module are backed up during the files backup operation.

With this procedure, you download the software files in the background while Cisco Analog Video Gateway continues to operate. Anytime after the download is finished, you can perform the upgrade. Only an FTP server is required.

This section includes the following subsections:

Task List

Table 2 lists the tasks required for upgrading to a new software image.

Table 2 Task List for Upgrading From the Previous Cisco Unity Express Release

Checklist	Check Off
1. Complete the software upgrade prerequisites (see "Software Installation and Upgrade Prerequisites" section on page 2).	❑
2. (Recommended) Back up your configuration files. See"Appendix A: Backing Up Files" to back up your configuration files.	❑
3. Download and install the software image files. See the "Downloading and Installing an Upgrade Image" section on page 12.	❑
4. (Optional) Restore your configuration files. See "Appendix B: Restoring Files" to restore your configuration files.	❑

Prerequisites

- Cisco Analog Video Gateway module is currently installed.
- Ensure that your FTP server is configured and active.
- The following information is required:
  - FTP server IP address
  - FTP server user ID
  - FTP server password
  - Software package name
- Ensure that you can ping the Cisco Analog Video Gateway module from your FTP server.
- If Cisco Analog Video Gateway is configured to use DNS, you can use hostnames to identify the FTP server. If Cisco Analog Video Gateway is *not* configured to use a DNS, use the IP address of the FTP server.

Note Stop both the live and archive video streaming of all directly connected Cisco Video Management and Storage System modules.

Downloading and Installing an Upgrade Image

Follow this procedure to upgrade an existing Cisco Analog Video Gateway module software release.

Note If you have not already done so, back up your configuration files before starting the upgrade. See "Backing Up Files" in the *Cisco Analog Video Gateway CLI Administrator Guide*.

Note The Cisco Analog Video Gateway version 1.2.1 cannot be upgraded to version 1.2.2. Instead, complete the installation steps as described in Installing New Software Using the Online Installer (Backup and Restore Required).

SUMMARY STEPS

1. Go to the Cisco Software Center website and Download Software.
2. Click **ISR Video Surveillance–IPVS** and download the following Cisco IP Video Surveillance Analog Video Gateway software files and copy them to your FTP server:

   ipvs-full-k9.evm.*version*.prt1

   ipvs-installer-k9.evm.*version*.prt1

   ipvs-k9.evm.*version*.pkg

   ipvs-upgrade-k9.evm.*prior-version_new-version*.prt1
3. (Optional) To download the new software, enter the **software download upgrade** command.

   Note Although the **software download upgrade** command is optional, it is useful for staging the installation. The command stores the software files in Flash memory, which can save time during any subsequent installation or upgrade.
4. (Required for Step 3.) To continue the download, enter **y**.
5. (Optional) To check the download status, enter the **software download status** command.
6. To install the new software, enter the **software install upgrade** command.
7. Enter **y** to install the upgrade, or enter **n** to stop the installation procedure.

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

DETAILED STEPS

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

Step 2 Click **ISR Video Surveillance–IPVS** and download the following Cisco IP Video Surveillance Analog Video Gateway software files and copy them to your FTP server:

ipvs-full-k9.evm.*version*.prt1

Package payload containing all data and executable files for a full installation of the Cisco IP Video Surveillance Analog Video Gateway on EVM-IPVS-16 service modules.

ipvs-installer-k9.evm.*version*.prt1

Package payload containing all data and executable files for the installer subsystem associated with the Cisco IP Video Surveillance Analog Video Gateway on EVM-IPVS-16 service modules.

ipvs-k9.evm.*version*.pkg

Main package for installing the Cisco IP Video Surveillance Analog Video Gateway on EVM-IPVS-16 service modules.

ipvs-upgrade-k9.evm.*prior-version_new-version*.prt1

Package payload containing all data and executable files for an upgrade of the Cisco IP Video Surveillance Analog Video Gateway on EVM-IPVS-16 service modules.

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

```
se# software download upgrade url ftp://ftp-server-ip-address/ipvs-k9.evm.version.pkg
```

Note This example uses the default anonymous FTP user.

or, if the FTP server has been configured:

```
se# software download upgrade ipvs-k9.evm.version.pkg
```

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

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

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

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

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

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

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

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

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

Note The following example uses the default anonymous FTP user.

```
se# software install upgrade url ftp://ftp_server_ip_address/ipvs-k9.evm.version.pkg
username username password password
```

Note In the following example, the files were previously downloaded by using the **software download** command or the FTP server that has been configured.

```
se# software install upgrade ipvs-k9.evm.version.pkg username username password password
```

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

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

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

Caution An upgrade does not replace everything in the flash memory. It replaces only the files necessary for the upgrade. We recommend that you do a back up your configuration files before installing any software.

The system reloads after the upgrade is complete.

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

In the **show software versions** display, the current Cisco Analog Video Gateway software version is shown as the Global version. The other versions shown are for internal components of the product and may not correspond to the actual software version.

What to Do Next

Configure new system features. See the *Cisco Analog Video Gateway CLI Administrator Guide* and *Cisco Analog Video Gateway XML API Guide*.

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

Last Updated: September 7, 2010

This chapter provides procedures for installing a new release of Cisco Analog Video Gateway software by using the "clean" online software installer in the application.

This *clean* installation "cleans" the flash memory by erasing it before loading all new files on the Flash memory. You must back up your configuration files before starting the clean installation, and then restore the configuration files after the installation is complete. Only an FTP server is required for a clean installation.

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

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

This section includes the following:

Task List

Table 3 lists tasks required for upgrading from an earlier Cisco Analog Video Gateway release.

Table 3 Task List for Upgrading from an Earlier Cisco Analog Video Gateway Release

Checklist	Check Off
1. Complete the software installation prerequisites (see "Software Installation and Upgrade Prerequisites" section on page 2).	❑
2. Back up your configuration files. See "Appendix A: Backing Up Files" to back up your configuration files.	❑
3. Download and install the software image files. See the "Downloading and Installing a New Software Image" section on page 18.	❑
4. Restore the configuration files. See "Appendix B: Restoring Files" to restore your configuration files.	❑
5. Reboot the system.	❑

Prerequisites

- Cisco Analog Video Gateway 1.0 or later is currently installed. If your system has an earlier release installed, follow the procedure in the "Installing Software Using the Boot Helper" chapter.
- Ensure that your FTP server is configured and active.
- The following information is required:
  - FTP server IP address
  - FTP server user ID
  - FTP server password
  - Software package name
- Ensure that you can ping the Cisco Analog Video Gateway module from the FTP server.
- If the Cisco Analog Video Gateway is configured to use DNS, you can use hostnames to identify the FTP server. If the Cisco Analog Video Gateway is *not* configured to use DNS, use the IP address of the FTP server.

Note Stop both the live and archive video streaming of all directly connected Cisco Video Management and Storage System modules.

Downloading and Installing a New Software Image

Follow this procedure to install a new Cisco Analog Video Gateway software image.

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

SUMMARY STEPS

1. Log in and go to the Cisco Software Center website and Download Software.
2. Click **ISR Video Surveillance–IPVS** and download the following Cisco IP Video Surveillance Analog Video Gateway software files and copy them to your FTP server:

   ipvs-full-k9.evm.*version*.prt1

   ipvs-installer-k9.evm.*version*.prt1

   ipvs-k9.evm.*version*.pkg
3. (Optional) Enter the **software download clean** command to download the new software from your FTP server.

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

4. (Required for Step 3.) Enter **y** to continue the installation.
5. (Optional) To check the download status, enter the **software download status** command.
6. To install the new software, enter the **software install clean** command.

   The system automatically reloads after the installation is complete.
7. Enter **y** to begin the initial configuration.
8. Enter **y** to restore the configuration saved in Flash memory, or enter **n** to use your backup software image to restore your configuration.
9. Enter the Cisco Analog Video Gateway administrator ID. This is the username for logging in to the Cisco Analog Video Gateway graphical user interface (GUI).

DETAILED STEPS

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

Step 2 Click **ISR Video Surveillance–IPVS** and download the following Cisco IP Video Surveillance Analog Video Gateway software files and copy them to your FTP server:

ipvs-full-k9.evm.*version*.prt1

Package payload containing all data and executable files for a full installation of the Cisco IP Video Surveillance Analog Video Gateway on EVM-IPVS-16 service modules.

ipvs-installer-k9.evm.*version*.prt1

Package payload containing all data and executable files for the installer subsystem associated with the Cisco IP Video Surveillance Analog Video Gateway on EVM-IPVS-16 service modules.

ipvs-k9.evm.*version*.pkg

Main package for installing the Cisco IP Video Surveillance Analog Video Gateway on EVM-IPVS-16 service modules.

Step 3 (Optional) Enter the **software download clean** command, to download the new software from the FTP server:

```
se# software download clean url ftp://ftp_server_ip_address/ipvs-k9.evm.version.pkg
username username password password
```

or, if the FTP server has been configured:

```
se# software download clean pkg ipvs-k9.evm.version.pkg
```

The installation takes several minutes to complete. The module reboots and loads the new software.

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

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

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

Follow the initial configuration dialog that prompts you for information, such as the NTP server to use, the DNS server to use, and the current date and time.

Step 4 (Required for Step 4.) Enter **y** to continue the download:

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

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

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

```
se# software download status
Download request in progress.
downloading file : ipvs-k9.evm.version.pkg
bytes downloaded : xxxxxxxx
se#


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

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

Caution This step cleans the Flash memory. All configurations will be lost after this step. For future upgrades and installations, verify that a backup has been made. If there is no backup, abort at this step and make a backup first. See "Appendix A: Backing Up Files" to back up your files.

```
se# software install clean url ftp://ftp-server-ip-address/ipvs-k9.evm.version.pkg
username username password password
```

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

```
se# software install clean ipvs-k9.evm.version.pkg
```

Step 7 Enter **y** to begin the initial configuration:

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

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

Step 8 Enter **y** to restore the configuration saved in flash memory, or enter **n** to use your backup software image to restore your configuration. See the output below to determine your configuration needs.

Note If this is a new install or if the flash memory has been erased, this output will not be displayed.

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

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

Step 9 Enter the Cisco Analog Video Gateway administrator ID:

```
MPORTANT::
IMPORTANT::        Administrator Account Creation
IMPORTANT::
IMPORTANT:: Create an administrator account. With this account,
IMPORTANT:: you can log in to the Cisco Analog Video Gateway Module GUI and
IMPORTANT:: run the initialization wizard.
IMPORTANT::

Enter administrator user ID:
  (user ID): Admin
Enter password for admin:
  (password): ******
Confirm password for admin by reentering it:
```

```
(password): ******

SYSTEM ONLINE
```

What to Do Next

1. Restore the configuration files. See "Appendix A: Backing Up Files" on page 29.

   Note If you do not have any backup files for your system and cannot do a restore of the configuration files, run the initialization wizard. See the *Cisco Analog Video Gateway XML API Guide*.

   Note If you want to use CLI commands to perform the configuration tasks covered by the initialization wizard (for example, if you want to use a configuration script), you can skip the initialization wizard by using the **web skipinitwizard** command in Cisco Analog Video Gateway EXEC mode. This command turns off the initialization wizard. You cannot restart it unless you reimage the Cisco Analog Video Gateway module.

2. Reboot the system.
3. To verify the upgrade, use the **show software versions** command.

   In the **show software versions** display, the current Cisco Analog Video Gateway software version is shown as the Global version. The other versions shown are for internal components of the product and may not correspond to the actual software version.
4. Configure new system features. See the *Cisco Analog Video Gateway CLI Administrator Guide* and *Cisco Analog Video Gateway XML API Guide*.

Installing Software Using the Boot Helper

Last Updated: September 7, 2010

This chapter provides the procedures for installing a new release of Cisco Analog Video Gateway software by using the boot helper.

Note The boot helper is intended for emergency use or "first time" installations, such as going from 1.1(2) to 2.1. The helper supports only installations of full images. The boot helper mode does not support upgrades.

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

This chapter contains the following sections:

Task List

Table 4 lists the tasks required for installing a new software image.

Table 4 Task List for Upgrading Using the Boot Helper

Checklist	Checkoff
1. Complete the software upgrade prerequisites (see "Software Installation and Upgrade Prerequisites" section on page 2).	❑
2. Download the software image files. See the "Downloading the Software Files" section on page 24.	❑
3. Back up your configuration files. See "Appendix A: Backing Up Files" to back up your configuration files.	❑

Table 4 Task List for Upgrading Using the Boot Helper

Checklist	Checkoff
4. Enter configuration parameter values. See the "Entering Configuration Parameter Values" section on page 25.	❑
5. Install the software files. See the "Installing the Software Image Files" section on page 26.	❑
6. Restore the your configuration files. See "Appendix B: Restoring Files" to restore your configuration files.	❑

Prerequisites

- Ensure that the TFTP and FTP servers are configured and active. If your TFTP server and FTP server reside on the same computer, ensure that the TFTP and FTP programs are activated.
- Ensure that you can ping the Cisco Analog Video Gateway module from your TFTP server and FTP server.

Note Stop both the live and archive video streaming of all directly connected Cisco Video Management and Storage System modules.

Downloading the Software Files

Downloading the Cisco Analog Video Gateway software files is the first software installation task. Review the prerequisites listed in Table 4 to ensure that all servers and modules are active and available.

SUMMARY STEPS

1. Log in and go to the Cisco Software Center website and Download Software.
2. Click **ISR Video Surveillance–IPVS** and download the boot helper Cisco IP Video Surveillance Analog Video Gateway software files to your TFTP server.
3. Copy the other software files to your FTP server.

DETAILED STEPS

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

Step 2 Click **ISR Video Surveillance–IPVS** and download the boot helper Cisco IP Video Surveillance Analog Video Gateway software files to your TFTP server.

Step 3 Copy the other software files to your FTP server.

What to Do Next

- Back up your configuration files. See "Appendix A: Backing Up Files" to back up your configuration files.
- After you back up the files, configure several parameter values. See the "Entering Configuration Parameter Values" section on page 25.

Entering Configuration Parameter Values

You must configure several parameters in the Cisco Analog Video Gateway server so that you can download the Cisco Analog Video Gateway software files.

SUMMARY STEPS

1. **reload**
2. Type "***" to enter boot helper mode.
3. **config**
4. Enter the values for the following parameters:
   - Gateway module IP address
   - Subnet mask
   - TFTP server address
   - Gateway router address
   - Ethernet interface
   - Default helper image: sw-ipvs-k9-*version*
   - Default boot setting
   - Default boot loader is primary
5. Use the boot helper to boot the network module.

DETAILED STEPS

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

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

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

Step 4 Enter the values for the following parameters:

- Gateway Module IP address
- Subnet mask
- TFTP server address
- Gateway router address
- Ethernet interface
- Default helper image: **ipvs-boothelper.evm.***version*
- Default boot: **disk**

- Default boot loader: **primary**

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

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

What to Do Next

Install the software files. See the "Installing the Software Image Files" section on page 26.

Installing the Software Image Files

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

Prerequisites

Installing the software image files requires the following information:

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

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

SUMMARY STEPS

Starting from the module EXEC mode:

1. From the install menu, select the first choice, **Install software**.
2. Enter the package name, FTP server address, username, and password.
3. Enter **y** to begin the initial configuration in the post-installation configuration menu.
4. Enter **y** to restore the configuration saved in flash memory, or enter **n** to use your backup to restore your configuration.
5. Enter the Cisco Analog Video Gateway administrator ID. This is the username for logging in to the Cisco Analog Video Gateway GUI.

DETAILED STEPS

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

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

Step 2 Enter the package name, FTP server address, username, and password:

```
Package name: ipvs-k9.evm.version.pkg
Server url: ftp://10.33.162.120/
Username: ipvs
Password: ******
Software installation will clear disk contents
Continue [y/n]? y
```

Caution This step cleans the flash memory. All configurations are lost after this step. For future upgrades and installations, verify that a backup has been done. If it has not, abort at this step and do a backup. See Appendix A: Backing Up Files, page 29.

Step 3 Enter **y** to begin the initial configuration:

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

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

Step 4 Enter **y** to restore the configuration saved in flash memory, or enter **n** to use your backup to restore your configuration. See the output below to determine your configuration needs.

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

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

Step 5 Enter the Cisco Analog Video Gateway administrator ID. This is the username for logging in to the Cisco Analog Video Gateway Module GUI.

```
IMPORTANT::
IMPORTANT::        Administrator Account Creation
IMPORTANT::
IMPORTANT:: Create an administrator account. With this account,
IMPORTANT:: you can log in to the Cisco Analog Video Gateway Module GUI and
IMPORTANT:: run the initialization wizard.
IMPORTANT::

Enter administrator user ID:
  (user ID): Admin
Enter password for admin:
  (password): ******
Confirm password for admin by reentering it:
  (password): ******

se>
```

What to Do Next

1. Restore your configuration files. See "Appendix B: Restoring Files" to restore your configuration files.
2. Reboot the system.
3. Use the **show software versions** command to verify the upgrade.

   In the **show software versions** display, the current Cisco Analog Video Gateway software version is shown as the Global version. The other versions shown are for internal components of the product and may not correspond to the actual software version.

Appendix A: Backing Up Files

Last Updated: September 7, 2010

Backup commands must be entered in EXEC mode while the system is in offline mode. Consider performing the backup procedure at a time when the system is at its most quiescent state.

Note We recommend that you back up your configuration files whenever you make changes to the system or the application files.

Numbering Scheme for Backup Files

Three types of backup requests are available: data only, configuration only, or all. However, for the Cisco Analog Video Gateway, only the configuration files are backed up.

- Data—There is no data stored in the Cisco Analog Video Gateway module; thus, there is no data to back up.
- Configuration—Backs up only the running configuration. Use the **show run** command to display the current running configuration.
- All—Backs up configuration information. There is no data stored in the Cisco Analog Video Gateway module; thus, there is no data to back up.

Cisco Analog Video Gateway software automatically numbers and dates the backup files and identifies the revision number in a **backupid** field.

When restoring the files, refer to the backup ID for the backup configuration file that you want to use. Use the **show backup server** command for a list of configuration file backup IDs.

SUMMARY STEPS

1. **offline**
2. **backup category** {**all** | **configuration** | **data**}
3. **continue**
4. **show backup history**
5. **show backup server**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**offline** **Example:** `se-10-0-0-0# offline`	Enters offline mode. All activities are terminated.
Step 2	**backup category** {**all** | **configuration** | **data**} **Example:** `se-10-0-0-0(offline)# backup category configuration`	Specifies the configuration to be backed up and stored.
Step 3	**continue** **Example:** `se-10-0-0-0(offline)# continue`	Exits offline mode and returns to EXEC mode.
Step 4	**show backup history** **Example:** `se-10-0-0-0# show backup history`	Displays the backup and restore procedures and the success or failure of those attempts.
Step 5	**show backup server** **Example:** `se-10-0-0-0# show backup server`	Displays the backup files available on the backup server, the date of each backup, and the backup file ID.

Appendix B: Restoring Files

Last Updated: September 7, 2010

After you create the backup configuration files for the Cisco Analog Video Gateway, you can restore them as needed. Restoring is done in offline mode, which terminates all activity. You should consider doing the restore when the system is at its most quiescent state.

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

SUMMARY STEPS

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

DETAILED STEPS

	Command or Action	Purpose
Step 1	**show backup server** **Example:** `se-10-0-0-0# show backup server`	Lists the configuration backup files. Look at the backup ID field for the revision number of the file that you want to restore.
Step 2	**offline** **Example:** `se-10-0-0-0# offline`	Enters offline mode. All activities are terminated.
Step 3	**restore id** *backupid* **category** {**all** | **configuration** | **data**} **Example:** `se-10-0-0-0(offline)# restore id 8 category configuration`	Specifies the backup ID *backupid* value and the configuration file type to be restored.

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

Appendix C: Verifying Cisco IPVS Installation and Configuring Video Port Events

Last Updated: September 7, 2010

The Cisco IP Video Surveillance (Cisco IPVS) Utilities, made up of Java applets, provide graphical user interface (GUI) tools used to verify the installation parameters, as well as to configure video port alarm events on the Cisco Analog Video Gateway network module.

Log into the IPVS Video Viewer using your username (default username: admin) and password. From the Cisco IPVS welcome window (see Figure 1), click on the first three options separately to verify the streaming video setup, RS-485 setup, and contact closure and alarm interface setup parameters. Click the fourth option to configure video port alarm events.

- Cisco IPVS MJPEG Video Viewer
- RS-485 Interface
- Contact Closure and Alarm Interface
- Configuring Video Port Events Using the Applet Tool, page 38

Figure 1 Cisco IPVS Utilities Welcome Window

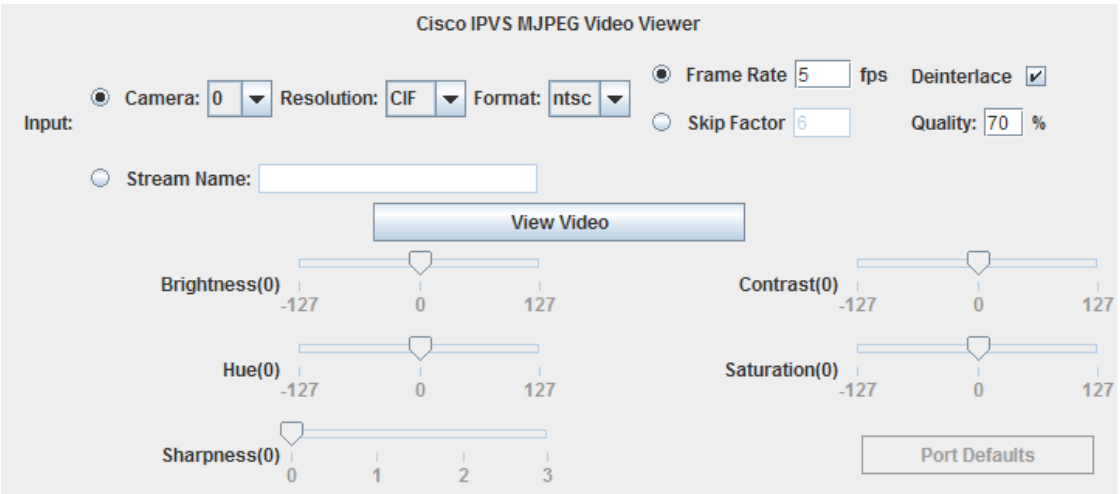
Cisco IPVS MJPEG Video Viewer

To verify individual camera installations or your streaming video setup, complete the following steps:

Step 1 From the Cisco IPVS Utilities welcome window (Figure 1), click the Cisco IPVS MJPEG Video Viewer link.

The Cisco IPVS Video Viewer window (Figure 2) appears.

Figure 2 Cisco IPVS MJPEG Video Viewer Window



Step 2 Select either the Camera video port number from the drop-down menu or enter the Stream Name and then set the following input parameters:

Note A valid video signal must exist on the port before the sliders are enabled. The color bar cannot be changed because it is generated by the DSP.

- Camera drop-down list field—Selects the specific camera video port (0–15) to be used for the test.
  - Resolution drop-down list field—Sets the resolution (CIF or 4CIF) for the specified camera.
  - Format drop-down list field—Sets the camera format (NTSC or PAL) for the specified camera.
  - Frame Rate or Skip Factor field—Sets the frame rate or skip factor for the specified camera.
  - Deinterlace checkbox—Enables (when checked) or disables (when unchecked) the deinterlace for the specified camera.
  - Picture quality—Sets the image quality as a percentage for the specified camera.
- Stream Name—Enter the video stream name for the video stream profile that you have configured.

Note
- The name entered in the Stream Name field must already exist on the Cisco Analog Video Gateway application; that is, the Stream Name must have been previously configured using the CLI.
- When the Stream Name is selected, the video parameter adjustment sliders are disabled.
- If you change the stream profile, the new Stream Name must match the name of the new stream profile.

Step 3 Select the camera video port and click **View Video**.

- If the camera video port is selected and the camera parameters are properly configured, the video appears in the lower area of the window.
- If a video Stream Name is selected and the streaming video profile name is correct, the streaming video appears when you click **Play** (you can also **Pause** and **Stop** the streaming video).

Step 4 Use the slider to adjust the following video parameters. The new parameter values are immediately and automatically saved to the Cisco Analog Video Gateway application and reflected in the video stream within moments.

Note Click and drag the slider to set the parameter value within the ranges shown. The slider will only send changes to the Cisco Analog Video Gateway application upon the release of the mouse button after the slider is in the chosen position.

- Brightness (0)—Adjust the video brightness in the range of –127 to +127. The default brightness value is set at zero.
- Hue (0)—Adjust the video hue in the range of –127 to +127. The default hue value is set at zero.
- Sharpness (0)—Adjust the video sharpness in the range of 0 to +3. The default sharpness value is set at zero.
- Contrast (0)—Adjust the video contrast in the range of –127 to +127. The default contrast value is set at zero.
- Saturation (0)—Adjust the video saturation in the range of –127 to +127. The default saturation value is set at zero.

Step 5 Click **Port Defaults** to reset the video parameters to their default values.

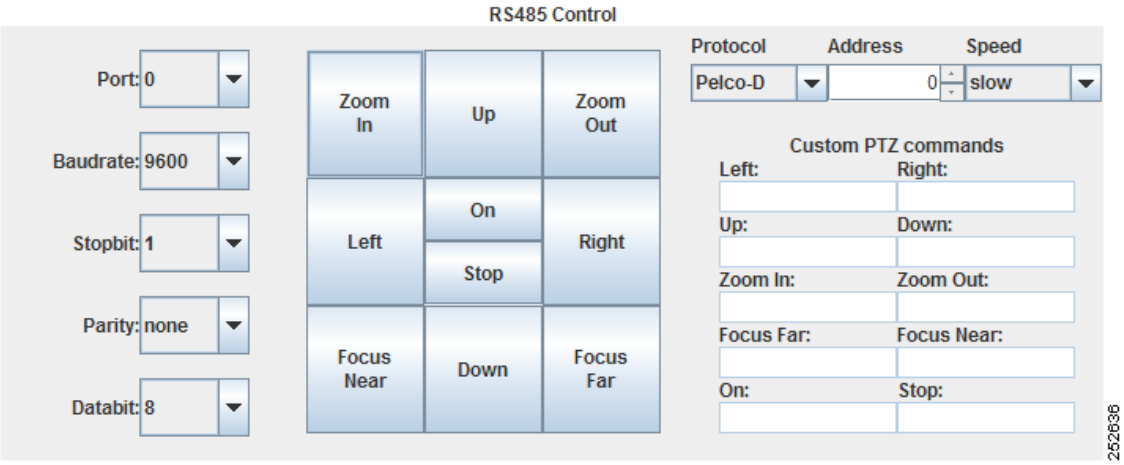
RS-485 Interface

To verify your RS-485 setup, complete the following steps:

Step 1 From the Cisco IPVS Utilities welcome window (Figure 1), click the RS-485 Interface link.

The RS-485 Control window (Figure 3) appears.

Figure 3 RS-485 Control Window



Step 2 Verify the port-related values shown in the drop-down list for the following parameters:

- Port number (0 or 1) for the interface connection.

Note If you change the port number, the values displayed will update to reflect the configuration of the newly selected port number.

- Baud rate drop-down list field—Displays the baud rate (1200, 2400, 4800, 9600, 19200, 38400, 57600, or 115200) setting.
- Stop bit drop-down list field—Displays the stop bit (1, 1.5, or 2) setting.
- Parity drop-down list field—Displays the parity (even, none, or odd) setting.
- Data bit drop-down list field—Displays the data bit (5, 6, 7, or 8) setting.

Step 3 Verify the camera-related values for the following parameters:

- Protocol drop-down list field—Displays the protocol (Pelco-ID or Custom) setting. For Custom, enter your specific pan-tilt-zoom (PTZ) custom commands.
- Address field—Displays the device (device ID) address setting.
- Speed drop-down list field—Displays the camera speed (slow, medium, or fast). Camera speed determines how fast the camera moves when a pan, tilt, or zoom command is issued.

Step 4 Verify the proper operation of the following camera controls:

- Custom PTZ commands.
- Control the image view by using the center panel command buttons, such as Zoom In, Zoom Out, Left, Right, and so on.

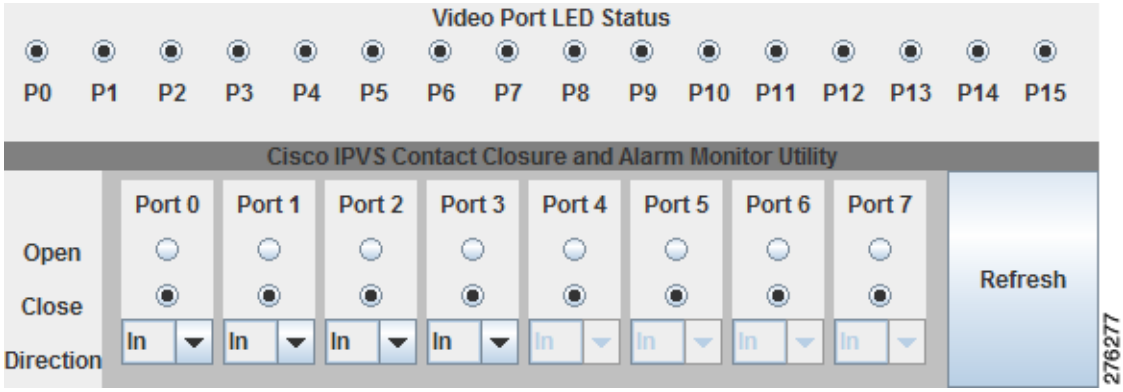
Contact Closure and Alarm Interface

To verify the Cisco IPVS video port LED status, contact closures, and alarm monitors, complete the following steps:

Step 1 From the Cisco IPVS Utilities welcome window (Figure 1), click the Contact Closure and Alarm Interface link.

The Video Port LED Status, Contact Closure, and Alarm Monitor window (Figure 4) appears.

Figure 4 Video Port LED Status, Contact Closure, and Alarm Window



Step 2 Video Port Status LED—Displays the video port LED status for ports P0 to P15 display. The darkened circle indicates that the LED is ON.

Step 3 To view the status of the contact closure port inputs or to change contact closure port outputs, use the following guidelines. Changing the contact closure setup through this graphical interface changes the configuration setup of the contact closure ports.

Note There are eight contact closure interfaces. The first four can be configured as alarm inputs or relay outputs. The remaining four are for inputs only.

- When the contact closure is an input (Direction > In to indicate a contact closure input port), only the status is displayed for ports 0 to 7.
- When the contact closure is an output (Direction > Out to indicate a contact closure output port), you can set the contact closure to either the Open or Closed position by first selection Out using the Direction drop-down menu, and then clicking on the port's corresponding radio button. When setting a contact output, be sure to click **Refresh** to view the updated status of the contact closure state. A darkened circle indicates the contact closure state.

Step 4 Click **Refresh** to update the contact closure display.

Configuring Video Port Events Using the Applet Tool

The Video Port Event Configuration Applet tool configures and tests the initial setup of the Cisco Analog Video Gateway network module. The applet allows you to add, modify, and delete video port alarm profiles stored in the Cisco Analog Video Gateway module.

From the Cisco IPVS Utilities welcome window (Figure 1), click the Video Port Event Configuration Tool link. The Video Port Event Configuration Tool window (Figure 5) appears. Proceed to the following sections to configure video port alarm profiles:

- Using the Applet Tool GUI, page 38
- Configuring Alarm Profiles and Profile Summaries, page 39
- Adding, Modifying, and Deleting Alarm Profiles, page 40
- Example: Setting Alarms to Be Reported to the Cisco Video Management and Storage System, page 44

Using the Applet Tool GUI

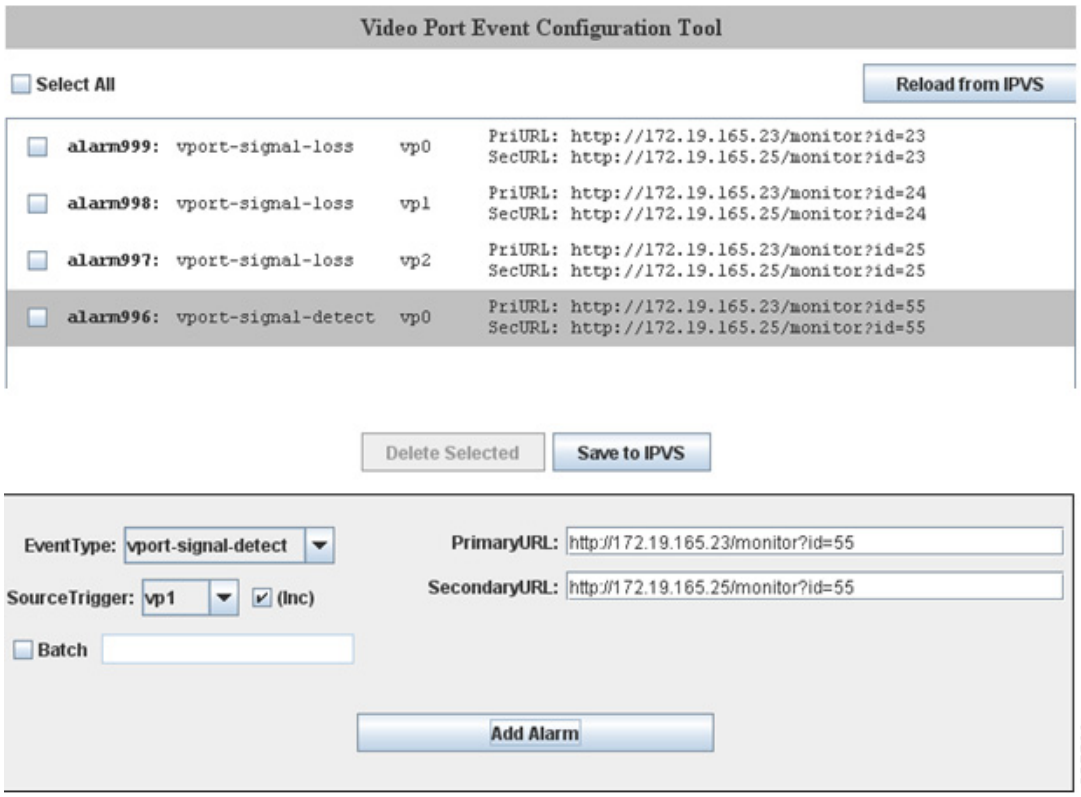
There are two main window panes (see Figure 5) of the applet tool graphical user interface (GUI):

- Alarm profile (top) pane—contains the current list of alarm profiles
- Configuration (bottom) pane—used to configure the alarm profiles, such as adding and modifying profiles, using the drop-down menus

The alarm profile list is initially populated with the profiles loaded from the Cisco Analog Video Gateway application. As changes are made, those new added profiles or existing profiles that have been modified are shown in gray (Figure 5). Within these two panes, there are four buttons:

- **Save to IPVS**—stores the current profile list to the Cisco Analog Video Gateway application. This button is only enabled when changes occur—such as adding a new profile, modifying an existing profile, or deleting an existing profile—that need to be saved.
- **Reload from IPVS**—discards the current profile list and reloads the configuration stored on the Cisco Analog Video Gateway application.
- **Delete Selected**—deletes all profiles that have their checkboxes selected. If none of the checkboxes are selected, the button is disabled.
- **Add Alarm**—adds a new alarm after the alarm parameters are configured.

Figure 5 Video Port Event Configuration Tool: Top and Bottom Panes



Configuring Alarm Profiles and Profile Summaries

Alarm monitor profiles configured on the Cisco Analog Video Gateway are made up of three profiles:

- Destination-profile—defines primary and secondary URLs that are triggered in the case where an alarm event occurs
- Monitor-profile—identifies the EventType (for example, video-loss) and SourceTrigger (for example, video port 0)
- Notifier-profile—connects a monitor (input) with a destination (output)

The following are examples of alarm monitor profile configurations:

```
alarm-monitor destination-profile dest999
 primaryURL "http://172.19.165.23/monitor?id=23"
 secondaryURL "http://172.19.165.25/monitor?id=23"

alarm-monitor monitor-profile mon999
 event vport-signal-loss
 sourceTrigger vp0

alarm-monitor notifier-profile not999
 destinationProfileTag dest999
 monitorProfileTag mon999
```

The applet tool combines these three alarm monitor profiles into one summary profile called an alarm profile. The following is an example of an alarm profile:

```
alarm999: vport-signal-loss vp0 PriURL: http://172.19.165.23/monitor?id=23
                                SecURL: http://172.19.165.25/monitor?id=23
```

You do not need to manage all three destination-profile, monitor-profile, and notifier-profile configurations separately because the applet manages these profiles for you in the background.

When the applet starts, it reads the current configuration from the Cisco Analog Video Gateway module and summarizes the configurations into alarm profiles, populating them in an alarm profile list. The list changes as you add, delete, and modify the profiles. When the **Save to IPVS** button is clicked, the applet writes the new configurations to the Cisco Analog Video Gateway module, expanding the alarm profile to their individual destination-profile, monitor-profile, and notifier-profile configurations.

Adding, Modifying, and Deleting Alarm Profiles

Use the following procedures to add, modify, or delete an alarm profile.

Adding New Alarm Profiles

To add a new alarm profile:

Step 1 From the drop-down menu in the configuration pane, select the desired EventType and SourceTrigger.

Step 2 Enter the primary URL in the PrimaryURL field (see Note).

Step 3 Enter the secondary URL in the SecondaryURL field (see Note).

Step 4 Click the **Add Alarm** button.

Note The URL field entries must satisfy the following rules:

- At least one of the URLs has to be non-empty.
- A non-empty URL field has to start with “http://” plus at least one more character (for example, “http://a”).

For convenience, an auto-increment mode can be enabled by selecting the **(Inc)** checkbox. When this checkbox is selected, the SourceTrigger automatically increments by one (until “vp15” is reached) every time the **Add Alarm** button is clicked.

Additionally, a batch mode and URL string macros are supported (for more information, see “Using the Batch Mode” section on page 42 and “Using URL Macros” section on page 43).

Modifying Alarm Profiles

To modify an existing alarm profile:

Step 1 Click on the profile to be modified in the alarm profile pane (see Figure 6).

The selected profile (shown in green) is then highlighted, and its values populated in the configuration pane.

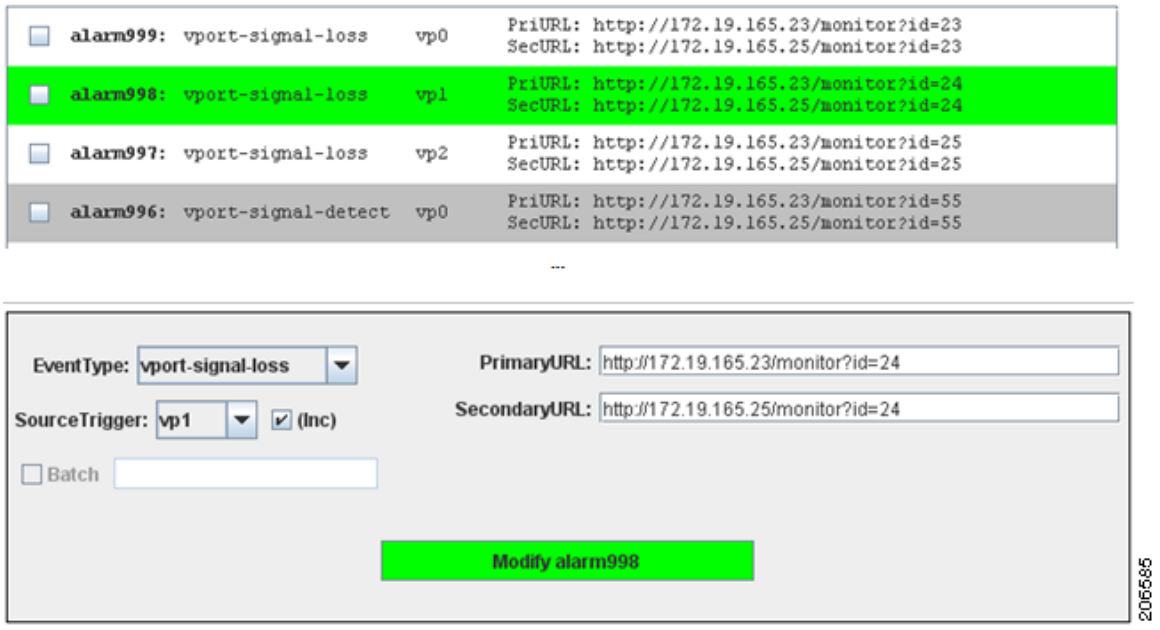
Note Modifications to alarm profiles cannot be undone once the modifications take effect; a modified alarm configuration cannot be reverted to its previous configuration.

Step 2 Modify the values using the EventType and SourceTrigger drop-down menus and URL fields in the configuration pane.

To cancel out of the modified profile, click on the same alarm line (shown in green) once more or click on a different alarm profile.

Step 3 Click on the **Modify alarm***nnn* button, where *nnn* is the alarm number, to save your changes.

Figure 6 Modifying Alarm Profiles



Deleting Alarm Profiles

To delete one or more alarm profiles:

Step 1 In the alarm profile pane, select the checkboxes of the profiles you want to delete.

Note Modifications to alarm profiles cannot be undone once the modifications take effect; a modified configuration cannot be reverted to its previous configuration.

Step 2 Click **Delete Selected**, to delete the alarm profiles that have the checkboxes selected.

Using the Batch Mode

The batch mode allows you to quickly generate a set of alarm profiles that share the same EventType and destination URLs but use different SourceTriggers.

To set the batch mode:

Step 1 Click the checkbox next to the **Batch** text field (see Figure 7) to enable batch mode.

This disables the SourceTrigger drop-down menus and enables the **Batch** text field.

Step 2 Enter a series of SourceTriggers, separated by commas.

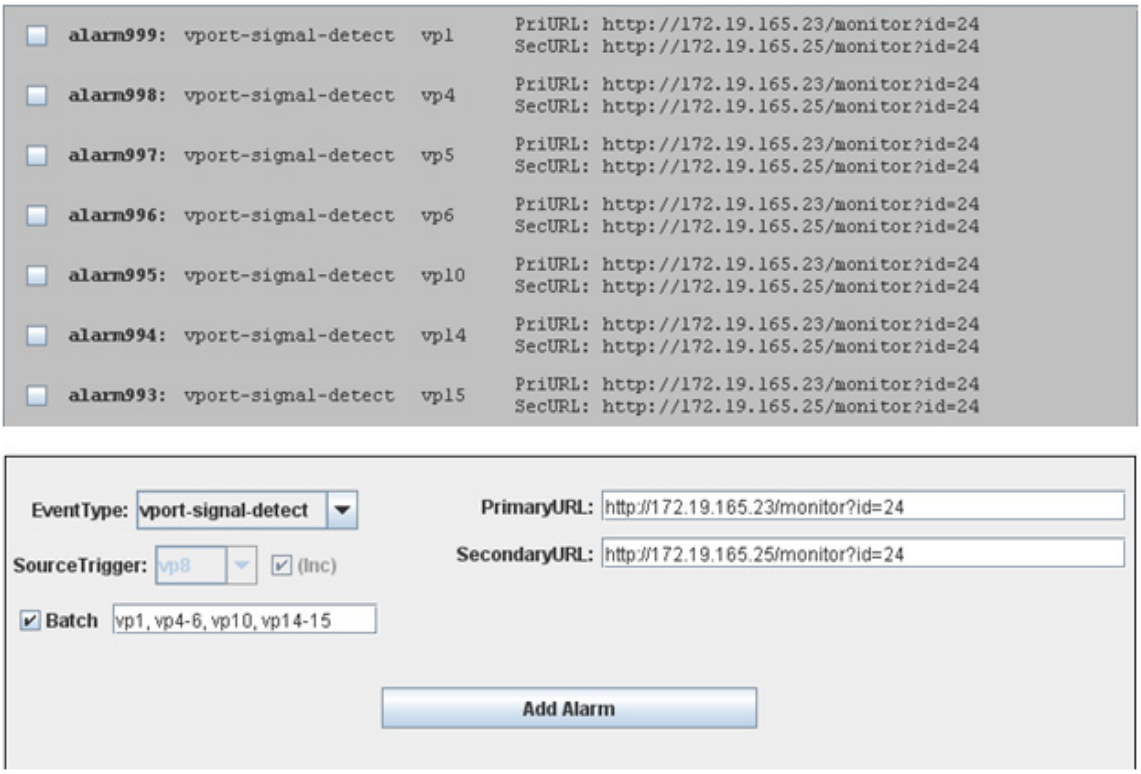
For example, the format of the **Batch** field is {<*VP*>,[<*VP*>, …]}, where *VP* is either an individual video port (such as “vp3”) or a range of video ports (such as “vp5-10”).

Step 3 Click the **Add Alarm** button.

The applet generates a new profile for each SourceTrigger in the alarm profile list while using the same EventType and destination URLs (except for when URL macros are used).

Figure 7 is an example alarm profile list generated using the batch mode string of “vp1, vp4-6, vp10, vp14-15” and then clicking the **Add Alarm** button once.

Figure 7 Batch Mode Example



Using URL Macros

Macros allow you to dynamically generate URLs by inserting either the current video port number or an incremental counter at any position in the URL. A macro is identified by special characters and parentheses. They can be in any one of the following formats and entered into the PrimaryURL and SecondaryURL fields (see Figure 8 for an example of where the macro characters are inserted):

- (#)—inserts the current port number (for example, vp3, where video port number is 3)
- (#±offset)—inserts the current video port number adjusted by a positive or negative offset, where the offset is a valid integer value
- (%)—when in batch mode only, inserts the value of an incremental counter that starts at 0
- (%±offset)—inserts the value of an incremental counter adjusted by a positive or negative offset, where the offset is a valid integer value

Macros can be used with or without batch mode enabled. When batch mode is disabled, the (%) macro always results in a 0 integer value.

Figure 8 is an example of dynamically generating URLs by inserting either the current video port number or an incremental counter at any position in the URL with the batch mode disabled. In this example:

- Event is “vport-signal-detect”
- SourceTrigger is “vp5”
- PrimaryURL is “http://172.19.165.25/monitor?id=(#-3)”
- SecondaryURL is “http://172.19.165.25/monitor?id=(%+5)”

With a SourceTrigger of “vp5,” the (#-3) macro in the PrimaryURL is interpreted as “2” (5–3), while the (%+5) in the SecondaryURL is interpreted as 5 (0+5).

Figure 8 URL Macro Example with Batch Mode Disabled

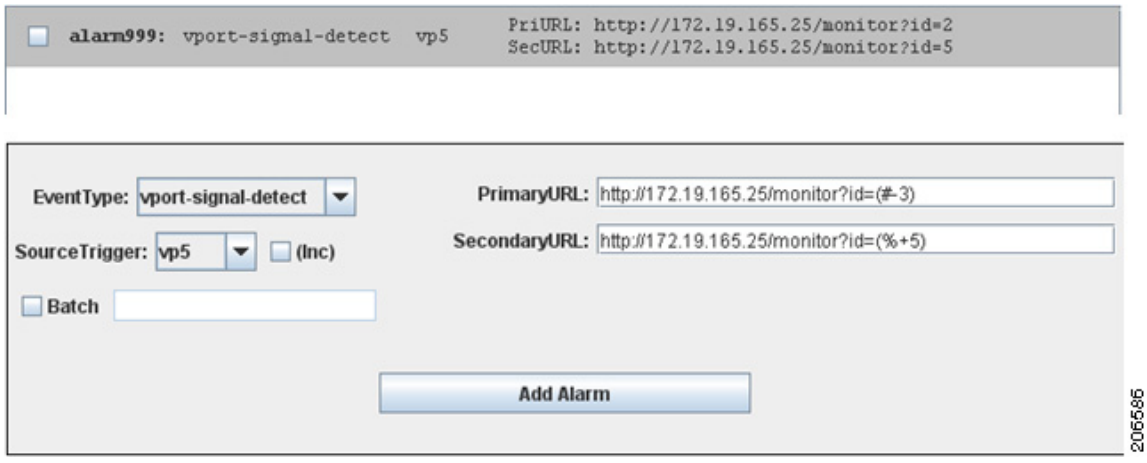


Figure 9 is an example of dynamically generating URLs by inserting either the current video port number or an incremental counter at any position in the URL with the batch mode enabled. In this example:

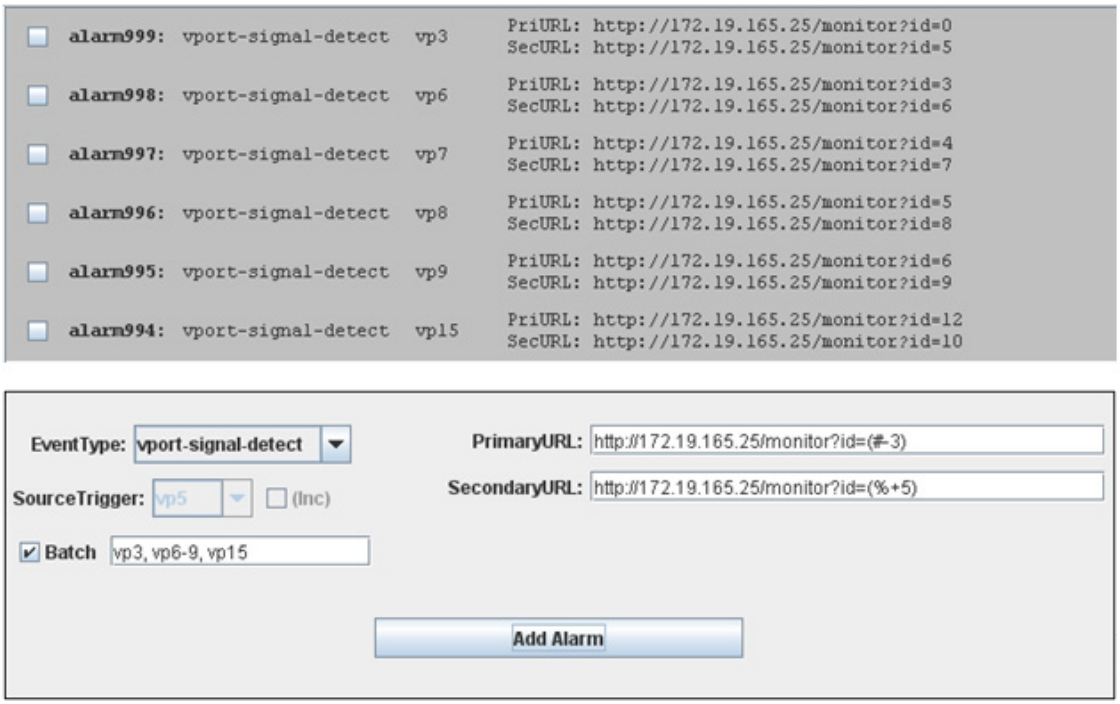
- Event is “vport-signal-detect”
- SourceTrigger is “vp3, vp6-9, vp15”
- PrimaryURL is “http://172.19.165.25/monitor?id=(#-3)”

- SecondaryURL is “http://172.19.165.25/monitor?id=(%+5)”

The **Batch** field in this example expands to a total of six SourceTriggers: vp3, vp6, vp7, vp8, vp9, and vp15. The port numbers used in the “#” macro are {3, 6, 7, 8, 9, 15}, so that (#-3) is {0, 3, 4, 5, 6, 12}.

The counter (%) runs from {0...6}, so that (%+5)={5, 6, 7, 8, 9, 10}.

Figure 9 URL Macro Example with Batch Mode Enabled



Example: Setting Alarms to Be Reported to the Cisco Video Management and Storage System

In this example, it is assumed that alarm events are set to report the loss of video on all 16 ports of the Cisco Analog Video Gateway module. On the Cisco Video Management and Storage System module, 16 soft trigger events are created that follow the general format:

```
http://<ip-address>/vsom/service/event_notify.php?id=<ID>
```

The ID runs from {58...73} as shown in the following specific example:

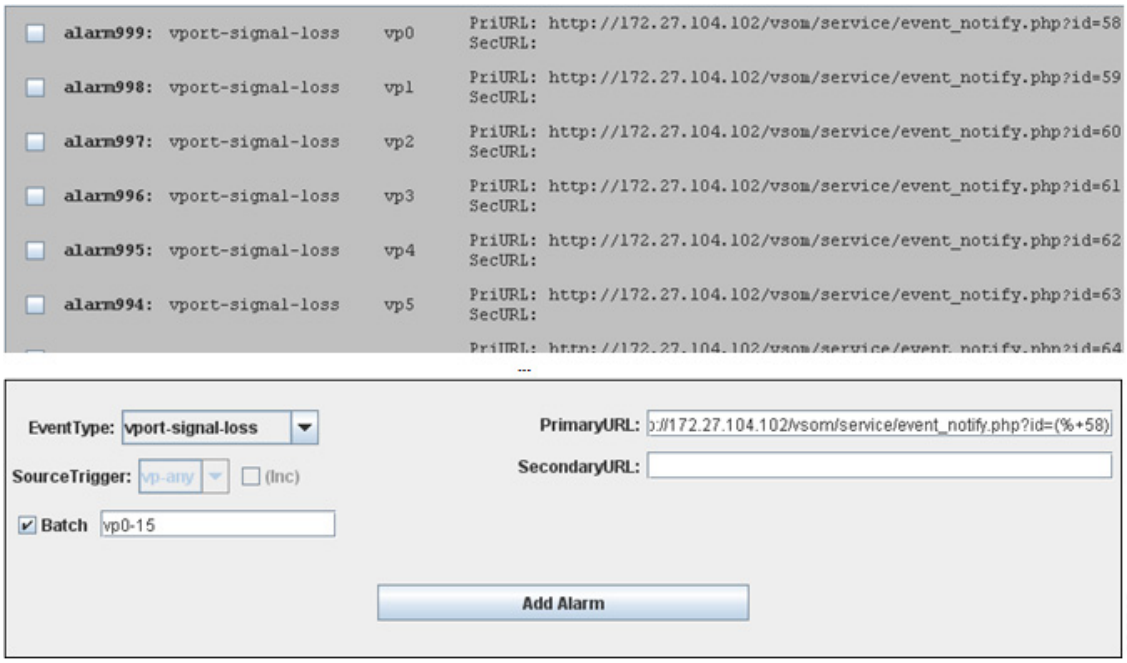
```
http://172.27.104.102/vsom/service/event_notify.php?id=58
http://172.27.104.102/vsom/service/event_notify.php?id=59
http://172.27.104.102/vsom/service/event_notify.php?id=60
.
.
.
http://172.27.104.102/vsom/service/event_notify.php?id=73
```

On the applet tool (see Figure 10), 16 corresponding alarm profiles are generated using the following configuration and clicking **Add Alarm** once:

- Event is “vport-signal-loss”

- SourceTrigger is “vp0-15”
- PrimaryURLis “http://172.27.104.102/vsom/service/event_notify.php?id=(%+58)”

Figure 10 URL Macro Example with Batch Mode Enabled



INDEX

F

G

I

M

N

O

P

R

S

T

U

V