



Troubleshooting with Cisco Video Assurance Management Solution 3.1

This chapter contains the following sections:

- Using the VAMS Dashboards, page 3-1
- Monitoring VAMS Events with the VAMS Service Dashboard, page 3-3
- Monitoring with the VAMS Event Views, page 3-9
- Monitoring ROSA NMS Events, page 3-11
- Monitoring CMM Events, page 3-16
- Monitoring VidMon Events, page 3-37
- Monitoring Video Events, page 3-43
- Viewing Network Fault Events, page 3-47
- Troubleshooting with Cisco ANA, page 3-49

Using the VAMS Dashboards

The VAMS components provide operational dashboards that give you a top-down view of video network events. Cisco VAMS 3.1 provides:

- The TIP/TBSM Dashboard
- The Video Assurance Management Dashboard
- Cisco Multicast Manager
- The ROSA NMS
- Cisco ANA

TIP/TBSM Dashboard

The high-level interface for Cisco Video Assurance Management Solution 3.1 is the Tivoli Integrated Portal (TIP) and the Tivoli Business Service Manager (TBSM). TIP allows you to launch TBSM and customized event views for events in the video headend and video transport network.

From the TIP dashboard, you can view all of the tasks provided with TIP/TBSM, or select specific tasks provided for the VAMS application. You can select:

- **Tivoli Netcool/OMNIbus Web GUI**—A web-based application that processes network events from one or more data sources and presents event data to TIP/TBSM users in various graphical formats.
- **Tivoli Business Service Manager**—Provides real-time service dashboards for the Cisco Info Center applications.
- Video Assurance Management Dashboard—A customized dashboard for the Cisco VAMS product.

These tasks are selectable from the drop-down list in the View menu at the top of the TIP dashboard.

Video Assurance Management Dashboard

The TIP/TBSM dashboard provides a menu for the Video Assurance Dashboard. The Video Assurance Dashboard provides a view of all of the video services in your network that includes:

- A Service Availability directory that lists video services and associated devices.
- A Service Dashboard that includes:
 - A Service Tree that shows a directory map of the devices in your video network.
 - A Service Viewer that shows a topology map of the devices providing the service.
 - A Service Details window that provides an event list showing the events for the selected service.
- Custom event views that show Video Fault event views and Network Fault event:
 - The Video Fault event views include ROSA events, CMM events, Video Events, and VidMon events.
 - The Network Fault event views include ANA events and a view that shows all events.

The TIP/TBSM event lists show Cisco Info Center events that combine alerts received from all of the components of VAMS 3.1 and present them in a consolidated event based on processing rules specified in Cisco Info Center rules files.

You can launch the CMM home page from any CMM event with a right-click. You can also launch a CMM flow trace with a right-click from any event that includes a Multicast Group Address and a Source IP address. Currently, Digital Content Manager (DCM) events do not contain a Source IP address, so only CMM cross-launch is available for DCM events.

Figure 6-4 on page 6-7 shows the VAMS Service Dashboard. Figure 6-7 shows the custom events menu.

For information on how to use the VAMS Service Dashboard and the custom event views to manage video events, see:

- Monitoring ROSA NMS Events, page 6-12
- Monitoring CMM Events, page 6-22
- Monitoring VidMon Events, page 6-35
- Monitoring Video Events, page 6-37
- Viewing Network Fault Events, page 6-35

For information on using ANA to troubleshoot video events, see Troubleshooting with Cisco ANA, page 6-43

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Cisco Multicast Manager

Cisco Multicast Manager provides a monitoring interface that allows you to monitor and manage video devices, including VidMon devices and monitoring for video probes. For information on the Cisco Multicast Manager interface, see the *User Guide for Cisco Multicast Manager 3.1*, viewable online at:

http://www.cisco.com/en/US/products/ps6337/products_user_guide_list.html

ROSA NMS

The ROSA NMS provides a user interface for monitoring and configuring the Digital Content Manager (DCM) and associated video headend devices. For information on using the ROSA NMS, see the *ROSA Network Management System User's Guide, Version 3.0 Build 18.* This document is provided in PDF format on CD 1 of the ROSA NMS installation media.

Cisco ANA

Cisco Active Network Abstraction provides several applications for viewing network topology and events. For information on the Cisco ANA components, see the user guides for Cisco ANA, viewable online at:

http://www.cisco.com/en/US/products/ps6776/products_user_guide_list.html

Monitoring VAMS Events with the VAMS Service Dashboard

To monitor VAMS events for video services:

Step 1Log in to IBM Tivoli Integrated Portal (TIP).The TIP start page appears, as shown in Figure 3-1.



Figure 3-1 TBSM Main Window

Step 2Click the plus sign (+) next to Video Assurance Management.The Video Assurance Management menu appears.

- **Step 3** Click the plus sign (+) next to **Video Fault**.
- **Step 4** Click the plus sign (+) next to **Network Fault**.

The TIP display now shows all of the Video Assurance Management menu items, as shown in Figure 3-2.



Figure 3-2 Video Assurance Management Menu

Step 5 Click Service Dashboard.

The Service Dashboard appears:

• The Service Tree shows a list of the configured video services in your network.

Step 6 Left-click on a channel service on the Service Tree directory browser at the left of the page

- The Service Viewer shows a network topology map of the currently selected channel service
- The Service Details window shows an event list for the events associated with the currently selected service.

Figure 3-3 shows a Service Map for a channel service called *EUROSPORT*.

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Figure 3-3 Service Tree and Service Map



<u>Note</u>

Until you select a service, the Service Viewer and the Service Details window are empty.

You can sort the service tree by clicking on either the **State** or **Events** column head.

- **Step 7** To view an event in the Service Details area, expand the Service Details area.
- **Step 8** To view details on an event, select the event and right-click.
- **Step 9** To expand the Service Tree for a service, click the plus sign (+) next to the service.
- **Step 10** To show a service view for a specific device providing the channel service, slick on the device in the service tree.

Figure 6-4 shows the service map for the CHE-MPTS-10 in the EUROSPORT channel service.

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Figure 3-4 Service Viewer and Service Details Window

The Service Tree for CHE-MPTS-10 shows all of the channel services that are transmitted using this device.

In the Service Viewer:

- Green indicates that there is no alarm or a cleared alarm for the service.
- All other colors are service alarms for the service:
 - Red indicates the existence of critical alarms.
 - Yellow indicates the existence of minor alarms.
- **Step 11** To sort the events in the Service Tree by Severity, click **State** in the Service Tree area.

Clicking **State** changes the sort order between ascending order by severity and descending order. To see the highest severity events, and any fault events, sort the list to show the highest severity events first.

- **Step 12** To view the details of an event:
 - a. Expand the Service Details area for the device.
 - **b.** Double-click on the row for the event.

A table giving detailed field information for the event appears.

Step 13 For a CMM event, to launch the CMM application, first left-click on a CMM event to select it, then right-click the event, and from the Alerts Menu, choose VAMS Tools > Launch CMM.

For a CMM event, you can launch a real-time CMM flow trace or launch the CMM Latest Events page for further troubleshooting. It is possible to have one or more CMM servers available to launch to. The example in Figure 3-5 shows two regional CMM servers reporting events to a single Cisco Info Center server.

Figure 3-5 shows the menu selections for starting CMM.

Figure 3-5 Launching CMM from a TBSM Event List



The CMM application starts.

<u>Note</u>

For additional information on the Tivoli TBSM application, and information on how to adjust and customize the TBSM window, see the IBM Tivoli TBSM documentation at the following URL:

http://publib.boulder.ibm.com/infocenter/tivihelp/v3r1/topic/com.ibm.tivoli.itbsm.doc/tbsm42custom.pdf

Monitoring with the VAMS Event Views

The Video Assurance Management Dashboard provides custom event views that you can use to view events related to the specific VAMS components.

The following event views are provided:

- Video Fault—Provides event views for video services, including:
 - ROSA Events—Shows events from the Cisco ROSA application

See Viewing Events in the ROSA Event Views, page 6-21.

- CMM Events—Shows events from CMM.

See Viewing Events in the CMM Event View, page 6-34.

- Video Events—Shows events from video probes.

See Viewing Events in the Video Events View, page 6-38.

- VidMon Events—Shows IOS video monitoring events from VidMon devices.

See Viewing Events in the VidMon Event Views, page 6-36.

- Network Fault—Includes events from Cisco ANA and from all network devices, including:
 - ANA Events—Shows events from Cisco ANA.
 - All Events—Shows all network fault events.

See Viewing Events in the ANA Event Views, page 6-40 and Viewing All Events, page 6-41.

To access the VAMS event views:

Step 1 Log in to IBM TIP/TBSM.

The main TBSM window appears.

Step 2 Click the plus sign (+) next to Video Assurance Management.The Video Assurance Management menu appears.

- **Step 3** Click the plus sign (+) next to **Video Fault**.
- **Step 4** Click the plus sign (+) next to **Network Fault**.

The TIP display now shows all of the Video Assurance Management menu items, as shown in Figure 3-6.

Figure 3-6 Video Assurance Management Menu



- Step 5 To View a specific category of events, click the event selection. For example, click Video Events.The Events Views page for the selected event category appears and shows monitor boxes for each category within the general event category
- **Step 6** Click on a monitor box for a type of event, for example, click on Critical events.

Figure 3-7 shows the event view for Critical Events (Video Events).

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Figure 3-7 Video Events Views

The left part of the display shows monitor boxes for the selected event type. Each monitor box shows a bar graph indicating the number events in each severity level for the event category.

The Video Events views include:

- Critical Events—Shows high severity events.
- Last 24 Hours Events—Shows video event for the last 24 hours.
- Cross Launch Events—Shows events indicating a video probe has been started.
- Probe Events—Shows events from video probes.
- **Step 7** To view the details of an event, double-click on the row for the event.

A table giving detailed field information for the event appears.

Step 8 To launch the CMM application, first left-click an event to select it, then right-click the event, and from the Alerts Menu, choose VAMS Tools > Launch CMM or choose VAMS Tools > Launch Flowtrace.

You can launch a real-time CMM flow trace or you can launch the CMM Latest Events page for further troubleshooting.

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Note

It is possible to have one or more CMM servers available to launch to. The example in Figure 3-8 shows two regional CMM servers reporting events to a single Cisco Info Center server.

Figure 3-8 shows the menu selections for starting CMM.

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Figure 3-8 Launching CMM from an Event Item

Monitoring ROSA NMS Events

This section describes:

- Summary of ROSA NMS Events, page 6-12
- Viewing ROSA Alerts in the Service Dashboard, page 3-12
- Viewing Events in the ROSA Event Views, page 6-21

Summary of ROSA NMS Events

VAMS 3.1 allows you to monitor a variety of events from components in the video headend. These events are collected by the ROSA NMS and forwarded to Cisco Info Center. Cisco Info Center correlates the events with additional alerts received from the video network and consolidates the information into one alert.

You can view the following categories of alerts in TBSM:

- All ROSA Events—Shows all ROSA events.
- Service Loss Events—Shows service loss events.,

Viewing ROSA Alerts in the Service Dashboard

By using the VAMS Service Dashboard you can view service alerts. Service alerts indicate the loss of a video service. Cisco VAMS reports four types of service alert:

- Service Loss—For each incoming service, one or more alarms can be defined to trigger a Service Loss alarm. A Transport Stream Loss alarm is triggered when a Service Loss alarm occurs.
- Service in Backup (Service Loss)—This alarm is generated when a service is in backup state triggered by a Service Loss alarm.
- Service Loss at Output—This alarm is generated for an outgoing service for which the corresponding incoming service and incoming backup services are in Service Loss state.
- Service in Backup (TS Loss)—This alarm is generated when a service is in backup state triggered by a TS Loss alarm.

Viewing a Service Loss Event

To monitor Service Loss events with Cisco Info Center, bring up an event list using Cisco Info Center/TBSM:

Step 1	Log in to TIP/TBSM.
Step 2	On the Video Assurance Management menu, click Service Dashboard.
	The Service Dashboard appears.
	The Service Tree shows a list of the configured video services in your network.
Step 3	Left-click on a a service on the Service Tree directory browser at the left of the page
	• The Service Viewer shows a service map for the elected service.
	• The Service Details window shows an event list for the service.
Step 4	To see the devices associated with the selected video service, click on the plus sign (+) next to the service name.
	The devices in the service topology are listed in the Service Tree directory.
Step 5	Click on a device to see the service map for the device.
	The Service Viewer shows a service map for the service. If there are faults, such as service loss alarms, the device is highlighted in red. In the event list in the Service Details area, fault events are highlighted in red.

The Service Viewer displays the network topology and the Service Details window shows an event list for the service.

Figure 3-9 shows a Cisco Info Center/TBSM display that includes a Service Loss event and associated events.



Figure 3-9 Viewing a Service Loss Event

The Service Loss Event summary indicates:

- Board Number—The board on which the service loss occurred on the indicated device.
- Port Number—The port number on which the video stream was transmitted.
- TS—A number identifying the Transport Stream affected by the service loss.
- **IP Address**—The IP address of the port.

Additional Events Related to the Service Loss

The TBSM event list shown in Figure 3-9 indicates several additional events related to the service loss.

- UDP Stream Loss—A Service Loss alarm is triggered when the port of the incoming Transport Stream to which the service belongs no longer detects packets at the corresponding UDP port.
- No signal—There has been no UDP packet for the predefined period of time (default 1 second).

When a service loss occurs, you might see additional ETR-290 First Priority events related to the service loss; for example, you might see a CC error event indicating a discontinuity error in the MPEG TS structure for a program transmitted in the TS.

- **Step 6** To launch Cisco Multicast Manager to view additional monitoring information related to the service loss event:
 - a. Right-click on the event in the event list.
 - **b.** From the pull-down menu, choose VAMS Tools > Launch CMM.

Figure 3-10 shows how to launch CMM to view additional monitoring information for service events.

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Figure 3-10 Launching CMM for Service Events

Note

In this example, the event highlighted in grey has been right-clicked to bring up the cross-launch menu. The cross-launch is based on the information in the event that has been selected above, which is highlighted in white.

Viewing Events in the ROSA Event Views

To view the custom event views for ROSA events:

Step 1	Log in to IBM TIP/TBSM.
	The main TBSM window appears.
Step 2	Click the plus sign (+) next to Video Assurance Management.
	The Video Assurance Management menu appears.
Step 3	Click the plus sign (+) next to Video Fault.
Step 4	Click ROSA Events.
	The Events Views page for ROSA events appears. Figure 3-11 shows the event views for ROSA Events.

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Figure 3-11 ROSA Events Views

The left part of the display shows monitor boxes for the selected event type. Each monitor box shows a bar graph indicating the number events in each severity level for the event category.

The ROSA Events views include:

- All ROSA Events—Includes events with a severity level of critical
- Service Loss—Shows service loss events.
- **Step 5** To view the details of an event, double-click on the row for the event.

A table giving detailed field information for the event appears.

Step 6 For an event from a Digital Content Manager (DCM) event, to launch the DCM GUI, first left-click on a CMM event to select it, then right-click the event, and from the Alerts Menu, choose VAMS Tools > Launch DCM, as shown in Figure 3-12.

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	3705115	6/13/11 7:12:07	PM
	3705086 3705120 3705041 3705145 3696762 3600933	Launch CMM VAMS To Launch DCM Acknowle 6/13 De-ackno 6/13 Suppress 6/12 Take own User Assi Group As Delete Informati	ols >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
		Journal. Quick Filt	ctrl+J er ▶

Figure 3-12 Launching the DCM GUI from a DCM Event

Monitoring CMM Events

This section describes:

- Advanced Troubleshooting with the Service Dashboard and CMM, page 6-22
- Viewing Events in the CMM Event View, page 6-34

Advanced Troubleshooting with the Service Dashboard and CMM

CMM provides a diagnostics tool that gives you a multicast global view and a router-specific view of your network. CIC events that you can view using TBSM allow you to see additional details about the network.

Table 3-1 lists important areas of the CMM that you can use to troubleshoot a multicast video distribution network using Cisco VAMS:

Troubleshooting Area	Task and Reference
Viewing network status	View the status of all devices in the current multicast domain. See "The Devices Tab" in the User Guide for Cisco Multicast Manager, 3.1 at:
	http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/ cmm_diag.html#wp1054772
Viewing RP status	View all routers in the database, their RPs, and the active groups. See "RP Summary" in the User Guide for Cisco Multicast Manager, 3.1 at:
	http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/ cmm_diag.html#wp1054769
IGMP diagnostics	View the interfaces that have joined a particular group. See "IGMP Diagnostics" in the User Guide for Cisco Multicast Manager, 3.1 at:
	http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/ cmm_diag.html#wp1054775
Layer 2 switches	View Layer 2 multicast information and host IPs. The table shows, from a Layer 2 perspective, which multicast groups are being forwarded out which interfaces. See "L2 Diagnostics" in the <i>User Guide for Cisco Multicast Manager, 3.1</i> at:
	http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/ cmm_diag.html#wp1054764
Cisco 6500/7600	Gather accurate packet-forwarding statistics and other information. See "6500/7600 Troubleshooting" in the <i>User Guide for Cisco Multicast Manager, 3.1</i> at:
troubleshooting	http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/ cmm_diag.html#wp1058009
Top-20 video flows	View the top-20 video flows. The top-20 video flows are dynamically updated at every polling interval. See "Cisco Multicast Manager Dashboard" in the <i>User Guide for Cisco Multicast Manager, 3.1</i> at:
	http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/cmm_gs.html#wp1 239864
Video probe status	View diagnostic information about video probes and the flows that they are monitoring. See Monitoring Video Probe Status with CMM, page 3-29.
VidMon flow status	View VidMon flows, VidMon reports view historical graphs of VidMon performance, and view real-time graphs showing VidMon performance. See Monitoring VidMon Status with CMM, page 3-31.
Video Flow Tracing	Video flows can be traced through the network. All routers participating in the transport of the multicast flow are listed. A graphical representation of the flow path is provided which includes IneoQuest probes and their status for a given flow. See Monitoring Video Probe Status with CMM, page 3-29.
PPS/BPS Threshold Monitoring	PPS/BPS threshold monitoring allows you to set and monitor thresholds on Cisco routers and switches for high or low BPS or PPS rates on a per flow basis. See Monitoring Multicast Tree Changes (Tree Polling), page 6-23 for details on PPS/BPS threshold monitoring.

Table 3-1Cisco Multicast Manager

Troubleshooting Area	Task and Reference
Monitoring Multicast Tree Changes (Tree	View changes to multicast trees, which might affect video quality immediately, or at some time in the future. Tree polling allows you to monitor the multicast distribution tree of a video service and receive an alert when changes to the distribution tree occur. See:
Polling)	Monitoring Multicast Tree Changes (Tree Polling), page 6-23
	• "Tree Reports" in the User Guide for Cisco Multicast Manager 3.1 at the following location:
	http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/cmm_pc.html# wp1096257
Health Checks	You can perform health checks to check and report on the critical components of your network. For example, you can check on the status of Rendezvous Points (RPs), Multicast Source Discovery Protocol (MSDP) peering, the presence of sources and groups, and the status of multicast trees. See:
	• Performing Health Checks, page 6-30
	• The "Health Check" section in the User Guide for Cisco Multicast Manager 3.1 at the following location:
	http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/cmm_diag.html #wp1054777
Monitoring IP Multicast Heartbeat	You can configure IP multicast heartbeat monitoring on Cisco routers and switches to verify that data is flowing on the monitored multicast flow(s). See Monitoring IP Multicast Heartbeat, page 6-27.

Table 3-1 Cisco Multicast Manager (continued)

Monitoring Multicast Tree Changes (Tree Polling)

You can monitor multicast tree changes with Cisco Multicast Manager and receive the alert in Cisco Info Center. From Cisco Info Center you can then launch CMM for advanced troubleshooting of the tree changes.

Monitoring Multicast Tree Changes with Cisco Info Center

To monitor multicast tree changes with Cisco Info Center, bring up an event list using Cisco Info Center/TBSM:

Step 1 From the service tree directory browser at the left of the Cisco Info Center/TBSM display, click on a service.

The service tree for the selected service appears.

Step 2 Click on a specific device address.

The Service Viewer displays the network topology an the Service Details window shows an event list for the service.

Figure 3-13 shows a Cisco Info Center/TBSM display and an event indicating that a Multicast Forwarding Tree has changed from its baseline.

			Help Logout 10
Service Das × ROSA E	vents ×	CMM Events ×	Select Action
Service Dashboard			Save Cancel Resto
Service Tree	? _ 🗆	Service Viewer	A ? _
0. 🖭		File Edit View	
	. #c		
ervice •	ev Ev	Relationships	
	Ø		
(S) CHE			0
CHE-MPTS-10		CNRC BRC-WORLD FLIROSPORT VOX-AUSTRIA	40 EURONEWS
CHE-MPTS-16	N		
CHE-MPTS-2			
CHE-MPTS-23			
CHE-MPTS-24			
WORLD			
CHE-SPTS-145-BBC- WORLD		+	
CHE-SPTS-17-BBC- WORLD		CHE-MPTS-10	
CHE-SPTS-2-BBC-WORLD		4	P. C.
S RHE-1		Status refresh in 3 seconds	
RHE-1-MPTS-1		Service Details	? _
RHE-1-SPTS-129-BBC- WORLD		SLA Events Rules	
RHE-1-SPTS-2-BBC- WORLD	Δ	CMM_Events@NCOM5 - Active Event List (10.48.162.174:16316)/Sevenity = Critical File Edit View Alerts Tools Help	
S RHE-2		🖏 🕕 🕞 🕞 🤐 🍰 🚱 CMM_Events 🔍	RawEvents
RHE-2-MPTS-16		Summary Alertica	Class
RHE-2-SPTS-146-BBC- WORLD		Multicast Forwarding Tree Changed from its Baseline (Baseline Baseline: CHE-SPTS	-1-CNBC trace Cisco MultiCast Manag
S RHE-3		Multicast Forwarding Tree Changed from its Baseline (Baseline, Baseline, trace 1295	974948816.trace Cisco MultiCast Manag
(§) RHE-4			
(§) RHE-5			
🗄 🛄 BEST-OF-SHOPPING			
E LOOMBERG-EUROPE-TV			>
🗉 📃 CATALUNYA-INFORMACIO		🔒 136 🛞 2	All Events (138)

Figure 3-13 Viewing a Tree Change Event in TBSM

Step 3 To view the details of an event, double-click on the row for the event.

A table giving detailed field information for the tree change event appears. Figure 3-14 shows a sample Alerts Status page with tree change event details.

Figure 3-14 Detailed Tree Change Event Information

Field	Value	_
Identifier	10.86.1.64 Baseline; DiscoveryHD_National_239-0-1-31_172-16-1-246 trace Multicast Forwarding Tree Baseline Status 1 Cisco-Multicast Management Tool MTTrapd Probe on SW-VAMS-NC 10	
Serial	60350	
Node	10.86.1.64	-
NodeAlias	10.86.1.64	-
Manager	MTTrapd Probe on SW-VAMS-NC	
Agent	Cisco-Multicast Management Tool	-
AlertGroup	Multicast Forwarding Tree Baseline Status	
AlertKey	Baseline: DiscoveryHD_National_239-0-1-31_172-16-1-246.trace	
Severity	Critical	-
	I I I I I I I I I I I I I I I I I I I	•

- **Step 4** To launch the CMM application and monitor additional information about the tree change event, highlight an event, and then from the Alerts Menu, choose VAMS Tools > Launch CMM.
- **Step 5** Go to the Monitoring Multicast Tree Changes with CMM, page 3-20 for information on monitoring tree change events with CMM.

Monitoring Multicast Tree Changes with CMM

Using CMM, you can:

- View the latest tree change events.
- View a Tree Changed Report that shows details about the changes in the tree

When you launch CMM from TBSM/Cisco Info Center, the CMM Latest Events list appears.

To view Tree Change events, click the **Tree Events** tab. Figure 3-15 shows a Latest Events list from CMM that includes tree change events.

Figure 3-15 CMM Tree Change Events

cis	co CMM Dashboar	d						U	ser: [admin]	C Quick Links	Switch to Main	Log
Li	atest Events SG Events	Bandwidth Even	ts Tree Events	MVPN Events	RP Events	Video Events	CRM Events	Summary	Graphs			
Tr	ee Polling Events [TOP 10]											
	Tree Events											
	Date	Dom	ain	Gr	oup		Baseline			Change		
	Fri Jun 25 12:04:11 2010	VAM	8	23)	32.1.1.11 (BBC1	for CHE-MPTS-2	232.1.1.1	1.trace		changed		-
L	Fri Jun 25 12:04:09 2010	VAM	8	23)	32.1.1.11 (BBC1	for CHE-MPTS-2	RHE-BXB-	MPTS-1.trace		<u>changed</u>		
L	Wed Jun 23 15:10:04 2010	VAM	Б	23)	32.1.1.11 (BBC1	for CHE-MPTS-2	232.1.1.1	1.trace		<u>changed</u>		
L	Wed Jun 23 15:10:04 2010	VAM	в	23)	32.1.1.11 (BBC1	for CHE-MPTS-2	RHE-BXB-	MPTS-1.trace		changed		=
L	Tue Jun 22 14:53:05 2010	VAM	В	23	32.1.1.11 (BBC1	for CHE-MPTS-2	232.1.1.1	1.trace		reverted		
L	Tue Jun 22 14:53:05 2010	VAM	в	23	32.1.1.11 (BBC1	for CHE-MPTS-2	RHE-BXB-	MPTS-1.trace		reverted		
L	Tue Jun 22 14:50:22 2010	VAM	8	23	32.1.1.11 (BBC1	for CHE-MPTS-2	RHE-BXB-	MPTS-1.trace		changed		
	Tue Jun 22 14:50:22 2010	VAM	6	23)	32.1.1.11 (BBC1	for CHE-MPTS-2	232.1.1.1	1.trace		changed		ç
	Tue Jun 22 05:22:06 2010	VAM	8	23	32.1.1.11 (BBC1	for CHE-MPTS-2	RHE-BXB-	MPTS-1.trace		reverted		•

The event list in the figure shows two events:

• The first event to come in is a Tree Changed event indicating that a tree has been changed.

The Tree Changed event indicates the name of the trace file that was used as the baseline to compare the current distribution tree against. The format of the trace filename shown in the event is the same format that you use to specify the trace filename when during Tree Polling configuration for the domain.

The trace filename has this format:

<channel name>_<ad zone>_<Mcast-Group>_<source-IP>

where *channel_name* is the name of the channel, *ad_zone* is the name of the Ad zone, *Mcast-Group* is the address of the multicast group, and source-IP is the IP address of the source. For example:

PBS_National_232-0-1-32_12-101-2-18

• The second event to come in is a Tree Reverted event that indicates that the tree reverted back to its previous state. This trap has the same format as the Tree Changed event (indicates the filename of the trace file was used as the baseline to compare against).

Viewing a Tree Changed Report

To view a Tree Changed Report:

Step 1 If you are in the TBSM/Cisco Info Center interface, highlight an event, and then from the Alerts Menu, choose VAMS Tools > Launch CMM.

The CMM Latest Events page appears.

- Step 2 Click the Switch to Main button.
- Step 3 From the CMM Main Menu, select Polling Configuration & Reports > Tree Polling & Reports > Tree. The Multicast Tree Report page appears, as shown in Figure 3-16.

Figure 3-16 Selecting a Tree Change Report

Cisco Multicast M	lanager 3.1.1				User: [admin] Dashbo	ard Log Out About Help
Menu Devices.	Polling Actions :	Stop	Restart (Polling Daemon is Running : Fr script)	iday, June 25, 2010 12:03:44 PM ED1	T by watchdog	🖉 Domain: 🛛 VAMS 🛛 💌
 Getting Started 	Polling Configuration	& Reports-:	>Tree			
System Configuration	Tree Depart Hi	stanical Curr	h I CC Dolta Deposit I Company Pag	line I Coofie Tree Polline		
🔻 🌼 Polling Configuration &	Tree Report m	storical Grap	in <u>SG Delta Report</u> <u>Compare Basi</u>	sine config free Polling	El Report Parameters	
Event Viewer	Tree Report				Items 1-10 of	36 Rows per page: 10 🔽 😡
Domain Trap/Email						Page 1 of 4 🖪 🕨 🕨
Traffic Polling & Reports	D	ate	Group		Baseline	Change
L2 Interface	Fri Jun 25 12:04:11	L 2010	232.1.1.11 (BBC1 for CHE- MPTS-2)	232.1.1.11.trace		changed
 Tree Polling & Reports Tree 	Fri Jun 25 12:04:09	9 2010	232.1.1.11 (BBC1 for CHE- MPTS-2)	RHE-BXB-MPTS-1.trace		changed
SG by Branch Miscellaneous Polling & Reports RP	Wed Jun 23 15:10:	04 2010	232.1.1.11 (BBC1 for CHE- MPTS-2)	232.1.1.11.trace		changed
RPF Selective Source Monitoring	Wed Jun 23 15:10:	04 2010	232.1.1.11 (BBC1 for CHE- MPTS-2)	RHE-BXB-MPTS-1.trace		changed
Health Check Video Probe Vidmon	Tue Jun 22 14:53:0	05 2010	232.1.1.11 (BBC1 for CHE- MPTS-2)	232.1.1.11.trace		reverted
CRM Polling	Tue Jun 22 14:53:0	05 2010	232.1.1.11 (BBC1 for CHE- MPTS-2)	RHE-BXB-MPTS-1.trace		reverted
Specific Route Polling	Tue Jun 22 14:50:2	22 2010	232.1.1.11 (BBC1 for CHE- MPTS-2)	RHE-BXB-MPTS-1.trace		changed

The Tree Change Report page shows a list of Multicast Tree Change reports.

Step 4 Click a **changed** link to view a Tree Changed Report.

The selected Tree Changed Report appears, as shown in Figure 3-17.

•	•
232.1.1.11.trace Fri Jun 25 12:04:11 2010: Traced multicast grov	- ip 232.1.1.11 (BBC1 for CHE-MPTS-2) from source 11.1.0.2 (CHE-DCM 3-3)

Multicast Tree Change Report

Router	Forwarding Int	Neighbor	Neighbor IP	Neighbor Int
manc.cisco.com	TenGigabitEthernet4/1	VID-ASR9K	10.1.9.2	TenGigE0/0/0/6
VID-ASR9K				
manc.cisco.com	TenGigabitEthernet4/2	AGGR-ASR9K	10.1.12.26	TenGigE0/0/0/6
AGGR-ASR9K	GigabitEthernet0/1/0/38			
m-che-a.cisco.com	TenGigabitEthernet1/1	newc.cisco.com	10.1.0.6	TenGigabitEthernet1/1
newc.cisco.com	TenGigabitEthernet2/4	RHE-1-4948.cisco.com	10.1.12.2	TenGigabitEthernet1/50
newc.cisco.com	TenGigabitEthernet2/3	manc.cisco.com	10.1.0.22	TenGigabitEthernet4/3
manc.cisco.com	TenGigabitEthernet2/4	RHE-2-4948.cisco.com	10.1.12.9	TenGigabitEthernet1/49
RHE-1-4948.cisco.com	GigabitEthernet1/3			
RHE-2-4948.cisco.com	GigabitEthernet1/3			

The report shows:

Figure 3-17

- A table containing detailed information about the routers and interfaces in the tree
- The baseline tree.
- The current tree (changed tree).

Routers and interfaces that are no longer part of the multicast tree are highlighted in red. Routers and interfaces that have been added to the distribution tree are highlighted in green.

Step 5 If you want to view a Tree Reverted report, click the **reverted** link next to a report name.

A Tree Reverted report shows the baseline distribution tree in tabular and in graphical format. Figure 3-18 shows a sample Tree Changed Report.

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Monitoring IP Multicast Heartbeat

You can monitor the multicast data plane of multicast video flows on Cisco routers and switches that utilize the IP Multicast Heartbeat feature to confirm that the routers and switches are receiving the monitored multicast video flows. You can view heartbeat events with Cisco Info Center, and from Cisco Info Center, launch CMM for advanced troubleshooting of the heartbeat events.

Monitoring Heartbeat Events with Cisco Info Center/TBSM

To view heartbeat events in TIP/TBSM:

Step 1 From the service tree directory browser at the left of the TBSM display, click on a service.

The service tree for the selected service appears.

Step 2 Click on a specific device address.

The Service Viewer displays the network topology and the Service Details window shows an event list for the service.

Figure 3-19 shows a TBSM display with a heartbeat event (Failed to Receive IP Multicast Heartbeat event) from a Cisco 7606 router.



Figure 3-19 Viewing a Heartbeat Event in TBSM

Step 3 To view additional details about the event, double click on the event in the event list display. Figure 3-20 shows a sample Alerts Status page with heartbeat event details.

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-

Figure 3-20 TBSM: Viewing Heartbeat Event Details

The event summary for the service details includes the baseline trace filename, which includes the Service Name, Ad Zone, Multicast Group, and Source Address.

- Step 4 To launch the CMM application and monitor additional information about the heartbeat event, left-click an event to select it, then right-click the event, and from the Alerts Menu, choose VAMS Tools > Launch CMM.
- **Step 5** Go to Monitoring Heartbeat Events with CMM, page 6-29 for information on monitoring heartbeat events with CMM.

Monitoring Heartbeat Events with CMM

To view IP Multicast heartbeat events with CMM:

Step 1 If you are in the TBSM/Cisco Info Center interface, highlight an event, and then from the Alerts Menu, choose VAMS Tools > Launch CMM.

The CMM home page shows the Latest Events list, which includes any heartbeat events that have come in.

Figure 3-21 shows a Latest Events list with a heartbeat event.

Figure 3-21 Viewing a Heartbeat Event in CMM

isco Multicas	t Manager 2.5.4						cisco
ool: Multicas	t Manager 💌	Management	Domain: 🛛 🗸 🗹			logout	Licensed to Cisco
Home	Topology	Reporting	Diagnostics	Help			
atest Events							
	Date		Туре		Device	Details	
Wed Nov	26 17:36:48 2008		Notification Trap		SHE-VDR-2	Trap Type: CISCO-IPMROUTE-MIB: : Missing HeartBeats	

The heartbeat event includes the name of the SNMP MIB used to forward the event and the name of the event; however, CMM 3.1 does not indicate the name of the Multicast Group or the Channel Name on the Latest Events page for heartbeat events.

Step 2 To view additional information about the heartbeat event click the URL link in the Details column.

A Trap Details list appears for the heartbeat event, as shown in Figure 3-22.

Figure 3-22 Trap Details List for a Heartbeat Event

This Notification is sent if a multicast router failed to receive configured number of heartbeat packets from heartbeat sources within a configured time interval	SNMPv2- SMI::enterprises.9.10.2.3.1.0.1	
Тгар ОІО	Value	Description
enterprises.9.10.2.1.1.4.1.2.239.1.1.77	0.0.0.0	
enterprises.9.10.2.1.1.4.1.3.239.1.1.77	10	
enterprises.9.10.2.1.1.4.1.4.239.1.1.77	1	
enterprises.9.10.2.1.1.4.1.5.239.1.1.77	0	

The Trap Details list displays the full description of the heartbeat event, the SNMP version used to generate the event, and the OIDs from the reporting router.

The last four octets of the OID indicate the Multicast Group. The Source IP address at the bottom of the Trap Details page is the IP address of the reporting router.

Step 3 To determine the video service affected by the event, select Diagnostics > Show All Groups and find the corresponding Multicast Group in the list that matches the heartbeat event. Note that Cisco Info Center/TBSM parses the heartbeat event to and matches the Multicast Group to the corresponding video service directly.

Performing Health Checks

Using the Health Check page, you can run a health check on a multicast domain. To run a health check:

Step 1 On the Multicast Manager tool, select Diagnostics > Health Check.

The Select Health Check page appears.

Step 2 Select a health check from the list of health checks and click **Run**. Figure 3-23 shows a sample health check display.

Cisco Multicast Manager 3.1.1 User: [admin] Dashboard Log Out About Hel								
Menu Devices	Polling Actions :	Stop Restart (Polling Daemon is Running : Friday, June 25, 2010 12:03:44 PM EDT by watchd script)	Domain: VAMS					
Getting Started	Diagnostics->H	ealth Check						
System Configuration	u altheorem							
Polling Configuration &	Health Cheo	CK						
🕨 👧 Discovery & Trace	Select Health							
🕨 🝠 Topology								
🗸 🗔 Diagnostics	Running (my_t	nealthcheck.health) Health Check						
SG Diagnostics	Health Cheo	k Report						
Packet Monitoring	Type	lesting	Status					
L2 Diagnostics	56	11.1.0.2,232.1.1.10:VID/609-D01.spsu.com	GONE					
2 Host IRs	SG	11.1.0.2,232.1.1.10:AGGR-ASR9K	GONE					
Video Diagnostics	SG	11.1.0.2,232.1.1.107:manc.cisco.com	GONE					
	SG	11.1.0.2,232.1.1.10:m-che-a.cisco.com	GONE					
	SG	11.1.0.2,232.1.1.10:RHE-1-4948.cisco.com	GONE					
RP Status	SG	11.1.0.2,232.1.1.10:newc.cisco.com	GONE					
RP Summary	SG	11.1.0.2,232.1.1.10:RHE-2-4948.cisco.com	GONE					
MSDP Status Network Status	SG	11.1.0.2,232.1.1.10:VID-12K-1	GONE					
Locate Host	SG	11.1.0.2,232.1.1.10:leed.cisco.com	GONE					
Tools	SG	11.1.0.2,232.1.1.10:popl.cisco.com	GONE					
Top Talkers	SG	11.1.0.2,232.1.1.10:VID-ASR9K	GONE					
Health Check	56	11 1 0 2 232 1 1 10 PHE-4-7600 cisco com	CONE					

Figure 3-23 Health Check

The color of the displayed text on the Health Check display indicates the status of the monitored condition:

- White = normal
- Red = error condition

Monitoring PPS/BPS Thresholds

When a PPS/BPS threshold is exceeded or fails to reach a minimum value, an event is generated and the event is displayed in Cisco Info Center event lists. From the event list, you can launch CMM to view enhanced monitoring information about the threshold event.

Monitoring PPS/BPS Thresholds in the Service Dashboard

To view PPS/BPS threshold events in the TBSM Service Dashboard:

Step 1 From the service tree directory browser at the left of the TBSM display, click on a service.

The service tree for the selected service appears.

Step 2 Click on a specific device address.

The Service Viewer displays the network topology and the Service Details window shows an event list for the service.

Figure 3-24 shows a Service Dashboard with threshold events indicating that a Layer 3 multicast PPS rate is below the configured threshold level.

Related VidMon events show that VidMon delay thresholds in the service tree for the VidMon TS have been exceeded.

Service Das ×					Select Action 💌
Service Dashboard					Save Cancel Restore
Service Tree 🧔 🧍	_ □	Service Viewer			A ? _ D
		File Edit View	$\langle \phi \phi \rangle$		
•) 🛯 🕞 💠 💐 🔍 E	L 🖸 🗱	
Service SI	tate~ E	Relationships	Down 3		
E CATALUNYA-INFORMACIO					0
E CATALUNYA-RADIO			CNBC BBC-WORLD	40 EUROSPORT VOX-AUSTRIA EURONEWS	7 9
E TOREC					
😠 💻 EURONEWS	8				
EUROSPORT	0				
S CHE					
CHE-MPTS-10	8				
CHE-MPTS-16	8				
EUROSPORT		.		CHE-MPTS-10	
CHE-SPTS-148-		◄			
CHE-SPTS-19-	<u> </u>	Status refresh in 4 sec	onds		
EUROSPORT		Service Details			? _ 🗆
EUROSPORT		SLA Events	Rules		
S RHE-1		RawEvents_945@NCOM	15 - Active Event List (10.48.162.174:	16316)	
RHE-1-MPTS-1		File Edit View Aler	ts Tools Help		
EUROSPORT		No 🖸 🔁	🔍 🍰 🖁 RawEvents_945	🔽 🛄 RawEver	its
RHE-1-SPTS-4		Node	BSM_Identity	Summary	AlertKey
(§) RHE-2		RHE-2-BT-1		CC skips:21 discontinuities:21 - counting	RHE-2-B
RHE-2-MPTS-16		RHE-2-BT-1		MLR >= error-threshold (780 >= 8)	RHE-2-B
		RHE-2-BT-1		MLR >= error-threshold (60 >= 8)	RHE-2-B

Figure 3-24 Viewing a Threshold Event in TBSM

The event summary for threshold events includes the measured value and the configured threshold.

- **Step 3** To view additional details about the event, double-click on the event in the event list.
- **Step 4** To launch the CMM application and monitor additional information about the threshold events, highlight an event, and then from the Alerts Menu, choose VAMS Tools > Launch CMM.
- **Step 5** Go to Monitoring Threshold Events with CMM, page 3-27 for information on monitoring threshold events with CMM.

Monitoring Threshold Events with CMM

To view threshold events with CMM:

Step 1 If you are in the TBSM/Cisco Info Center interface, highlight an event, and then from the Alerts Menu, choose VAMS Tools > Launch CMM.

The CMM home page shows the Latest Events list.

- Step 2 Click SG Events.
- Step 3 The SG Events page appears, which includes any BPS/PPS threshold events that have come in. Figure 3-25 shows a SG Events page with BPS/PPS threshold events.

- 1 C	dude CMM Dashboard User: [admin] @Quick Links Switch to Main Log o										
	Latest Events SG Events	Bandwidth Events Tre	ee Events MVPN Events	RP Events Video Events	CRM Events Summary	Graphs					
	G Polling Events [TOP 10]										
	SG Threshold Events										
	Date	Domain	Router	Source	Group	Value	Threshold				
1	Fri Jun 25 21:10:01 2010	VAMS	manc.cisco.com	11.1.0.2	232.1.1.11 (BBC1 for CH	1715 pps	19000 pps				
l	Fri Jun 25 21:10:01 2010	VAMS	manc, cisco, com	10.1.0.42	232.150.1.1 (uncompres	0 pps	13480 pps				
l	Fri Jun 25 21:10:00 2010	VAMS	VID-ASR9K	10.1.0.42	232.150.1.1 (uncompres	0 pps	13480 pps				
l	Fri Jun 25 21:09:03 2010	VAMS	manc.cisco.com	11.1.0.2	232.1.1.11 (BBC1 for CH	1712 pps	19000 pps				
l	Fri Jun 25 21:09:01 2010	VAMS	manc.cisco.com	10.1.0.42	232.150.1.1 (uncompres	0 pps	13480 pps				
l	Fri Jun 25 21:09:00 2010	VAMS	VID-ASR9K	10.1.0.42	232.150.1.1 (uncompres	0 pps	13480 pps				
l	Fri Jun 25 21:08:01 2010	VAMS	manc.cisco.com	11.1.0.2	232.1.1.11 (BBC1 for CH	1709 pps	19000 pps				
l	Fri Jun 25 21:08:01 2010	VAMS	manc.cisco.com	10.1.0.42	232.150.1.1 (uncompres	0 pps	13480 pps				
l	Fri Jun 25 21:08:00 2010	VAMS	VID-ASR9K	10.1.0.42	232.150.1.1 (uncompres	0 pps	13480 pps				
	Fri Jun 25 21:07:01 2010	VAMS	manc.cisco.com	11.1.0.2	232.1.1.11 (BBC1 for CH	1716 pps	19000 pps				
1											
Ľ											

Figure 3-25 Viewing BPS/PPS Threshold Events in CMM

The Value column for BPS/PPS threshold events includes the measured value and the Threshold field indicates the configured threshold.

Note

CMM 3.1 does not reflect the BPS/PPS flow status on CMM flow traces, as it does for video probe status. Therefore, you will have to manually correlate the devices reporting BPS/PPS events from either Cisco Info Center/TBSM or the CMM Latest Events page, to the CMM flow trace, to isolate where in the distribution tree the problem is occurring.

Running Threshold Reports

CMM provides two threshold reports that you can use to monitor threshold events:

- S, G Threshold Report—Shows threshold events for a specified source and group.
- Layer 2 PPS Threshold Report—Shows threshold events for a specified port on a specified switch.

To run an S, G Threshold report:

Step 1 In the CMM Multicast Manager tool, click Reporting.

Step 2 Select S, G Threshold Report.

A list of groups appears.

Step 3 Select a group from the list and then click **Report**.

CMM displays an S,G Threshold Report listing any events that have occurred in the last 24 hours.

To run a Layer 2 PPS Threshold report:

Step 1 In the CMM Multicast Manager tool, click Reporting.

Step 2 Select Layer 2 PPS Threshold Report.

A list of groups appears.

Step 3 Select a group from the list and then click **Report**.

CMM displays a Layer 2 PPS Threshold Report listing any events that have occurred in the last 24 hours.

Monitoring Video Probe Status with CMM

Using CMM, you can:

- View video probe flows.
 See Viewing Video Probe Flows, page 3-29.
- View Video Probe Reports
 See Viewing Video Probe Reports, page 3-29.
- View a historical graph of video probe performance See Viewing a Historical Graph of Video Probe Performance, page 3-30.
- View a graph of video probe performance See Viewing Video Probe Performance Graphs, page 3-31.

Viewing Video Probe Flows

To view video probe status:

- Step 1 Right-click on a CMM event and from the Alerts Menu, choose VAMS Tools > Launch CMM.
- Step 2 From the Cisco Multicast Manager menu, select Diagnostics.
- Step 3 Select Video Diagnostics.
- Step 4 Select Video Probe Status.

The Video Probe Status page opens. The Video Probe Status page shows the currently monitored video probes, the number of flows monitored by each probe, and a status indicator for the probe.

For detailed information, see the User Guide for Cisco Multicast Manager, 3.1 at this location:

http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/cmm_diag.html #wp1061409

Viewing Video Probe Reports

To view video probe reports in CMM:

- Step 1 Right-click on a CMM event and from the Alerts Menu, choose VAMS Tools > Launch CMM.
- Step 2 From the Multicast Manager menu, select Polling Configuration & Reports.
- Step 3 Select Miscellaneous Polling & Reports.
- Step 4 Select Video Probe.

For additional information, see "Video Probe Report" in the *User Guide for Cisco Multicast Manager*, *3.1* at this location:

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http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/cmm_pc.html# wp1074979

Viewing a Historical Graph of Video Probe Performance

Cisco Multicast Manager 3.1 allows you to view a historical graph showing performance of a specified video probe over time.

To view a historical graph of video probe performance:

- Step 1 Right-click on a CMM event and from the Alerts Menu, choose VAMS Tools > Launch CMM.
- **Step 2** From the Multicast Manager menu, select **Polling Configuration & Reports**.
- Step 3 Select Miscellaneous Polling & Reports.
- Step 4 Select Video Probe.
- Step 5 Select Historical Report. The Historical Graphs page for video probe reports appears, as shown in Figure 3-26.

Figure 3-26 Historical Graphs Page for Video Probes

cisco Multicast M	lanager 3.1	Use	er:[admin] Dashboard Log Out About Help
Menu Devices	Polling Actions : Stop Restar	t (Polling Daemon is Running : Wed Mar 03 (98:50:46 EST 2010) 🛛 🛛 Domain: Vidmon_26thFeb_bld 💌
Getting Started	Polling Configuration & Reports-	->Video Probe	
System Configuration System Configuration Event Viewer Trap Viewer Domain Trap/Email Traffic Polling & Reports	Video Probe Report Histori Units DF Get Report From Date 2010/03/05 01:53 ar To Date 2010/03/07 01:53 ar	cal Report <u>Config Video Probe Pol</u> ort(s) n n Show Report	ling
SG	Historical Graphs		Items 1-10 of 80 Rows per page: 10 💌 😡
L2 Interface			Page 1 of 8 🛯 🖉 🕨 🕨
□ Tree Polling & Reports	Add Filter		
SG by Branch	Group	Source	Video Probe
RP	239.0.1.41	172.16.1.250	IQ-CHE-59-@-CHE-6506-2
RPF	239.0.1.41	172.16.1.250	IQ-CORE-63-@-CRS-WEST
Selective Source Monitoring	239.0.1.41	172.16.1.250	IQ@7606-E-121
Wideo Probe	239.0.1.41	172.16.1.250	IQ@ASR9K-120
Vidmon	239.0.1.42	172.16.1.250	IQ-CORE-63-@-CRS-WEST
	239.0.1.42	172.16.1.250	IQ@7606-E-121
-Baseline Route Polling	239.0.1.42	172.16.1.250	IQ@ASR9K-120
Specific Route Polling	239.0.1.43	172.16.1.250	IO@7606-E-121
	239.0.1.43	172.16.1.250	IO@ASR9K-120
	239.0.1.44	172.16.1.250	IQ@7606-E-121
	Select one/more report(s) from	the table and click the "Show Report" b	utton to view report. Page 1 of 8 🕪 🜒 🔀



DF	Display delay factor data.
MLR	Display Media Loss Rate data.

Step 7 Click the calendar item (...) for **From Date** and from the calendar that appears, select the From Date.

Step 8 Click the calendar item (...) for To Date and from the calendar that appears, select the To Date,

Step 9 On the list of Video Probes, check the check boxes for up to three video probes.

Step 10 Click the Show Report button.

A graph showing the statistics for the selected video probes appears, as shown in Figure 3-27.



Figure 3-27 Historical Report Showing DF for Two Video Probes

Viewing Video Probe Performance Graphs

From the CMM Event Dashboard, you can view a graph showing real-time DF or MLR for a specified video probe.

To view a video probe performance graph:

- Step 1 Right-click on a CMM event and from the Alerts Menu, choose VAMS Tools > Launch CMM.
- **Step 2** From the CMM Dashboard, click the **Graphs** tab.

For detailed information, see "Viewing Performance Graphs from the Dashboard" in the User Guide for Cisco Multicast Manager, 3.1 at this location:

http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/cmm_gs.html# wp1253283

Monitoring VidMon Status with CMM

Using CMM, you can:

View VidMon Flows

See Viewing VidMon Flows, page 3-32.

• View Vidmon reports

See Viewing VidMon Reports, page 3-34.

- View historical graphs of VidMon performance See Viewing VidMon Historical Reports, page 3-34.
- View a graph of video probe performance
 See Viewing VidMon Performance Graphs, page 3-35.

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Viewing VidMon Flows

To view VidMon flows from CMM:

- **Step 1** Right-click on a CMM event and from the Alerts Menu, choose VAMS Tools > Launch CMM.
- **Step 2** From the Cisco Multicast Manager menu, select **Diagnostics.**
- Step 3 Select Video Diagnostics.
- Step 4 Select Vidmon Flow Status

The Vidmon Flow Status page appears. The Video Flow Status page shows the status of the Vidmon devices in the CMM network topology.

Step 5 To view more detailed status for the interfaces on the Vidmon device, click a device name on the Video Flow Status page.

The Vidmon Flows Status page appears. The Vidmon Flows Status page shows the status of the current video flow on each interface on the device.

Step 6 To view detailed statistics on the current video flow on the interface, click on an interface name in the list.

The Vidmon Interface Flows page appears. The Vidmon Interface Flows page shows detailed statistics for the current flows on the interface.

To refresh monitoring data, click the Monitor Flows button.

Figure 3-28 shows the Vidmon Interface Flows page.

Figure 3-28 Vidmon Interface Flows Page

dmon Interface Flows fo r itor Vidmon Interface Flows	r manc.cisco.com In status: Monitor Flo	terface Name TenGiq ws	gabitEthernet4/2							
dmon Interface Flows sta	atus for manc.cisco.	com Interface Name	TenGigabitEthernet4/	2						
Last Updated	Source:Port	Destination:Port	Description	Status	MLR	Min MRV (%)	Ma× MRV (%)	DF (mSec)	Direction	More Details
23/08/2010 08:58:00 PM	11.1.0.2:49152	232.1.1.14:5001	(CH4 for CHE-MPTS- 2)	0	0.0	0.246	0.246	15.004	Outbound	More.
23/08/2010 08:58:00 PM	11.1.0.2:49152	<u>232.1.1.11:5001</u>	(BBC1 for CHE- MPTS-2)	0	0.0	0.036	0.036	2.258	Outbound	More.
23/08/2010 08:58:00 PM	11.1.0.2:49152	<u>232.1.1.1:5001</u>	(CHE 3 3 Active to Reg_mpts_Mpeg2_SD National)		0.0	-	-	104.937	Outbound	More.
23/08/2010 08:58:00 PM	11.1.0.2:49152	232.1.1.12:5001	(BBC2 for CHE- MPTS-2)	•	0.0	-	-	172.588	Outbound	More.
23/08/2010 08:58:00 PM	10.1.0.10:0	232.1.2.2:5001	(CRYPT-ESPN2 netcrypt vbr)	۲	0.0	-	-	518.672	Outbound	More.
23/08/2010 08:58:00 PM	11.1.0.2:49152	<u>232.1.1.15:5001</u>	(CH5-HD,CHE-MPTS- 2)	0	0.0	0.048	0.05	2.722	Outbound	More.
23/08/2010 08:58:00 PM	11.1.0.2:49152	<u>232.1.1.20:5001</u>	(CHE-MPTS-2 with BBC1 BBC2 ITV CH4 CH5 HD)		0.0	0.0090	0.01	1.191	Outbound	More.
23/08/2010 08:58:00 PM	11.1.0.26:3885	10.1.12.30:5001	(VOD source)	0	0.0	0.0	0.012	6.525	Outbound	More
23/08/2010 08:58:00 PM	10.1.0.42:49152	232.150.1.1:5001	(uncompressed video	•	0.0	8.694	8.702	435.079	Outbound	More.

The Vidmon Interface Flows Page shows the following information for the video flows:

• The IP address of the Source port.

- The IP address of the Destination port.
- The status of the flow:
 - Green indicates that the flow is being transmitted with no errors.
 - Yellow indicates a minor fault in the TS.
 - Red indicates a major fault in the TS.
- For Cisco 76xx devices, the Media Loss Rate (MLR)



MLR is not monitored for Cisco ASR 9000 devices.

- The minimum Media Rate Variation (MRV).
- The maximum MRV.
- The direction of the flow (outbound or inbound).
- **Step 7** To clear yellow indicators, click the **Clear** button.
- **Step 8** To perform a multicast trace for the flow, click on the IP address of the Destination Port for the flow.
- **Step 9** To view additional details regarding the flow, such as the number of intervals and metrics for the flow, click on the **More** link in the More Details column.

The Vidmon Interface Flows page for the interface appears, as shown in Figure 3-29.

Figure 3-29 Vidmon Interface Flows Page for a 76xx Device

Vidmon Inte	rface Flows for ¥AMS-7606-EDGE				
GigabitEthern	et4/1				
Mon-Interval(se	c): 30, History(intvls): 10				
Agg Value(Per I	flow): MDC: 0, MLR: 0, MRV(%): 0				
Flow Index: 2	Flow Monitor Index: 1				
Vidmon Inte	rface Flows status for Dest: 239.10	5.0.3 Dest Port: 49410 Src: 17	2.16.6.2 Src Port: 49152		
1	ype MRV(%) MLR	DF(mSec)	MDC	
mdi	-	0	0.853	0	
mdi	-	0	0.868	0	
mdi	-	0	0.87	0	
mdi	-	0	0.858	0	
mdi	-	0	0.864	0	
mdi		0	0.868	0	
mdi		0	0.868	0	
mdi		0	0.867	0	
mdi		0	0.859	0	
mdi	-	0	0.876	0	

The Vidmon Interface Flows Page shown in Figure 3-29 indicates flow information for a Cisco 76xx device.

The Vidmon Interface Flow for a Cisco 76xx devices shows

- Type—The flow table maintained for Cisco 76xx is an MDI table.
- MLR—Indicates the MLR for the flow.
- **DF**—Indicates the DF for the flow.
- MDC—Indicates the Medic Discontinuity Counter (MDC) value for the flow.

Figure 3-30 shows a Vidmon Interface Flows page for an ASR 9000 device.

rigure 3-30 Viamon interface riows Page for an ASK 9000 De	face Flows Page for an ASR 9000 D ϵ	Vidmon Interface Flows	Figure 3-30
--	--	------------------------	-------------

¥idmon Interface	Flows for isp-viking-g1				
TenGigE0/1/0/2 Mon-Interval(sec): 30	D, History(intvls): 20				
Flow Index: 9633 Fl	low Monitor Index: 58				
Vidmon Interface	Flows status for Dest: 239.17.0.62	2 Dest Port: 45001 9	Src: 172.16.1.242 Src Por	t: 45000	
Туре	MRV(%)		MLR	DF(mSec)	MDC
cbr	0.018		1.162	-	
cbr	0.014		1.159		
cbr	0.018		1.164		
cbr	0.014	-	1.159		
cbr	0.018	-	1.157	-	
cbr	0.014	-	1.156	-	
cbr	0.018	-	1.159	-	
cbr	0.014		1.159		
cbr	0.018		1.157		
cbr	0.014		1.157		
cbr	0.018	-	1.158		
cbr	0.014		1.158		

The Vidmon Interface Flows page shows the following information:

- Type—The flow table maintained for Cisco ASR 9000 series devices is a CBR table.
- MRV %—The MRV value in millisecond percentage.
- **DF**—The delay factor.

Viewing VidMon Reports

To view VidMon reports in CMM:

- **Step 1** Right-click on a CMM event and from the Alerts Menu, choose VAMS Tools > Launch CMM.
- **Step 2** From the Multicast Manager menu, select **Polling Configuration & Reports**.
- Step 3 Select Miscellaneous Polling & Reports.
- Step 4 Select VidMon.

For additional information, see "Viewing a VidMon Report" in the *User Guide for Cisco Multicast Manager*, *3.1* at this location:

http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/cmm_pc.html#wp1116936

Viewing VidMon Historical Reports

To view a historical graph of VidMon performance in CMM:

- Step 1 Right-click on a CMM event and from the Alerts Menu, choose VAMS Tools > Launch CMM.
- Step 2 From the Multicast Manager menu, select Polling Configuration & Reports.
- Step 3 Select Miscellaneous Polling & Reports.
- Step 4 Select Vidmon.
- Step 5 Select Historical Report. The Historical Graphs page for video probe reports appears.

Step 6 From the drop-down list in the Units field, select the units for the report:

DF	Display delay factor data.
MLR	Display Media Loss Rate data.
MRV	Display Media Rate Variation data.

- **Step 7** Click the calendar item (...) for **From Date** and from the calendar that appears, select the From Date.
- Step 8 Click the calendar item (...) for To Date and from the calendar that appears, select the To Date,
- **Step 9** On the list of interfaces on Vidmon devices, check the check boxes for up to three interfaces.

Step 10 Click the Show Report button.

A graph showing the statistics for the selected Vidmon devices appears.

Viewing VidMon Performance Graphs

From the CMM Event Dashboard, you can view a graph showing real-time DF, MLR, or MRV for a specified VidMon device.

To view a VidMon performance graph:

- **Step 1** Right-click on a CMM event and from the Alerts Menu, choose VAMS Tools > Launch CMM.
- **Step 2** From the CMM Dashboard, click the **Graphs** tab.

For detailed information, see "Viewing Performance Graphs from the Dashboard" in the User Guide for Cisco Multicast Manager, 3.1 at this location:

http://www.cisco.com/en/US/docs/net_mgmt/cisco_multicast_manager/3.1/user/guide/cmm_gs.html# wp1253283

Viewing Events in the CMM Event View

Events.

To view the custom CMM event views:

Step 1	Log in to IBM TIP/TBSM.
	The main TBSM window appears.
Step 2	Click the plus sign (+) next to Video Assurance Management.
	The Video Assurance Management menu appears.
Step 3	Click the plus sign (+) next to Video Fault.
Step 4	Click CMM Events.
	The Events Views page for the CMM events appears. Figure 3-31 shows the event views for CMM

ROSA Events × CMM Events ×					Select Action	•
CMM Events						
Map 🖉 🥀 ? .	_ 🗆 CMM_iF	rame			~ ? _	C
CMM Events	CMM_Ever	nts@NCOMS - Active Event List	(10.86.0.201:16316)			
All CMM Events Heart Beats		view Alerts Tools Help	-			
Total: 124 Total: 0	🐏 🕕	u 🖸 🖸 🔍 🎲 🕻	CMM_Events	<u> </u>	CMM_View	
200-100-2.5-	Serial	LastOccurrence	Agent	No	de	
	336	3/4/10 11:58:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-EDGE	
Tree Change PIM Neighbor Loss	337	3/4/10 11:58:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-EDGE	
Total: 0 Total: 0	338	3/4/10 11:58:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-VIDMON	
5 _T 5 _T	339	3/4/10 11:58:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-VIDMON	
2.5	340	3/4/10 11:58:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-VIDMON	
	545	3/4/10 11:59:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-VIDMON	
S,G Threshold Interface Bandwidth	341	3/4/10 11:58:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-VIDMON	
Total: 1	342	3/4/10 11:58:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-EDGE	
2.5- 2.5- 2.5-	343	3/4/10 11:58:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-EDGE	
	546	3/4/10 11:59:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-VIDMON	
Health Check Group Gone	557	3/4/10 11:59:02 AM	Cisco-Multicast Mar	agement Tool isp	-viking-g1	
Total: 0 Total: 0	344	3/4/10 11:58:01 AM	Cisco-Multicast Mar	agement Tool isp	-viking-g1	
5T	556	3/4/10 11:59:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-VIDMON	
	346	3/4/10 11:58:01 AM	Cisco-Multicast Mar	agement Tool isp	-viking-g1	
	553	3/4/10 11:59:02 AM	Cisco-Multicast Mar	agement Tool isp	-viking-g1	
Unicast Events Mutilicast Events	349	3/4/10 11:58:01 AM	Cisco-Multicast Mar	agement Tool isp	-viking-g1	
	555	3/4/10 11:59:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-VIDMON	
2.5-	554	3/4/10 11:59:02 AM	Cisco-Multicast Mar	agement Tool isp	-viking-g1	
	566	3/4/10 11:59:02 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-EDGE	
	322	3/4/10 11:58:00 AM	Cisco-Multicast Mar	agement Tool isp	-viking-g1	
	327	3/4/10 11:58:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-EDGE	
	326	3/4/10 11:58:03 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-VIDMON	
	572	3/4/10 11:59:02 AM	Cisco-Multicast Mar	agement Tool VA	MS-7606-EDGE	
	000	2/4/10 11-50-02 AM	Cieco Multicact Mar	anoment Teel VA		
				-		
		109	13	₩2	All Events (124)	, i

Figure 3-31 CMM Events Views

The left part of the display shows monitor boxes for the selected event type. Each monitor box shows a bar graph indicating the number events in each severity level for the event category.

The CMM Events views include:

- All CMM Events—Shows all CMM events.
- Heart Beats—Shows heartbeat events from CMM.
- Tree Change—Shows tree change events.
- PIM Neighbor Loss—Shows events from video probes.
- S,G Threshold—Shows S,G threshold events (above threshold and below threshold events)
- Interface Bandwidth—Shows events indicating a video probe has been started.
- Health Check—Shows events from video probes.
- Group Gone—Shows video events for the last 24 hours,
- Unicast Events—Shows events indicating a video probe has been started.
- Multicast Events—Shows events from video probes.
- **Step 5** To see the events in a CMM event view, click the monitor box for the event class.

For example, click the monitor box for S,G Threshold events to see all S,G Threshold events from CMM.

Step 6 To view the details of an event, double-click on the row for the event.

A table giving detailed field information for the event appears.

Step 7 To troubleshoot the event in CMM, right-click the event, and from the Alerts menu, choose VAMS Tools > Launch CMM.

Monitoring VidMon Events

This section describes:

- Monitoring VidMon Events in the Service Dashboard, page 6-35
- Viewing Events in the VidMon Event Views, page 6-36

Monitoring VidMon Events in the Service Dashboard

To monitor VidMon events in the service dashboard:

Step 1 On the Video Assurance Management menu, click Service Dashboard.

The Service Dashboard appears, and the Service Tree shows a list of the configured video services in your network.

- **Step 2** Left-click on a a service on the Service Tree directory browser at the left of the page
 - The Service Viewer shows a service map for the elected service.
 - The Service Details window shows an event list for the service.

Figure 3-32 shows the Service Tree, Service Viewer, and Service Details window for a channel service called *EUROSPORT*.

Tivoli. View: All tasks	¥	1	Welcome rbiell	Help Logout IBM.
Service Das ×				Select Action 💌
Service Dashboard				Save Cancel
Service Tree	A ? _ D	Service Viewer		& ? _ □
Service	#of Events	File Edit View		
11.0.0.82:5000	0.0 ^		💌 ar	
BBC-WORLD	32.0			
BEST-OF-SHOPPING	0.0	Relationships and Down 3	Up 1 Apply	
E DLOOMBERO-EUROPE-TV	0.0			<u>م</u>
🖃 💻 CATALUNYA-INFORMACIO	0.0			
🕢 📃 CATALUNYA-RADIO	0.0			
E CNBC	37.0			
🛨 💻 EURONEWS	40.0		٠	
💽 🔜 EUROSPORT	32.0			
EXTREMADURA-TV	0.0			
🕀 🔜 GAME-ONE	15.0			
🕀 💻 GUIDE-PLUS	1.0			
🗑 🔜 M6-BOUTIQUE-LA-CHAINE	0.0	14 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	یف اف باف باف باف باف	
🗑 🛄 MTV-AUSTRIA	6.0 =	เกมส์การ์ " พระเสรริม สิงห์ พระโสรริ" (เกมส์การ์ " เกมส์การ์ สิงห์ เกมส์การ์ สิงห์ 	ion อ≣ "เอะหาเกิดอิตทางเมือง" หรื₁ " หรื₁ " หรื₁ " หรื∍ " หรื∍ ส่ว	onara das Boir - não " - não " - nasaral n. Boir na cardin Boir
H TV-DANCE	0.0			
H MTV-FRANCE	0.0			
🗑 🔜 MTV-HITS	0.0			×
🗑 💭 MTV-ROCKS	0.0	1		► E
E T NICK	1.0	Status refresh in 48 seconds		
💽 💻 NICK-AUSTRIA	22.0	Service Details		? _ 🗆
I I I NICKELODEON	17.0	SLA Events Rules		
E T NICKELODEON-FRANCE	16.0	RawEvents_85@NCOMS - Active Event List (10.48.162.174:16	316)	
🕀 💻 RTL-AUSTRIA	1.0	He Lot view Alerts Tools Help		
🗑 🔜 RTL2-AUSTRIA	1.0	🗌 🔮 🕕 🔍 🐎 🖁 RawEvents_85	RawEvents	✓ ₩
🗑 🛄 SUPER-RTL-A	1.0	Node BSM_Identity	Summary	AlertKey C
🛨 💻 TELEMAD-SAT	0.0	RHE-1-DCM-1	Service loss at output, Board 2, Port 3, TS 232.4.16.1:5000, Servi.	RHE-1-DCM-1:524396:261150955:2605
💓 🛄 TV3-CAT	0.0	RHE-1-DCM-1	Service loss at output, Board 2, Port 3, TS 232.4.16.1:5000, Servi	RHE-1-DCM-1:524396:261150955:2606
I VAMS-BBC	10.0	<		>
I VAMS-CNBC	0.0	A 7	√ 12	All Events (32)
1 💭 VH1	0.0 ×	32 rows inserted, 32 rows updated, and 0 rows deleted.	Data Source(s): NCOMS QuickFilter: None Auto refresh in: 50 sec.

Figure 3-32 Service Dashboard for a High Level Service

Step 3 To see the devices associated with the selected video service, click on the plus sign (+) next to the service name.

The devices in the service topology are listed in the Service Tree directory.

Step 4 Click on a device or service component to see the service map for the device or component.

The Service Viewer shows a service map for the device. If there are faults, such as VidMon alarms, the device is highlighted in red or in yellow. In the event list in the Service Details area, fault events are highlighted in yellow or red.

Figure 3-33 shows a Service Map and fault events for a device called *CHE-MPTS-16* that is associated with the *EUROSPORT* channel service.

Figure 3-33 Viewing VidMon Events in the Service Dashboard



The event list shown in Figure 3-32 shows the following VidMon event:

Vidmon Delay Factor Exceeded Threshold—SNMP trap generated by CMM indicating that a VidMon DF threshold has been exceeded on a Cisco 9000 device used to transport the MPTS stream.

- **Step 5** To view details about an event, highlight the event and right click on it.
- Step 6 To launch CMM to troubleshoot the event, right-click on the event and choose VAMS Tools > Launch CMM or VAMS Tools > Launch Flowtrace.

Figure 3-34 shows the menu selections for launching CMM.

Service Das	t C	UP 1 P Apply	Action — • • • • • • • • • • • • • • • • • •
Service Dashboard Service Tree Service Tree Service Tree Service Tree Service Viewer File Edit View Fil			Save) Cancel
Service Tree A ? Service Viewer File Edit View File Edit V	€URONEWS		~ ? _ C
Service State P B6C-WORLD P B6S-WORLD P CATALUNYA-RADIO P CHE SIA	t C n 3≞ €URONE//S		
Service State BeC-WORLD BEC-WOR			
Image: Section of Section o			
BEST-OF-SHOPPING BUOMBERG-ELVORDE-TV A D DATALUNYA-INFORMACIO CATALUNYA-INFORMACIO CATALUNYA-INFORMACIA CATALUNYA-INFORMACIA CATALUNYA-INFORMACIA CATALUNYA	EURONEWS		
	EURONEWS		
CATALUNYA-INFORMACIO CATALUNYA-RADIO CINCALINYA-RADIO CI	EURONEWS	BBC-WORLD BLIRDSPORT 22 VOX-AUSTRIA	
CATALUNYARADIO CATAL			
CNBC CNBC CNBC CNBC CNBC CNBC CNBC CNB			
EURONEWS EUROSPORT CHE.WTS-10 CHE.WTS-10 CHE.WTS-132 EUROSPORT CHE.SPTS-132 EUROSPORT CHE.SPTS-132 EUROSPORT CHE.SPTS-149 EUROSPORT CHE.SPTS-149 EUROSPORT CHE.SPTS-149 CHE.SPTS-14			
CHE ✓ CHE.MPTS-10 ▲ CHE.MPTS-10 ▲ CHE.MPTS-10 ▲ CHE.MPTS-10 ▲ CHE.SPTS-122 ▲ EUROSPORT ▲ CHE.SPTS-142 ▲ EUROSPORT ▲ CHE.SPTS-142 ▲ EUROSPORT ▲ CHE.SPTS-142 ▲ CHE.SPTS-143 ▲ CHE.SPTS-144 ▲			
CHE-MPTS-10 CHE-MPTS-11 CHE-MPTS-1		Launch CMM	
CHE.MPTS-10 A CHE.SPTS-122. A EUROSPORT A CHE.SPTS-142. A EUROSPORT A CHE.SPTS-143. B EUROSPORT A COUPASITS COUPASIE COUPASIE COUPASIE <		Launch Flowtrace	
CHE 67T-172. EUROSPORT CHE 57T-148. EUROSPORT CHE 57T-148. EUROSPORT CHE 57T-148. EUROSPORT CHE 57T-149. EUROSPORT CHE 57T-149. CHE 57	Ctrl+A		•
EUROSPORT	Curi+D		
UROSPORT C	a 🗼		? _ □
CHE:SPTS-10- EUROSPORT A Lear Assign Group Assign Group Assign Lear Assign Group Assign Control Assign Group Assign CHE:SPTS-1 Information Delete Durnal Durnal			
CHE:SPTS-4 A EUROSPORT CN RHE-1 RHE-1-MPTS-1 Node Journal	•	5316)	
Node Journal	•		
RHE-1-MPTS-1 Node Journal		RawEvents	
	Shiftat	Funnari	AlertKey
RHE-1-SPTS-132-	Shift+I Ctrl+J	Summary	RHE-2-BT-1:
BRE-1-SPTS-4	Shift+I Ctrl+J	CC skips:5 discontinuities:5 - counting	
EUROSPORT RHE-2-BT-1	Shift+I Ctrl+J	CC skips:5 discontinuities:5 - counting Vidmon Delay Factor 2.162000 Exceeded Threshold 2 (Source:	Source: 14.1
(§ RHE-2	Shift+I Ctrl+J	Sounnay CC skips:5 discontinuities:5 - counting Vidmon Delay Factor 2:162000 Exceeded Threshold 2:(Source: MLR >= error-threshold (14 >= 8)	Source: 14.1 RHE-2-BT-1:

Figure 3-34 Launching CMM to Troubleshoot a VidMon Event

The CMM login screen appears.

Step 7 Log in to CMM.

The CMM Dashboard appears, shown in Figure 3-35.

est Events and	d Traps [TOP 20]				outring outring		
						Latest Events & Traps Refresh Interval 30 🔻	Se Se
				_			_
itest Events							
vent Id	Date	Domain	Туре	Device		Details	
18151151	Fri Jun 25 18:20:05 2010	VAMS	VIDMON MRV LOW	manc.cisco.con	.com Destination:232.1.1.15:5001(CH5-HD).		
18151150	Fri Jun 25 18:20:05 2010	VAMS	VIDMON MLR HIGH	manc.cisco.con	n	Destination:232.1.1.15:5001(CH5-HD), Source:11.1.0	
18151149	Fri Jun 25 18:20:03 2010	VAMS	VIDMON DF HIGH	manc.cisco.con	m	Destination:232.1.1.15:5001(CH5-HD), Source:11.1.0	
18151148	Fri Jun 25 18:20:03 2010	VAMS	VIDMON MRV LOW	manc.cisco.con	m	Destination: 10.1.12.30:5001, Source: 11.1.0.26:4838(v
8151147	Fri Jun 25 18:20:03 2010	VAMS	VIDMON MLR HIGH	manc.cisco.con	m	Destination: 10. 1. 12. 30: 500 1, Source: 11. 1.0. 26: 4838	v
8151146	Fri Jun 25 18:20:03 2010	VAMS	VIDMON DF HIGH	manc.cisco.con	n	Destination: 10. 1. 12. 30: 500 1, Source: 11. 1.0. 26: 4838	v
18151145	Fri Jun 25 18:20:03 2010	VAMS	VIDMON MLR HIGH	manc.cisco.con	n	Destination:232.1.1.1:5001(CHE 3 3 Active to Reg mp	<u>t</u>
.8151144	Fri Jun 25 18:20:03 2010	VAMS	VIDMON DF HIGH	manc.cisco.con	n	Destination:232.1.1.1:5001(CHE 3 3 Active to Reg mp	<u>t</u>
.8151143	Fri Jun 25 18:20:03 2010	VAMS	VIDMON MRV LOW	manc.cisco.con	m	Destination:232.1.1.13:5001(ITV for CHE-MPTS-2	
18151142	Fri Jun 25 18:20:03 2010	VAMS	VIDMON DF HIGH	manc.cisco.con	m	Destination:232.1.1.13:5001(ITV for CHE-MPTS-2	
							_
aps							
vent Id	Date		Device		Details		
8116828	Fri Jun 25 11:14:29 2010		manc.cisco.com		PIM-MIB::Neighbor Lo	<u>\$\$</u>	
18103564	Fri Jun 25 08:03:56 2010		popl.cisco.com		PIM-MIB::Neighbor Lo	<u>55</u>	
18084631	Fri Jun 25 03:30:40 2010		popl.cisco.com		PIM-MIB::Neighbor Lo	<u>\$\$</u>	
18069752	Thu Jun 24 23:56:07 2010		popl.cisco.com		PIM-MIB::Neighbor Lo	<u>55</u>	
8066999	Thu Jun 24 23:16:46 2010		popl.cisco.com		PIM-MIB::Neighbor Lo	<u>**</u>	
18061822	Thu Jun 24 22:01:49 2010		popl.cisco.com		PIM-MIB::Neighbor Lo	55	

Figure 3-35 CMM Dashboard Showing Video Flows

Step 8 From the CMM Dashboard:

- To launch a trace for the flow, locate the entry for the fault indicated in the TIP/TBSM message, for example, the DF high event on BBC2, and then click on the underlined link for the flow.
- To perform other troubleshooting tasks, click the Switch to Main button and then go to the appropriate CMM menu and task to perform a task.

If you click on a link to trace a flow, CMM launches a multicast trace for the flow and a multicast trace for the flow appears.

The top part of the Multicast Trace page presents a trace table, as shown in Figure 3-36. The bottom part of the page shows a topology map of the devices involved in the trace, as shown in Figure 3-36.

Figure 3-36 CMM Multicast Flow Trace: Trace Data Table

Trace Data														
Router	PPS	Forwa	ding Int	Out Errors/Se	Disca	Out ards/Sec	Neighbo	r	Neighbor IP	Neighbor Int	In Errors	/Sec D	In iscards/Sec	Flo
E-7606-1	0.0 TenGigabitEthernet3/1 0.0		0.0	0.0	,	CORE-7609S-	1 17	2.16.1.17	TenGigabitEthernet3/1	0.0	0	.0	0	
RE-7609S-1	0.0	TenGigabit	Ethernet3/4	0.0	0.0		CRS-	17	2.16.1.2	TenGigE0/4/0/5	0.0	0	.0	0
S-WEST.cisco.com	0.0	TenGigE0/	4/0/2	0.0	0.0		BXB-REG-2	17	2.16.1.26	TenGigabitEthernet1/2	0.0	0	.0	
B-REG-2	0.0	TenGigabit	Ethernet1/3	0.0	0.0		BXB-RHE-760	6 17	2.20.1.30	TenGigabitEthernet3/3	0.00	0	.00	0
E-7606-1	0.0	GigabitEth	ernet2/2	0.0	0.0						0.0	0	.0	0
S-WEST.cisco.com	0.0	GigabitEth	ernet0/6/1/0	0.0	0.0						0.0	0	.0	
B-RHE-7606	0.0	GigabitEth	ernet2/25	0.0	0.0						0.0	0	.0	0
B-RHE-7606	0.0	GigabitEth	ernet2/27	0.0	0.0						0.0	0	.0	0
Video Probe Data	r .													
Probe		Router	Inte	face	Source		Group	Status	DF	MLR	МІ	T15	MLT	24
CORE-63-@-CRS-WE	ST CRS- WEST	.cisco.com	Static Joir GigE0/6/1	Int 172.1	6.5.2	239.1	6.0.1	0	0.353	0	0		0	
MS-BT-220	CHE-	606-1	Int G2/25	172.1	6.5.2	239.1	6.0.1							
Vidmon Data														
Device			Inte	face	1	Direction	Stat	us	DF	MLR	Min	MR¥	Max N	1R¥
E-7606-1		TenGig	abitEthernet3	/1	Outb	ound	0)	0.721	0	-		-	
B-RHE-7606		TenGiq	abitEthernet3	<u>/3</u>	Inbou	bnu	0)	0.739	0			-	
Channel Data														
Channel		Relat	ed Groups		Cha	annel Nam	e Short I	ame	Codec Ty	pe Screen Form	at Servi	е Туре	Mux	Id
23 239 239 239 239	9.20.0.1 (RHE 0.16.0.3 (Vid) 0.16.41.2 (CH 0.16.42.2 (CH	-BXB MPTS Ion MPTS-1, E BBC2 fror E BBC2 fror	1,BXB-1,RHE National,CHE n Encoder2,R n Encoder12,	_1) _1) aw Feed,CHE412 Raw Feed,CHE42	2) BBC2	:	BBC2		MPEG-2	4:3	SIM		CHE_1	
C1 23 239 239 239 239	239.16.0.3 (VidMon MPTS-1,National,CHE_1) 239.20.0.1 (RHE-BXB MPTS-1,BXB-1,RHE_1) 239.16.42.1 (CHE BBC1 from Encoder1,Raw Feed,CHE411) 239.16.41.1 (CHE BBC1 from Encoder1,Raw Feed,CHE411)			.1) BBC1		BBC1		MPEG-2	4:3	SIM		CHE_1		
23 Fee GIN1 239 239 239 Fee	239.16.42.4 (CHE VIRGIN1 from Encoder14,Raw Feed,CHE424) 239.16.0.3 (VidMon MPTS-1,National,CHE_1) 239.20.0.1 (RHE-BXB MPTS-1,BXB-1,RHE_1) 239.16.41.4 (CHE VIRGIN1 from Encoder4,Raw Feed,CHE414)		VIRG	IN One	VIRGIN1		MPEG-2	4:3	SIM		CHE_1			
C3 23 235 235 235	9.16.0.3 (Vid 0.16.41.3 (CH 0.16.42.3 (CH 0.20.0.1 (RHE	Mon MPTS-1 E BBC3 fror E BBC3 fror -BXB MPTS-	National,CHE n Encoder3,R n Encoder13, 1,BXB-1,RHE	_1) aw Feed,CHE413 Raw Feed,CHE42 _1)) 3) BBC3	30°	BBC3		MPEG-2	4:3	SIM		CHE_1	
23 239	9.16.0.3 (Vid 0.16.245.1 (C	Mon MPTS-1 HE EURONE	National,CHE NS from COF	_1) lE,Raw	EURC	NEWS	EURONEW	s	MPEG-2	4:3	SIM		CHE_1	

The trace data shown in Figure 3-36 shows the following information:

- **Flow Description**—The flow description at the top of the page indicates the unicast Group, Channel Name, Transport Description, Source IP and Source description, as configured in the CMM for the flow.
- **Trace Data Table**—Lists the routers, interfaces, and PIM neighbors that transport the multicast flow.
- Video Probe Data Table—Lists all video probes known to CMM that are present on the distribution tree. This table shows the router/interface to which the probe is connected, and MDI metrics like DF and MLR.
- VidMon Data Table—Lists all the VidMon-enabled routers present in the distribution tree. The table includes the router, interface, direction, status, and VidMon metrics like DF, MLR, and MRV.

208613

• **Channel Data Table**—Displays the related multicast groups for each of the video channels carried in the traced multicast flow. The table shows the channels, related multicast groups for each channel, and additional video format information.

If any DF or MLR thresholds have been exceeded, The Vidmon data area indicates these with a red circle in the Status column. If the DF and MLR values are within the defined thresholds, the Status column shows green circles.

The bottom of the trace display shows a topology map of the devices involved in the flow, as shown in Figure 3-37.



Figure 3-37 CMM Multicast Flow Trace: Topology Map

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Viewing Events in the VidMon Event Views

To view custom VidMon event views:

Step 1 From the Video Assurance Management menu, click the plus sign (+) next to Video Assurance Management.

The Video Assurance Management menu appears.

Step 2 Click the plus sign (+) next to **Video Fault**.

Step 3 Click VidMon Events.

The Events Views page for the VidMon events appears. Figure 3-38 shows the event views for Video Events.

īvoli. View: Alltasks 🗸			Welcome rbiell		Help Logout IBM.
Service Das × Video Events × VidMon Events ×					Select Action
VidMon Events					
Map 🕹 ? _ 🗖	VidMon Ev	ents			~ ? _ E
VidMon Events	MDI-DF@NCC	MS - Active Event List (10.86.0.10)	::16316)		
All Vidtidon Events MDLDE	File Edit V	ew Alerts Tools Help			
Total: 37 Total: 29	👌 🕕 🗄	🖸 🗋 🔍 🍰 🚳 M	DI-DF	*	💽 🚱 CMM_View 💌 🔛
39 T	Serial	LastOccurrence	Node	Channel	Summary
18t 128t	78371	5/28/10 1:05:02 PM	VAMS-7606-VidMon	BXB-CDS-1	The Output Media Loss Rate has exceeded the configure 🛆
	78351	5/28/10 1:05:00 PM	VAMS-7606-VidMon	VIDMON	The Input Media Loss Rate has exceeded the configured
Total: 37	78403	5/28/10 1:23:16 PM	VAMS-7606-VidMon	VIDMON	The Output Media Loss Rate has exceeded the configure
20*	78357	5/28/10 1:05:01 PM	VAMS-7606-VidMon	BXB-CDS-4	The Output Media Loss Rate has exceeded the configure
128+	78359	5/28/10 1:05:01 PM	VAMS-7606-VidMon	BXB-CDS-1	The Output Media Loss Rate has exceeded the configure
	78361	5/28/10 1:05:01 PM	VAMS-7606-VidMon	BXB-CDS-1	The Output Media Loss Rate has exceeded the configure
MRV MSE	78363	5/28/10 1:05:01 PM	VAMS-7606-VidMon	BXB-CDS-1	The Output Media Loss Rate has exceeded the configure
lota: 8 lota: 0	78365	5/28/10 1:05:01 PM	VAMS-7606-VidMon	BXB-CDS-1	The Output Media Loss Rate has exceeded the configure
18T 2.8T	78412	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-3	The Input Media Loss Rate has exceeded the configured
	78413	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-3	The Input Media Loss Rate has exceeded the configured 😑
VidMon Multicast VidMon Unicast	78414	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-4	The Input Media Loss Rate has exceeded the configured
Total: 12 Total: 25	78415	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-4	The Input Media Loss Rate has exceeded the configured
781 781	78408	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-2	The Input Media Loss Rate has exceeded the configured
	78409	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-3	The Input Media Loss Rate has exceeded the configured
	78410	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-3	The Input Media Loss Rate has exceeded the configured
	78411	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-3	The Input Media Loss Rate has exceeded the configured
	78404	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-2	The Input Media Loss Rate has exceeded the configured
	78405	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-2	The Input Media Loss Rate has exceeded the configured
	78406	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-2	The Input Media Loss Rate has exceeded the configured
	78407	5/28/10 1:23:16 PM	VAMS-7606-VidMon	BXB-CDS-2	The Input Media Loss Rate has exceeded the configured
	78402	5/28/10 1:23:16 PM	VAMS-7606-VidMon	VIDMON	The Output Media Loss Rate has exceeded the configure
	78350	5/28/10 1:05:00 PM	VAMS-7606-VidMon	VIDMON	The Input Media Loss Rate has exceeded the configured
	78356	5/28/10 1:05:01 PM	VAMS-7606-VidMon	BXB-CDS-4	The Output Media Loss Rate has exceeded the configure
	70350	5/00/10/1-05-01 PM	MAMP 7606 MidMon	PVP ODe 4	The Output Media Lass Rate has preseded the configure
1			111		



The left part of the display shows monitor boxes for the selected event type. Each monitor box shows a bar graph indicating the number events in each severity level for the event category.

The CMM Events views include:

- All VidMon Events—Shows all VidMon events.
- MDI-DF—Shows Delay Factor (DF) events.
- MDI-MLR—Shows Media Loss Rate (MLR) events.
- MDI-MDC—Shows Media Discontinuity Counter (MDC) events.
- MRV—Shows Media Rate Variation (MRV) events.
- MSE—Shows Media Stop Events (MSE).
- VidMon Multicast—Shows VidMon events from multicast VidMon flows.
- VidMon Unicast—Shows VidMon events from unicast VidMon flows.

Step 4	To see the events in a CMM event view, click the monitor box for the event class.
	For example, click the monitor box for MDI-DF to see DF events.
Step 5	To view the details of an event, double-click on the row for the event.
	A table giving detailed field information for the event appears.
Step 6	To troubleshoot the event in CMM, right-click the event, and from the Alerts menu, choose VAMS Tools > Launch CMM or choose VAMS Tools > Launch Flowtrace.
Step 7	To view the details of an event, double-click on the row for the event.
	A table giving detailed field information for the event appears.

Monitoring Video Events

This section describes:

- Monitoring Video Events in the Service Dashboard, page 6-38
- Viewing Events in the Video Events View, page 6-38

Monitoring Video Events in the Service Dashboard

Video events are events sent to TIP/TNSM from a video probe that is monitored by CMM. To view video events in the service dashboard.

Step 1 On the Video Assurance Management menu, click Service Dashboard.

The Service Dashboard appears:

The Service Tree shows a list of the configured video services in your network.

- **Step 2** Left-click on a a service on the Service Tree directory browser at the left of the page
 - The Service Viewer shows a service map for the elected service.
 - The Service Details window shows an event list for the service.

The devices in the service topology are listed in the Service Tree directory.

Step 3 Click on a device or service component to see the service map for the device.

The Service Viewer shows a service map for the service. If there are faults, such as video alarms, the device is highlighted in red. In the event list in the Service Details area, fault events are highlighted in red.

Figure 3-39 shows the Service Tree, Service Viewer, and Service Details window for a service called *EURONEWS*.

Service Tree 🖉 🦂 ?	_ 🗆 Service Viewer			A ? _ !
Q. 🖉	File Edit View	00		
· · · · · · · · · · · · · · · · · · ·			a K7 1.8%	
ervice 🔺 Sta	te 🚬 🛄 🗳 🛄 🗋		✓ K.N. 1994,	
E DBC-WORLD	🔒 🔺 Relationships	💌 🖧 🔬 🛛 Down 🔄	Up 1 🖨 Apply	
E EST-OF-SHOPPING				-
BLOOMBERG-EUROPE-TV				
E 📃 CATALUNYA-INFORMACIO				
🛛 📃 CATALUNYA-RADIO	2			
E 📃 CNBC				
URONEWS				
(S) CHE				A. 0.
CHE-MPTS-10				Ran Lawrence Rate
CHE-MPTS-16				
CHE-SPTS-133-				L P
EURONEWS 4	 Status refresh in 87 s 	econds		
EURONEWS	Service Details			2
CHE-SPTS-20-	Jervice Details			
	SLA Events	Rules	1.12012)	
	File Edit View Ale	rts Tools Help	:16316)	
		· · · · · · · · · · · · · · · · · · ·		
	■ *2 ● : • • •] : 🔍 : 🛹 🕋 RawEvents_935	RawEvents	
EURONEWS	Node	BSM_Identity	Summary	AlertKey
20110112000	asr9e9-1 nsite cis		Vidmon Media Rate Variation Low 0.079000 Below Threshold 0	. Source: 1 🛆
RHE-1-SPTS-5-				
RHE-1-SPTS-6- EURONEWS	RHE-2-BT-1		CC skips:4 discontinuities:2 - counting	RHE-2-B1
RHE-1-SPTS-6- EURONEWS RHE-2 RHE-2-MPTS-10	RHE-2-BT-1 asr9e9-1.nsite.cis		CC skips:4 discontinuities:2 - counting Vidmon Delay Factor 2.162000 Exceeded Threshold 2 (Source: .	RHE-2-B1
RHE-1-SPTS-5- EURONEWS I RHE-2 I RHE-2-MPTS-16 I RHE-2-SPTS-140 I	RHE-2-BT-1 asr9e9-1.nsite.cis RHE-2-BT-1		CC skips:4 discontinuities:2 - counting Vidmon Delay Factor 2.162000 Exceeded Threshold 2 (Source: . CC skips:14 discontinuities:14 - counting	RHE-2-B1 Source: 1 RHE-2-B1

Figure 3-39 Service Dashboard for a High Level Service

Step 4 To see the devices associated with the selected video service, click on the plus sign (+) next to the service name.

The devices in the service topology are listed in the Service Tree directory.

Step 5 Click on a device or service component, such as a channel associated with a video service, to see the service map for the device.

The Service Viewer shows a service map for the device. If there are faults, such as VidMon alarms, the device is highlighted in red or in yellow. In the event list in the Service Details area, fault events are highlighted in red.

Figure 3-40 shows a Service Map and fault events for a stream called *RHE-2-MPTS-16*, which is associated with the *EURONEWS* service and four other channel services.

Service Das × Video Eve	ents ×				Select Action 💌
Service Dashboard					Save Cancel
Service Tree	4 ? _ D	Service Viewer			^? _ □
Q E		File Edit View	() () () () () () () () () () () () () (
Service A	State		3 🗟 🗘 🖉 6	2 🖸 🗱	
E BBC-WORLD	1 -	Relationships	Down 3	Up 1 Apply	
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S RHE-2					
RHE-2-MPTS-16					

Figure 3-40 Viewing VidMon Events in the Service Dashboard

The event list shown in Figure 3-40 shows the following event from a video events from a BridgeTech video probe:

Vidmon Probe Media Loss Rate Exceeds 0—Video probe event generated by an IQ probe monitored by CMM when the media loss rate (MLR) on a monitored device exceeds a threshold.

- Step 6 To view details about an event, highlight the event and right click on it.
- Step 7 To launch CMM to troubleshoot the event, right click on the event and choose VAMS Tools > Launch CMM or VAMS Tools > Launch Flowtrace.

The CMM login screen appears.

Step 8 Log in to CMM and go to the appropriate menu to troubleshoot the event.

Viewing Events in the Video Events View

Events.

To view custom video event views:

Step 1	From the Video Assurance Management menu, click the plus sign (+) next to Video Assurance Management.
	The Video Assurance Management menu appears.
Step 2	Click the plus sign (+) next to Video Fault.
Step 3	Click Video Events.
	The Events Views page for the VidMon events appears. Figure 3-41 shows the event views for Video

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		466734	6/4/10 11:00:41 AM	COPERN	ICUS-MIB	BridgeTechProbe_CH
		465663	6/4/10 10:31:31 AM	COPERN	ICUS-MIB	BridgeTechProbe_CH
		465664	6/4/10 10:31:31 AM	COPERN	ICUS-MIB	BridgeTechProbe_CH
		488204	6/4/10 6:53:19 PM	COPERN	ICUS-MIB	BridgeTechProbe_CH
		467109	6/4/10 11:08:11 AM	COPERN	ICUS-MIB	BridgeTechProbe_CH
		467108	6/4/10 11:08:11 AM	COPERN	ICUS-MIB	BridgeTechProbe CH
		466285	6/4/10 10:46:14 AM	COPERN	ICUS-MIB	BridgeTechProbe CH
		466286	6/4/10 10:46:14 AM	COPERN	ICUS-MIB	BridgeTechProbe CH
		483359	6/4/10 5:07:37 PM	COPERN	ICUS-MIB	BridgeTechProbe_CH
		466258	6(4(10.10:45:57.AM	COPERN	ICUS-MIR	BridgeTechProbe_CH

Figure 3-41 Video Events Views

The left part of the display shows monitor boxes for the selected event type. Each monitor box shows a bar graph indicating the number events in each severity level for the event category.

The Video Events views include:

- Critical Events—Includes events with a severity level of critical
- Last 24 Hours—Shows video events for the last 24 hours,
- Cross Launch Events—Shows events indicating a video probe has been started.
- Probe Events—Shows events from video probes.

```
Step 4 To see the events in a video event view, click the monitor box for the event class.
```

For example, click the monitor box for **Probe Events** to see video probe events.

Step 5 To view the details of an event, double-click on the row for the event.

A table giving detailed field information for the event appears.

- Step 6 To troubleshoot the event in CMM, right-click the event, and from the Alerts menu, choose VAMS Tools > Launch CMM or choose VAMS Tools > Launch Flowtrace.
- **Step 7** To view the details of an event, double-click on the row for the event.

A table giving detailed field information for the event appears.

Step 8 To view the details of an event, double-click on the row for the event.

A table giving detailed field information for the event appears.

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Viewing Network Fault Events

This section describes how to view network fault events.

Viewing Events in the ANA Event Views

Step 1	Log in to IBM TIP/TBSM.
	The main TBSM window appears.
Step 2	Click the plus sign (+) next to Video Assurance Management.
	The Video Assurance Management menu appears.
Step 3	Click the plus sign (+) next to Network Fault.
	The Network Fault menu appears.
Step 4	Click ANA Events.
	The Events Views page for ANA events appears.
	The left part of the display shows monitor boxes for the selected event type. Each monitor box shows bar graph indicating the number events in each severity level for the event category.
	The ANA Events views include:
	• All Events—Shows all ANA events.
	• ANA Tickets—Shows ANA tickets.
	• Status Events—ANA status events.
Step 5	To see the events in a video event view, click the monitor box for the event class.
	For example, click the monitor box for ANA Tickets to see ANA ticket events.
Step 6	To view the details of an event, double-click on the row for the event.

A table giving detailed field information for the event appears.

Viewing All Events

Step 1	Log in to IBM TIP/TBSM.
	The main TBSM window appears.
Step 2	Click the plus sign (+) next to Video Assurance Management.
Step 3	Click the plus sign (+) next to Network Fault.
	The Network Fault menu appears.
Step 4	Click All Events.
	The Events Views page for all events appears. Figure 3-42 shows the event views for all events.

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Figure 3-42 All Events Views

The left part of the display shows monitor boxes for the selected event type. Each monitor box shows a bar graph indicating the number events in each severity level for the event category.

The All Events views include:

- All Events—Includes all network events.
- Critical Events—Includes events with a severity level of critical.
- Last 24 Hours—Shows network events for the last 24 hours,
- **Netcool Status**—Shows Netcool Probewatch events, events indicating that a process has connected from a Netcool device, and so on.

Step 5 To see the events in a specific event view, click the monitor box for the event class.

For example, click the monitor box for **Netcool Status** to see Netcool status events.

Step 6 To view the details of an event, double-click on the row for the event.

A table giving detailed field information for the event appears.

Step 7 To troubleshoot the event in CMM, right-click the event, and from the Alerts menu, choose VAMS Tools > Launch CMM or choose VAMS Tools > Launch Flowtrace.

Step 8 To view the details of an event, double-click on the row for the event.

A table giving detailed field information for the event appears.

Troubleshooting with Cisco ANA

Troubleshooting with Cisco ANA requires an understanding of the Cisco ANA fault-management system. You should also understand how to use ANA NetworkVision and ANA EventVision.

This section contains:

- Fault Management, page 3-49
- ANA NetworkVision, page 3-50
- ANA EventVision, page 3-50

Fault Management

Table 3-2 highlights important aspects of the fault management system in Cisco ANA.

Table 3-2Cisco ANA Fault Management

Troubleshooting Area	Description and Reference					
Fault detection and	Describes:					
isolation	• How the various VNEs use reachability to check connectivity with the NEs.					
	• Basic alarm sources that indicate problems in the network.					
	• What happens when a VNE with associated open alarms shuts down.					
	• The integrity service tests that run on the gateway and the units.					
	For detailed information about working with fault detection and isolation, see the <i>Cisco Active Network Abstraction User Guide</i> , <i>3.7</i> , viewable online at:					
	http://www.cisco.com/en/US/docs/net_mgmt/active_network_abstraction/3.7/user/guide/ User_Guide_3_7.html					
Casualty correlation and	Describes:					
root-cause analysis	• Enabling or disabling port-down, port-up, link-down, and link-up alarms.					
	• The root-cause correlation concept.					
	• The root-cause alarm and weights concepts.					
	• Correlation by flow and correlation by key.					
	For detailed information about working with casualty correlation and root-cause analysis, see the <i>Cisco Active Network Abstraction User Guide</i> , <i>3.7</i> , viewable online at:					
	http://www.cisco.com/en/US/docs/net_mgmt/active_network_abstraction/3.7/user/guide/ User_Guide_3_7.html					
Advanced correlation	Describes alarms that use advanced correlation logic on top of the root cause analysis flow.					
scenarios	For detailed information about working with advanced correlation scenarios, see the <i>Cisco Active Network Abstraction User Guide</i> , <i>3.7</i> , viewable online at:					
	http://www.cisco.com/en/US/docs/net_mgmt/active_network_abstraction/3.7/user/guide/ User_Guide_3_7.html					

ANA NetworkVision

Network administrators use Cisco ANA NetworkVision to manage, fulfill, plan, and assure the integrity of network resources. Table 3-3 lists important aspects of using Cisco ANA NetworkVision for troubleshooting.

Table 3-3 Cisco ANA NetworkVision

Troubleshooting Area	Description and Reference					
Working with	Cisco ANA NetworkVision:					
ANA tickets	• Correlates alarms, and enables you to view tickets and ticket properties, including correlated alarms, active alarms, and alarm history.					
	• Describes ticket management and the different ways in which a ticket displays in the ticket pane, depending on the status or severity of the alarm.					
	For detailed information about working with tickets, see the <i>Cisco Active Network Abstraction User Guide</i> , 3.7, viewable online at:					
	http://www.cisco.com/en/US/docs/net_mgmt/active_network_abstraction/3.7/user/guide/User_Guide_3_7.html					
Working with ANA PathTracer	You use the Cisco ANA PathTracer to view a network path between two network objects in packet-switched networks such as Ethernet and IP.					
	For detailed information about working with the Cisco ANA PathTracer, see the <i>Cisco Active Network Abstraction User Guide</i> , <i>3.7</i> , viewable online at:					
	http://www.cisco.com/en/US/docs/net_mgmt/active_network_abstraction/3.7/user/guide/User_Guide_3_7.html					

ANA EventVision

You use Cisco ANA EventVision to view, filter, and display the properties of specific events. Table 3-4 lists important aspects of using Cisco ANA EventVision for troubleshooting.

Troubleshooting	
Area	Description and Reference
Viewing events	Events appear in different event categories in the ANA EventVision.
	For detailed information about displaying events, see the <i>Cisco Active Network Abstraction User Guide</i> , 3.7, viewable online at:
	http://www.cisco.com/en/US/docs/net_mgmt/active_network_abstraction/3.7/user/guide/User_Guide_3_7.html
Working with EventVision	For detailed information about working with EventVision, see the <i>Cisco Active Network Abstraction User Guide</i> , <i>3.7</i> , viewable online at:
	http://www.cisco.com/en/US/docs/net_mgmt/active_network_abstraction/3.7/user/guide/User_Guide_3_7.html