

# Cisco Multicast Manager 3.2

## Product Overview

Cisco® Multicast Manager is a web-based network management application that simplifies the holistic discovery, visualization, monitoring, and troubleshooting of multicast networks to help ensure business continuity. Cisco Multicast Manager is applicable to enterprise customers that employ multicast for financial market data, to cable operators that utilize multicast to transport video over IP, and to service providers that need to manage their Multicast VPN (MVPN) environment.

Cisco Multicast Manager is also part of the Cisco Video Assurance Management Solution (VAMS), which provides a flexible end-to-end assurance management platform for video.

Cisco Multicast Manager includes:

- Automated multicast discovery and topology generation
- Proactive multicast polling and monitoring
- Real-time multicast diagnostics
- Alerting and reporting
- Support for Protocol Independent Multicast (PIM), PIM Sparse Mode (PIM-SM), PIM Dense Mode (PIM-DM), and PIM Source Specific Multicast (PIM-SSM)

There are two optional, separately licensed feature sets available with Cisco Multicast Manager:

- **Multicast VPN (MVPN):** This option allows Cisco Multicast Manager to monitor multicast traffic over a Multiprotocol Label Switching (MPLS) network. Additional device discovery, polling configuration, diagnostics, and reporting capabilities are added specifically for MVPN environments.
- **Video Operations Solution (VOS):** This option allows Cisco Multicast Manager to monitor additional video specific metrics from video probe vendors such as IneoQuest, BridgeTech, and Mixed Signals. This feature also enables collecting the video monitoring (VidMon) family of metrics available on the Cisco ASR 9000 Series Aggregation Services Routers and the Cisco 7600 Series Routers.

## Applications

Figure 1 shows how Cisco Multicast Manager can be used to trace a multicast group. In this example, multicast is used to transport video. The trace is presented in tabular and graphical format. The table can update dynamically, showing the packet per second (pps) rate, output errors, and discards for each interface along the tree. Cisco Multicast Manager also includes support for video probes that may be deployed for monitoring video quality. The embedded address management database shows which channels are affected if there is a problem with a specific multicast group.

**Figure 1.** Using Cisco Multicast Manager to Trace a Multicast Group

| Trace Data                    |     |                       |                |                  |                              |             |                       |               |                 |   |
|-------------------------------|-----|-----------------------|----------------|------------------|------------------------------|-------------|-----------------------|---------------|-----------------|---|
| Router                        | PPS | Forwarding Int        | Out Errors/Sec | Out Discards/Sec | Neighbor                     | Neighbor IP | Neighbor Int          | In Errors/Sec | In Discards/Sec | Flow Status   |
| cmm-7604-sd2.dns-sj.cisco.com | 0.0 | TenGigabitEthernet4/2 | 0.0            | 0.0              | cmm-6503-c2                  | 126.1.6.14  | TenGigabitEthernet1/4 | 0.0           | 0.0             |  |
| cmm-6503-c2                   | 0.0 | GigabitEthernet3/14   | 0.0            | 0.0              | cmm-6504-c4                  | 126.1.11.16 | GigabitEthernet3/14   | 0.0           | 0.0             |   |
| cmm-6503-c2                   | 0.0 | GigabitEthernet3/42   | 0.0            | 0.0              | cmm-6506-c3                  | 126.1.9.15  | GigabitEthernet3/42   | 0.0           | 0.0             |   |
| cmm-6504-c4                   | 0.0 | GigabitEthernet3/44   | 0.0            | 0.0              | cmm-7604-d1.dns-sj.cisco.com | 126.1.14.17 | GigabitEthernet1/7    | 0.0           | 0.0             |   |
| cmm-6504-c4                   | 0.0 | GigabitEthernet3/15   | 0.0            | 0.0              | cmm-7604-d2.dns-sj.cisco.com | 126.1.16.18 | GigabitEthernet2/1    | 0.0           | 0.0             |   |
| cmm-6506-c3                   | 0.0 | TenGigabitEthernet5/4 | 0.0            | 0.0              | crs1.cisco.com               | 126.1.18.20 | TenGigE0/1/0/0        | 0.00          | 0.00            |   |
| cmm-6503-c2                   | 0.0 | GigabitEthernet3/1    | 0.0            | 0.0              |                              |             |                       | 0.0           | 0.0             |   |
| cmm-7604-d1.dns-sj.cisco.com  | 0.0 | Vlan193               | 0.0            | 0.0              |                              |             |                       | 0.0           | 0.0             |   |
| cmm-7604-d1.dns-sj.cisco.com  | 0.0 | Vlan2                 | 0.0            | 0.0              |                              |             |                       | 0.0           | 0.0             |   |
| cmm-7604-d2.dns-sj.cisco.com  | 0.0 | Loopback0             | 0.0            | 0.0              |                              |             |                       | 0.0           | 0.0             |   |
| crs1.cisco.com                | 0.0 | Loopback1             | 0.0            | 0.0              |                              |             |                       | 0.0           | 0.0             |   |

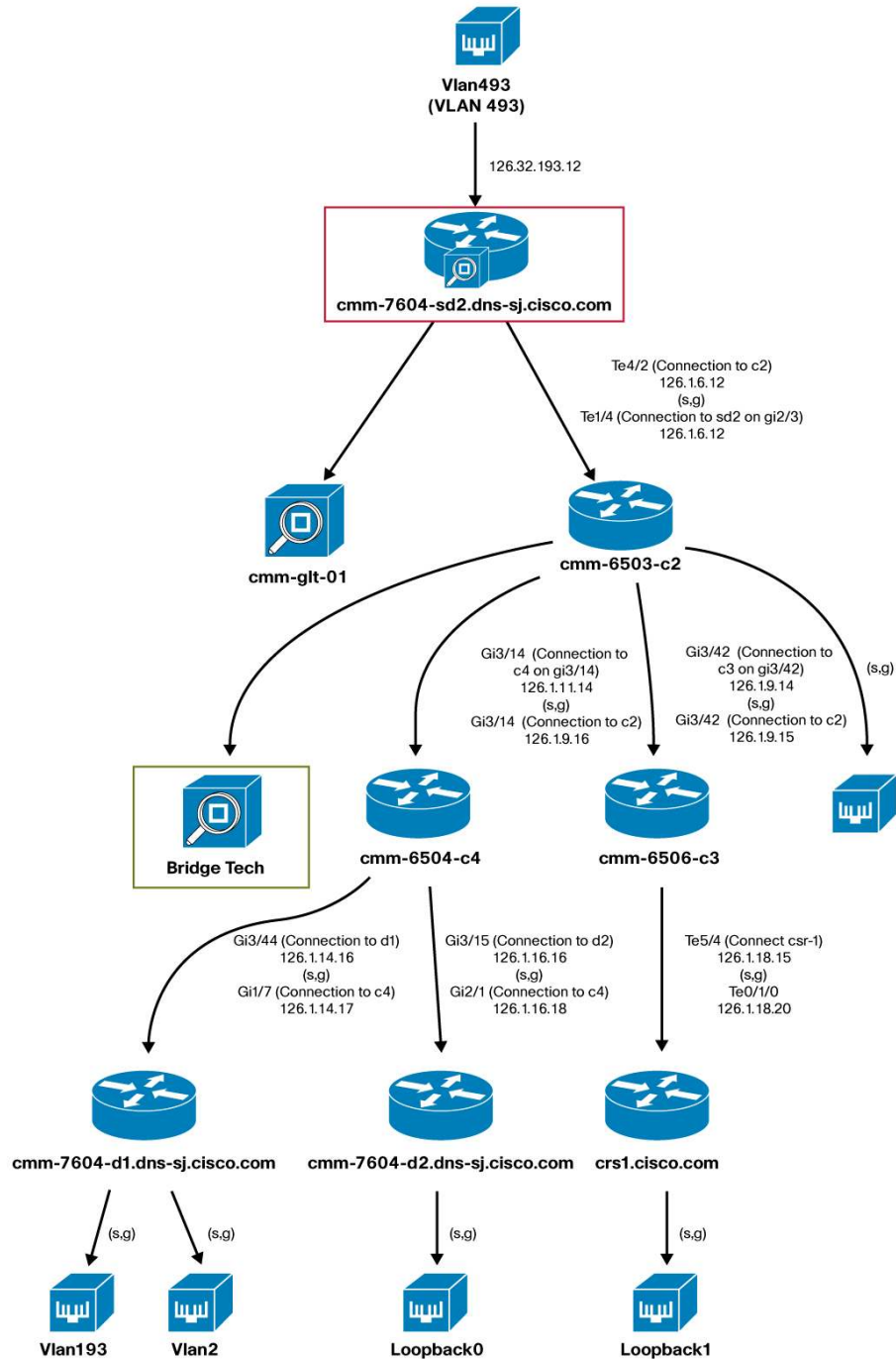
  

| Video Probe Data |                               |           |               |              |   |      |     |       |       |  |
|------------------|-------------------------------|-----------|---------------|--------------|---|------|-----|-------|-------|--|
| Probe            | Router                        | Interface | Source        | Group        | Status  | DF   | MLR | MLT15 | MLT24 |  |
| cmm-glt-01       | cmm-7604-sd2.dns-sj.cisco.com | G1T       | 126.32.193.29 | 239.254.1.12 | -   | -    | -   | -     | -     |  |
| BridgeTech       | cmm-6503-c2                   | brig      | 126.32.193.29 | 239.254.1.12 |  | 16.5 | 0   | 0     | 0     |  |

| Vidmon Data                   |                       |           |   |      |     |         |         |  |  |
|-------------------------------|-----------------------|-----------|---|------|-----|---------|---------|--|--|
| Device                        | Interface             | Direction | Status  | DF   | MLR | Min MRV | Max MRV |  |  |
| cmm-7604-sd2.dns-sj.cisco.com | TenGigabitEthernet4/2 | Outbound  |  | 1000 | 0   | -       | -       |  |  |

Legend:



## Features and Benefits

Table 1 lists the features and benefits of Cisco Multicast Manager.

**Table 1.** Features and Benefits

| Feature                                   | Benefit  |
|---|--|
| <b>Automated Multicast Discovery</b>      | Discovers complete multicast topology from a single seed device, along with the MVPN provider and provider edge devices and the Virtual Route Forwarding (VRF) tables they support. Discovery bridges the provider edge to the customer edge to create an end-to-end view of the multicast environment.  |
| <b>Detailed Multicast Forwarding Tree</b> | Allows tracing and rich visualization of multicast forwarding trees in both tabular and topological views. Detailed interface, bandwidth, error counts, video metric information, and topology change information is included in the trace display.  |
| <b>Proactive Polling Engine</b>           | Highly scalable and tunable polling engine to detect multicast anomalies before they become mission-critical problems.   |
| <b>Alerts and Reports</b>                 | Any exceptions detected by the polling engine can be sent as Simple Network Management Protocol (SNMP) traps or email messages and are logged for reporting purposes. Reports are available for Rendezvous Points (RPs), Source-Group (SG) pps rates, tree changes, interface bandwidth, Layer 2 port pps rates. Real-time alerts originating from an IneoQuest iVMS application are also actionable through the VOS add-on. |
| <b>Dashboard</b>                          | The dashboard feature provides quick summary views of the latest events and events based on type (for example, SG, bandwidth, tree changes, MVPN, RP, video, and routing). Configurable real-time graphs for selected monitored entities are also provided.  |
| <b>Show All Groups</b>                    | Provides a complete list of active SGs.  |
| <b>IGMP Diagnostics</b>                   | Displays all devices that have seen an Internet Group Management Protocol (IGMP) join for a particular group.  |
| <b>MSDP Status</b>                        | Shows the status of all Multicast Source Discovery Protocol (MSDP)-enabled devices and their peers, including Source-Active cache information.   |
| <b>Layer 2 Diagnostics</b>                | Shows which multicast groups are being forwarded on a particular Layer 2 switch port.  |
| <b>Health Check</b>                       | Provides on-demand checking of forwarding trees; RPs and checking for the existence of specific SGs can be scheduled to run automatically.   |
| <b>6500/7600 Troubleshooting</b>          | Provides the equivalent of a Cisco IOS® Software command-line interface for multicast-relevant "show" commands. Output can be emailed directly to the Cisco Technical Assistance Center for further analysis.  |
| <b>VidMon Support</b>                     | Support is provided for the VidMon family of metrics on the Cisco ASR 9000 Series Aggregation Services Routers and the Cisco 7600 Series Routers. VidMon provides inline video monitoring of MPEG2 transport streams and uncompressed video.   |
| <b>Explicit User Tracking</b>             | Identifies the multicast receivers connected to Catalyst® 6500 Series Switches or 7600 Series Routers. Rate information is also displayed for each receiver.   |
| <b>Topology Views</b>                     | Allows viewing the topology of the routers and their multicast role and detailed PIM neighbor relationship information.  |
| <b>Address Management</b>                 | Allows entering multicast group and source addresses into the database with a meaningful description. When Cisco Multicast Manager displays these sources and groups, the descriptions are added for easy recognition.   |
| <b>Northbound API</b>                     | A software development kit (SDK) that allows you to develop a client application that communicates with Cisco Multicast Manager by using Web Services Definition Language (WSDL) messages.   |
| <b>Role-Based Access Control</b>          | Allows specifying different user permission roles to precisely control the operations permitted by Cisco Multicast Manager users.  |

## System Requirements

Table 2 lists the system requirements for Cisco Multicast Manager.

**Table 2.** System Requirements

| Feature           | Benefit   |
|-------------------|---|
| <b>Disk space</b> | 4 GB or more free space for Cisco Multicast Manager application and data.                         |
| <b>Processors</b> | <b>Cores</b> <ul style="list-style-type: none"><li>• 4 cores for fewer than 500 devices</li></ul> |

| Feature         | Benefit   |
|-----------------|---|
|                 | <ul style="list-style-type: none"> <li>• 8 cores for 500 devices or more</li> </ul> <b>Linux-Intel</b> <ul style="list-style-type: none"> <li>• Xeon Dual or Quad Core (equivalent or better)</li> </ul> <b>Linux-AMD</b> <ul style="list-style-type: none"> <li>• Opteron Dual, Quad, or 6-Core (equivalent or better)</li> </ul> <b>Solaris-SPARC</b> <ul style="list-style-type: none"> <li>• UltraSPARC IIIi or better</li> </ul> |
| <b>Memory</b>   | <ul style="list-style-type: none"> <li>• 4 GB for fewer than 500 devices</li> <li>• 8 GB for 500 devices or more</li> </ul>   |
| <b>Software</b> | <b>Linux</b> <ul style="list-style-type: none"> <li>• Red Hat Enterprise Linux ES/AS 4 and 5 (32-bit or 64-bit)</li> </ul> <b>Solaris (English and Japanese language)</b> <ul style="list-style-type: none"> <li>• Solaris 10</li> </ul> <b>Note:</b> Solaris x86 is not supported. <b>VMware</b> <ul style="list-style-type: none"> <li>• ESX 4.0</li> </ul>   |
| <b>Browser*</b> | <ul style="list-style-type: none"> <li>• Internet Explorer 8.x on Windows XP or Windows 7</li> <li>• Internet Explorer Version 7.x on Windows XP or Windows Vista</li> <li>• Internet Explorer Version 6.x on Windows XP</li> <li>• Firefox 3.6.x on Windows</li> </ul> * Requires Flash Player installed   |

## Evaluation and Ordering Information

Cisco Multicast Manager 3.2 can be ordered through regular sales channels. For a detailed list of Cisco Multicast Manager 3.2 orderable part numbers, refer to the Cisco Multicast Manager 3.2 product bulletin. Cisco Multicast Manager 3.2 is also available for evaluation at <http://www.cisco.com/go/nmsevals>.

## For More Information

For more information about Cisco Multicast Manager, visit <http://www.cisco.com/go/cmm>, contact your local account representative, or send an email to [ask-cmm-pm@cisco.com](mailto:ask-cmm-pm@cisco.com).

For more information about the Cisco Video Assurance Monitoring Solution, visit <http://www.cisco.com/go/vams>.



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Printed in USA

C78-658790-00 05/11