Cisco Prime Unified Service Monitor 9.0

Q. What is Cisco Prime™ Unified Service Monitor (USM)?

A. Cisco Prime Unified Service Monitor is part of the Cisco® Unified Communications Management Suite (UCMS). It provides a low-cost, reliable method of monitoring and evaluating the quality of voice in Cisco Unified Communications solutions. It continuously monitors active calls supported by the Cisco Unified Communications system and provides near real-time notification when the voice quality of a call, represented as end-user experience expressed by a Mean Opinion Score (MOS), fails to meet a user-defined quality threshold. It also provides a variety of reports that characterize the user experience as measured by the system and provide details on the endpoints that are most affected due to voice quality alerts. In addition to call quality analysis, Cisco Prime Unified Service Monitor can perform call classification based on dial plan for each cluster that is managed using Cisco Prime Unified Service Monitor. Cisco Prime Unified Service Monitor provides system-defined call types and also allows users to create user-defined call types to correctly classify the calls. The filter-based, on-demand reports for call detail records (CDRs) provide further visibility into various call details needed for analysis or reporting.

Q. What is Cisco Prime?

A. Cisco Prime for Enterprise is an innovative strategy and portfolio of management products that empower IT departments to more effectively manage their networks and the services they deliver. Cisco Prime is built upon a network services management foundation and a set of common attributes. It delivers an intuitive workflow-oriented user experience across Cisco architectures, technologies, and networks. Cisco Prime simplifies network management, improves operations efficiency, reduces errors, and makes the delivery of network services more predictable.

Q. What are the components of Cisco Prime Unified Service Monitor?

A. The Cisco Prime Unified Service Monitor voice quality solution consists of central Cisco Prime Unified Service Monitor software and Cisco 1040 Sensor hardware.

The Cisco Prime Unified Service Monitor application software receives voice quality information from Cisco 1040 Sensors, Cisco Network Analysis Module (NAM), and Cisco Unified Communications Manager 4.2 or later systems. Users can configure MOS thresholds on a per codec basis; alerts are sent to an upstream application such as Cisco Prime Unified Operations Manager when a MOS threshold is violated. Cisco Prime Unified Service Monitor allows users to understand the service quality experience at a system level through Cisco Voice Transmission Quality (VTQ) support and in real time through the Cisco 1040 Sensors and NAM.

Q. What are the key benefits of Cisco Prime Unified Service Monitor 9.0?

A. The key benefits are:

- Supports the latest releases of Cisco Unified Communications Management Suite components
- Integrates with Cisco Prime Unified Operations Manager UC Opsview Dashboard, Diagnostics View, and Fault Monitor
- Provides real-time alerting and reporting on call quality metrics
- Uses call metrics from Cisco Unified Communications Manager, Cisco NAM, Cisco 1040 Sensors

- Correlates call detail records and Cisco NAM and 1040 call reports for enhanced analysis
- Provides the ability to pinpoint the network segment causing call quality degradation
- Provides configurable MOS thresholds based on the phone codec type

  Call classification based on a user-defined USM dial plan with system and user-defined call types
- Rich filter options for the CDR reports
- Integrates with the Cisco Prime Unified Operations Manager service quality alert dashboard
- Integrates with Cisco Unified Service Statistics Manager long-term reporting and trending functions

Q. Where do you deploy the Cisco 1040 Sensors in the network?

A. The Cisco 1040 Sensor can be deployed in campus and remote locations (such as branch offices) to analyze voice-specific Rapid Transport Protocol (RTP) data streams and to calculate a MOS value for each stream. The end-user experience is captured, analyzed, and reported every 60 seconds. The Cisco 1040 Sensor uses IEEE 802.3af Power over Ethernet (PoE) and integrates with IP telephony devices such as Cisco Unified IP phones, gateways, and telephony service such as voicemail to measure voice quality. The Cisco 1040 Sensor is FCC Class B-compliant and can be installed in any office environment.

Q. What is new in Cisco Prime Unified Service Monitor 9.0?

A. Major new features include:

- Single instance of Unified Service Monitor scales up to 60,000 IP Phones
- Support for UC 9.0 release

For the latest list of UC manager, Cisco IP phones, and NAM versions that are compatible with Cisco Prime USM 9.0, visit http://www.cisco.com/en/US/products/ps6536/products_device_support_tables_list.html.

Q. Does Cisco Prime Unified Service Monitor run in a virtual environment?

A. Yes, Cisco Prime Unified Service Monitor supports VMware ESXi 4.x and ESXi 5.0. Refer to the Cisco Prime Unified Service Monitor 9.0 Installation Guide for specifications.

Q. Where can I learn more about the VMware specification required?

A. Please visit http://www.cisco.com/en/US/products/ps6536/prod_white_papers_list.html for the latest UCMS white paper on virtualization support.

Q. Where can I get the deployment best practices?

A. Please visit http://www.cisco.com/en/US/products/ps6536/prod_white_papers_list.html for the latest update.

Q. What is call classification?

A. Call classification allows system administrators to understand the types of calls made by the users to provide them guidance on the usage pattern of the unified communications infrastructure. Call types, including Local, International, Conference, and so on, are useful to understand the usage patterns related to the network bandwidth used as well as to monitor the overall call activity. The system administrator uses such reports to communicate the usage to management as well as to request expansion based on usage.

Q. How can I understand how to configure and use the call classification feature?

A. A white paper, called Cisco Prime Unified Service Monitor 9.0 Deployment Best Practices, is published with information for the feature under http://www.cisco.com/en/US/products/ps6536/prod_white_papers_list.html.

The feature is also discussed in the User Guide in the “Using CDR Call Reports” section.

Q. How does Cisco Prime Unified Service Monitor compare with other voice quality measurement tools?

A. As worldwide adoption of IP-based telephony progresses, many offerings provide quality of voice metrics for the enterprise. Although many of these provide broad monitoring and analysis of general network performance, Cisco Prime Unified Service Monitor has several inherent advantages and features that help ensure an easily integrated solution for monitoring voice quality:

- Cisco Prime Unified Service Monitor provides a distributed, scalable solution for cost-effective quality of voice monitoring.
- Cisco Prime Unified Service Monitor uses the same ease of deployment, scaling, and redundancy mechanisms as Cisco IP phones.
- Cisco Prime Unified Service Monitor voice quality alerts integrate with Cisco Prime Unified Operations Manager, in which their specialized display provides a launching point for diagnostic tools and processes.
- Cisco Prime Unified Service Monitor uses two methods of collecting voice quality metrics. They are:
  - Hardware based: The Cisco 1040 Sensor and Cisco NAM evaluate the actual RTP data streams of monitored calls and evaluate calls using standards-based techniques every minute of the active call monitored.
  - Software based: The firmware in the Cisco IP phones and voice gateways have firmware that can collect and report voice quality metrics at the end of the call. These metrics are written to the CDR or call management record (CMR) at the end of the call.

Q. What operating systems support Cisco Prime Unified Service Monitor?

A. Cisco Prime Unified Service Monitor requires a hardware platform executing Windows Server 2003 Standard Edition or Enterprise Edition with Service Pack 1 or 2, or the Windows Server 2008 Standard Edition or Enterprise Edition with Service Pack 2 for 32-bit and 64-bit or Windows 2008 Server R2.

Q. Can Cisco Prime Unified Service Monitor coreside with Cisco Prime Unified Operations Manager and Cisco Unified Service Statistics Manager?

A. Cisco Prime Unified Service Monitor can coreside on the same bare server or virtual machine (VM) with Cisco Prime Unified Operations Manager and Cisco Unified Service Statistics Manager to manage up to 10,000 endpoints.

Q. Is Cisco Prime Unified Service Monitor a web-based application?

A. Cisco Prime Unified Service Monitor has a web-based user interface. Users can access Cisco Prime Unified Service Monitor through Microsoft Internet Explorer 8.x or 9 and Firefox 10.0.5E SR and 13.0.

Q. Can a single Cisco Prime Unified Service Monitor instance manage multiple customer Unified Communications deployment?

A. Yes, Cisco Prime Unified Service Monitor 9.0 can allow managed service providers to manage multiple customers' Unified Communication deployments. For more details, refer to the "About Enterprise and MSP Deployment Modes" section in the Cisco Prime Unified Service Monitor 9.0 User Guide at http://www.cisco.com/en/US/products/ps6535/products_user_guide_list.html.

Q. Can Cisco Prime Unified Service Monitor devices behind the NAT wall?

A. Yes, Cisco Prime Unified Service Monitor 9.0 can receive and process CDRs sent by Unified Communications Manager applications sitting behind the NAT wall. For more details, refer to the "About Enterprise and MSP Deployment Modes" section in the Cisco Prime Unified Service Monitor 9.0 User Guide at http://www.cisco.com/en/US/products/ps6535/products_user_guide_list.html.

Q. How does Cisco Prime Unified Service Monitor interoperate with other CiscoWorks management products?

A. Cisco Prime Unified Service Monitor can work with Cisco Prime LAN Management Solution (LMS) 4.2.1. Cisco Prime Unified Service Monitor uses CiscoWorks services, including:

- CiscoWorks security roles
- CiscoWorks server process and backup management services
- Cisco Secure Access Control Server (ACS) integration 4.2

Q. What kinds of northbound interfaces does Cisco Prime Unified Service Monitor provide?

A. Cisco Prime Unified Service Monitor provides Simple Network Management Protocol (SNMP) trap notifications that can be sent on northbound interfaces to Cisco Prime Unified Operations Manager or other SNMP managers.

Q. How does Cisco Prime Unified Service Monitor integrate with Cisco Prime Unified Operations Manager?

A. Cisco Prime Unified Operations Manager uses the information sent by Cisco Prime Unified Service Monitor to present service quality (quality of voice) alerts on a real-time basis. Cisco Prime Unified Operations Manager processes the SNMP traps that come from Cisco Prime Unified Service Monitor and associates the endpoint information in the trap to the IP phones or Cisco Unified Communications devices it is monitoring. The alerts from Cisco Prime Unified Service Monitor appear in a specialized Service Quality Alerts display that provides a launching point for diagnostic tools and processes. MOS exception alerts are also displayed in the Cisco Prime Unified Operations Manager Cluster Diagnostic View in the Device Pool portlet.

Q. How does Cisco Prime Unified Operations Manager integrate with Cisco Unified Service Statistics Manager?

A. Cisco Prime Unified Service Monitor acts as a data source for the call detail records and call quality metrics collected from multiple instances of Communications Manager, Cisco 1040 Sensors, and Network Analysis Module to Cisco Unified Service Statistics Manager. Cisco Unified Service Statistics Manager uses the data for long-term historic reports, trend reports, and capacity planning reports.

Q. How is Cisco Prime Unified Service Monitor packaged?

A. Cisco Prime Unified Service Monitor ships in two ways:

- Standalone Cisco Prime Unified Service Monitor application packaged with CiscoWorks Common Services Software in a zip file. A single installation procedure installs both components on the server.
- Each copy of Cisco Prime Unified Operations Manager has both Cisco Prime Unified Service Monitor, and the CiscoWorks Common Services Software in a zip file. A single installation procedure installs all three components on the server.

Service Monitor is enabled once the Service Monitor license is purchased and installed.

Q. How do I order Cisco Prime Unified Service Monitor?

A. Cisco Prime Unified Service Monitor can be licensed for the deployment scale required. Deployment scale is controlled with a license file so network administrators can increase the number of phones supported by adding to the license file as their Cisco Unified Communications deployment grows, without disruption. Expansion is accomplished by purchasing additional licenses and deploying them on the server, adding to licenses already there. License ranges are available starting at 500 phones to a maximum of 45,000 phones, supporting a maximum of 45,000 phones per Cisco Prime Unified Service Monitor server. Server hardware sizing is checked during installation to make sure the server will adequately support the number of phones licensed. For Cisco Unified Communications deployments of more than 45,000 phones, multiple Cisco Prime Unified Service Monitor servers should be deployed.

Q. Where can I find more information about Cisco Prime Unified Service Monitor?

A. For more information about Cisco Prime Unified Service Monitor, please visit http://www.cisco.com/go/cusm, contact your local account representative, or send an email to the Cisco product marketing group at ask-ucms@cisco.com.

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