

# Cisco Prime Unified Operations Manager 9.0

## Cisco Unified Communications

Cisco® Unified Communications (UC) solutions unify voice, video, data, and mobile applications on fixed and mobile networks, facilitating easy collaboration every time from any workspace. Part of a comprehensive solution that includes network infrastructure, security, wireless, management, or third-party applications and lifecycle services, Cisco Unified Communications management solutions, of which Cisco Prime™ Unified Operations Manager (UOM) is a part, can accelerate deployment, provide cost savings, and enhance productivity.

## Product Overview

Cisco Prime Unified Operations Manager is the cornerstone of the Cisco Prime Unified Communications Management Suite, designed specifically for managing the Cisco Unified Communications system. The Cisco Prime Unified Communications Management Suite offers provisioning, monitoring, diagnostics, and extensive reporting capabilities to:

- Simplify the management of your Cisco Unified Communications environment
- Reduce the total cost of ownership
- Help ensure high-quality service and end-user satisfaction
- Optimize your Cisco Unified Communications resources

Cisco Prime Unified Operations Manager 9.0 provides comprehensive voice network monitoring with diagnostics for the entire Cisco Unified Communications 9.0 system, including the underlying voice transport infrastructure.

Cisco Prime Unified Operations Manager identifies the role of every device and application in the Cisco Unified Communications network and monitors them, detecting operational faults with voice-application-aware intelligence. The resulting alerts facilitate rapid troubleshooting of outages, with context-sensitive links to the appropriate services for that device. There are no workflow rules to write, no thresholds to define, and no time-consuming management setup to budget for.

## Cisco Prime

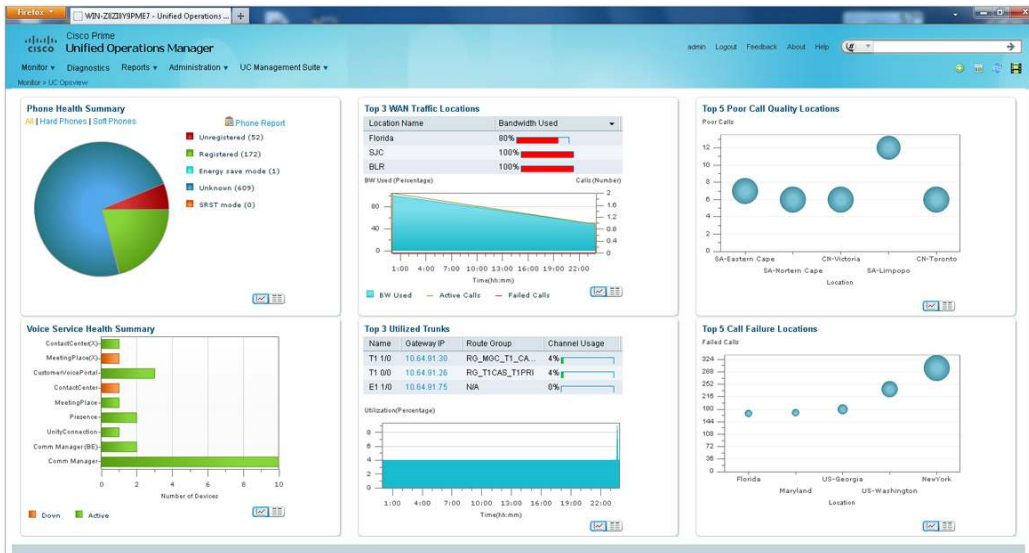
Cisco Prime for Enterprise is an innovative strategy and portfolio of management products that empower IT departments to more effectively manage their networks and the services they deliver. Cisco Prime is built upon a network services management foundation and a set of common attributes. It delivers 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.

## Features and Benefits

### Reduces Downtime with Real-Time Visualization

Cisco Prime UOM presents the current operational status of the Cisco Unified Communications system through dynamic views of the network showing the current status of monitored devices, applications, and phones. Figure 1 shows the UC Opsview, which provides a single view summary of the entire UC phone network status while showing an example of the Cisco Prime user experience.

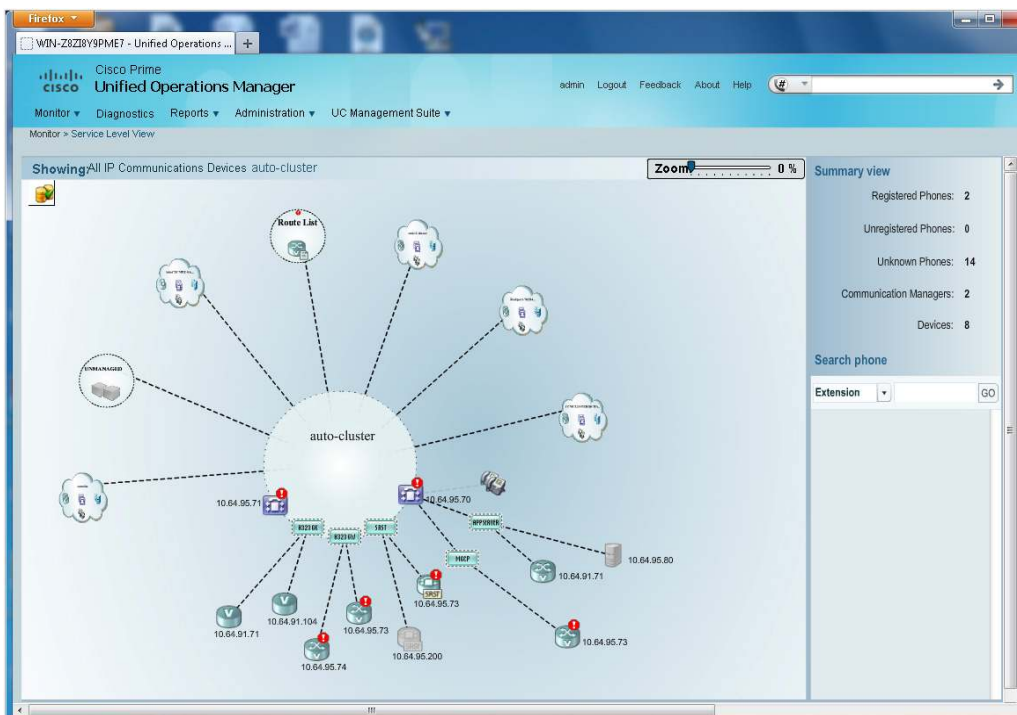
**Figure 1.** Cisco Prime UOM - UC Opsview



**Save Time with Automated Discovery**

Cisco Prime Unified Operations Manager automatically discovers the network and updates its knowledge base by identifying the role of every device and application in the Cisco Unified Communications network. Devices are grouped into clusters automatically, simplifying access to devices and providing for a real-time, interactive cluster-level mapping, called the Service Level View in Figure 2.

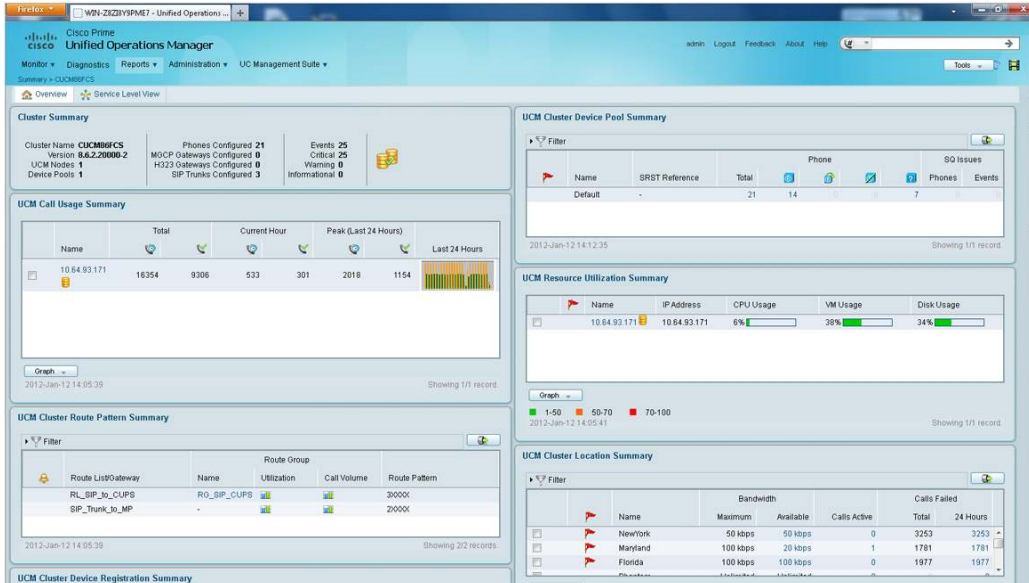
**Figure 2.** Service Level View - Cluster Level



## Improves Time to Resolution with Statistics Grouping

Experienced UC engineers can reduce keystrokes and open windows using the Diagnostics View in Figure 3. This view provides a portal for each major device type, such as communications managers or clusters, and presents a group of portlets designed to display the appropriate statistics for that device set.

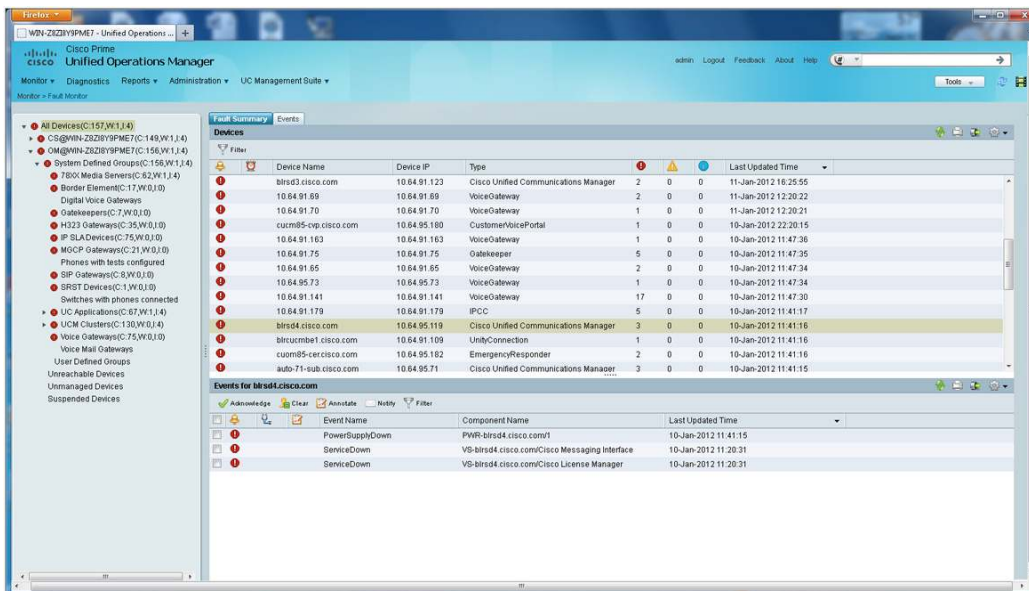
**Figure 3.** Diagnostics View - Network Level



## Dynamic Fault Display Pinpoints Devices with Events

Proactive monitoring is important to help make sure phones are always working well. The Fault Monitor (Figure 4) is an updating display that quickly changes to let you monitor the network events or just the group or device type you are interested in. Devices and events are all displayed on the same view, greatly reducing mouse clicks.

**Figure 4.** Fault Monitor with Communications Manager Selected



## Anticipate Problems Using Scheduled Tests on the Network

Cisco Prime Unified Operations Manager comes with a powerful set of diagnostic tests that can be executed on demand or through calendar control for proactive network health monitoring and trouble isolation. The diagnostics can be used to validate that the phone's features are set up as expected, including call, call hold, call park, call transfer, message light activation, and conference calling. Operational tests simulate user activities such as getting a dial tone, making phone calls, leaving voicemail, and creating or joining conference calls; the tests also log any issues encountered. Dial-plan tests provide an easy mechanism to validate all the dial plans. Node-to-node testing uses the Cisco IOS® Software IP service-level agreement (SLA) feature in Cisco routers and switches to simulate traffic through the network. After the test, network characteristics such as status, response time, latency, jitter, packet loss, and network quality are displayed in the Diagnostic View for a quick baseline history during troubleshooting.

Table 1 lists features and benefits of Cisco Unified Operations Manager.

**Table 1.** Features and Benefits of Cisco Unified Operations Manager

Feature	Benefits
<b>Cisco Prime</b>	<ul style="list-style-type: none"> <li>As a Cisco Prime product, UOM features and user experience are standardized with the ability to cross-launch features from one Cisco Prime product to another, expanding device management into service-level management.</li> </ul>
<b>UC Opsview</b>	<ul style="list-style-type: none"> <li>Seeing the entire network summarized in UC Opsview, with the most affected devices and services revealed, allows you to quickly prioritize your attention to the areas that affect the most users.</li> </ul>
<b>Automated Discovery</b>	<ul style="list-style-type: none"> <li>Automated discovery of Cisco Unified Communications Manager cluster elements and associated Cisco Unified Communications applications and phones, switches, routers, and voice gateways.</li> <li>Link to Cisco Prime LAN Management Solution (LMS) credential repository to reduce duplicate credential entry for LMS-supported infrastructure components.</li> <li>Automatic grouping and population of cluster service-level view.</li> <li>Static Network Address Translation (NAT) support through manual import or addition.</li> <li>Support for Cisco Unified Presence, Cisco Voice Portal, and Contact Center Enterprise on Cisco Unified Computing System™ (Cisco UCS™).</li> </ul>
<b>Diagnostic View</b>	<ul style="list-style-type: none"> <li>Single view to visualize and monitor Unified Communications component status, performance, and test results by logical and physical groupings.</li> <li>See the status of the key components in a grouping together on a single screen to make diagnosis of problems much quicker than the previous individual-feature navigation approach.</li> <li>Single view to monitor the component status and performance of a voice messaging server.</li> </ul>
<b>Fault Monitor</b>	<ul style="list-style-type: none"> <li>Quick, at-a-glance, real-time status of all the faults in the Unified Communications network.</li> <li>View fault summaries by selected group with events for the selected line simultaneously displayed in an adjacent window to minimize the number of clicks to see actual event detail.</li> <li>View events by selected grouping, bypassing the event summary for even faster access to event details.</li> <li>Displays events created from any syslog</li> </ul>
<b>Performance Monitoring</b>	<ul style="list-style-type: none"> <li>Visibility into critical performance metrics of each element, such as resource usage (CPU, memory, media digital signal processor [DSP] resources), active calls, trunk statistics (trunk usage, port usage, gateway statistics), and so on.</li> <li>Enhanced ease-of-use graphic chart views for side-by-side comparison of selected metrics.</li> <li>Options to export the chart content in comma-separated value (CSV) format for use in further data analysis or to print it as an image.</li> <li>Key performance results displayed on Diagnostic View with instant zoom.</li> <li>Monitors Windows and Linux servers host resources' MIB and MIB-2 system and interface details</li> </ul>
<b>Diagnostics Tests</b>	<ul style="list-style-type: none"> <li>Synthetic tests (call processor to phone) and phone-to-phone tests, helping to ensure end-to-end service connectivity.</li> <li>Phone batch and status tests to help ensure that phone features operate as provisioned.</li> <li>IP SLA node-to-node testing.</li> <li>Multiple test results displayed on Diagnostic View.</li> </ul>

Feature	Benefits
<b>Northbound Interfaces</b>	<ul style="list-style-type: none"> <li>• Email, Simple Network Management Protocol (SNMP) traps, and syslog formats for external notification from the UOM MIB, and not just network components, forward actionable alerts created by UOM.</li> <li>• Event-filtering user interface to select specific types of fault notifications for a set of devices to be sent to specific users.</li> <li>• Hyperlink embedded in the notification email providing direct launch of the event display to quickly determine what sent the event and what is going on with other involved Unified Communications components.</li> <li>• SNMP MIB for UOM server status.</li> <li>• Web Services API for phone inventory.</li> </ul>
<b>Service-Level and Inventory Reports</b>	<ul style="list-style-type: none"> <li>• Reports that can be viewed, archived, exported, or sent to the subscribers on a scheduled basis by email.</li> <li>• Historical alert, event, and service-quality reports that can document past outages for long-term trending.</li> <li>• Phone reports that provide information about phone moves, changes, and status information for every IP phone and every video-enabled IP phone deployed in the network.</li> <li>• Customizable reports to collect and periodically email the information about a specific set of the devices, phones, and diagnostic tests.</li> </ul>

### Integration with Cisco Prime Unified Service Monitor

Cisco Prime Unified Service Monitor (USM) sends service-quality alerts to UOM when the Mean Opinion Score (MOS) generated by Cisco IP phones and sensors exceeds the USM threshold. USM version and phone capacity must match that of UOM. For more information on Cisco Prime Unified Service Monitor, please visit <http://www.cisco.com/go/cusm>.

### Integration with Cisco Unified Service Statistics Manager

Integration with Cisco Unified Service Statistics Manager (USSM) provides 3-month statistics analysis and reports for Cisco Unified Communications networks. Using the data collected by Cisco Prime Unified Operations Manager and Cisco Prime Unified Service Monitor, Cisco Unified Service Statistics Manager provides predefined and customizable reports that give visibility into critical metrics, including call volume, service availability, call quality, resource utilization, and capacity across the Cisco Unified Communications system. USSM version and phone capacity must match that of UOM and USM. For more information, visit <http://www.cisco.com/go/cussm>.

### Supported Cisco Unified Communications Applications and Devices

Cisco Unified Communications Manager supports Cisco Unity<sup>®</sup> software, Cisco Unity Connection, Cisco Unified Contact Center, Cisco Unified MeetingPlace<sup>®</sup> Express, Cisco Unified Communications Manager Express, Cisco Unity Express, Cisco Unified Contact Center Express, Cisco Conference Connection, Cisco Personal Assistant, Cisco Emergency Responder, Cisco Unified Presence Server, routers, gateways, switches, and IP phones (including Cisco IP Communicator and Cisco Unified Personal Communicator).

### System Requirements

VMware is supported on all Cisco Unified Communications Management products. To view the complete server requirements and supported configuration options for VMware and coresident applications, please refer to the Cisco Prime Unified Operations Manager Installation Guide. Table 2 lists system requirements, and Table 3 lists the system capacity for a single Cisco Prime Unified Operations Manager without VMware installed.

**Table 2.** Processing Platform Requirements - UOM and USM Coresident on the same VM

Description	Specification			
<b>Server Requirements</b>				
<b>System parameters</b>	Up to 1000 phones and 300 IP devices	Up to 10,000 phones and 1000 IP devices	Up to 30,000 phones and 2500 IP devices	Up to 60,000 phones and 2500 IP devices
<b>Processor</b>	Two processors or dual core, 2 GHz minimum each	Two processors or dual core, 2 GHz minimum each	Four processors, quad core, or two dual core, 2 GHz minimum each	Four processors, quad core, or two dual core, 2 GHz minimum each

Description	Specification			
Memory	3 GB	8 GB	8 GB	12 GB
Page file	8 GB	8 GB	8 GB	16 GB
Software	Windows Server 2003 Enterprise Edition (32 bit) with Service Pack 1 or 2 Windows Server 2008 (R1) Standard or Enterprise Edition (32/64 bit) with Service Pack 2 Windows Server 2008 (R2) 64 bit Enterprise/Standard Edition with Service Pack 1 VMware ESXi 4.x or ESXi 5.0			
Disk space	84 GB recommended (up to 45,000 phones), excluding the OS 100 GB recommended (up to 60,000 phones), excluding the OS			
<b>Client Requirements</b>				
Processor	Dual core, 2 GHz minimum (PC or Mac)			
Memory	2 GB RAM minimum			
Adobe Flash Player	Adobe Flash Player 11.x			
Browser	Microsoft Internet Explorer 8.x or 9.0 Firefox 10.0.5 ESR or 13.0			
Resolution	1440 x 900 minimum; higher is recommended			

**Note:** Multicustomer and UOM-only server configurations are listed in the Cisco Prime Unified Operations Manager Installation Guide.

**Table 3.** System Capacity

System Parameter	Capacity
Phones	Up to 60,000
Voice network IP devices*	Up to 2500
Cisco Unified Communications managers	Up to 100
Cisco Unified Communications Manager clusters	Up to 50
Cisco Unified Communications Manager Express and Cisco Unity Express	Up to 600
Survivable Remote Site Telephony (SRST) devices	Up to 1000
Concurrent user logins	5
Phone access switch	Up to 1250

\* The 500 phone license scales to 100 IP devices. The 1000 phone license scales to 300 IP devices. The licenses for more than 1000 phones scale to 2500 IP devices.

**Note:** Refer to the Supported Devices Table in Cisco Prime Unified Operations Manager for the specific versions that have been tested at

[http://www.cisco.com/en/US/products/ps6535/products\\_device\\_support\\_tables\\_list.html](http://www.cisco.com/en/US/products/ps6535/products_device_support_tables_list.html).

## Ordering Information

Cisco Prime Unified Operations Manager 9.0 is a minor upgrade from UOM 8.0, 8.5, 8.6, and 8.7. UOM 9.0 is a major upgrade from UOM 2.x, so all UOM 2.x customers will need to purchase the upgrade product number to activate UOM 9.x. The license product number includes licensing for the indicated number of phones, and these licenses can be added to increase the number of phones supported (Table 4). Cisco Prime Unified Operations Manager can be ordered as part of a Cisco Unified Communications Management Suite bundle or as a standalone product. To place an order, visit the [Cisco Ordering Homepage](#). The Cisco Prime Unified Communications Management Suite Ordering Guide, available to Cisco employees and partners, provides instructions on how to order Unified Operations Manager and the management product bundles that deliver significant savings over the individual product pricing. Please contact your account representative for details.



**Table 4.** Ordering Information

Product Description	Product Number
UOM 9.0, USM 9.0, USSM 9.0, Cisco Prime Unified Provisioning Manager (UPM) 9.0 Suite Bundle 1000 IP Phone LIC	R-UCMS-STE-B-1K
UOM 9.0, USM 9.0, USSM 9.0, UPM 9.0 Suite Bundle 5000 IP Phone LIC	R-UCMS-STE-B-5K
UOM 9.0, USM 9.0, USSM 9.0, UPM 9.0 Suite Bundle 10,000 IP Phone LIC	R-UCMS-STE-B-10K
UOM 9.0, USM 9.0, USSM 9.0, UPM 9.0 Suite Bundle 20,000 IP Phone LIC	R-UCMS-STE-B-20K
UOM 9.0, USM 9.0, USSM 9.0, UPM 9.0 Suite Bundle 30,000 IP Phone LIC	R-UCMS-STE-B-30K
UC Management Suite Mon Bundle 500 LIC for UOM 9.0 and USM 9.0	UCMS-B-MON500
UC Management Suite Mon Bundle 1000 LIC for UOM 9.0 and USM 9.0	UCMS-B-MON1K
UC Management Suite Mon Bundle 2000 LIC for UOM 9.0 and USM 9.0	UCMS-B-MON2K
UC Management Suite Mon Bundle 5000 LIC for UOM 9.0 and USM 9.0	UCMS-B-MON5K
UC Management Suite Mon Bundle 10,000 LIC for UOM 9.0 and USM 9.0	UCMS-B-MON10K
UC Management Suite Mon Bundle 20,000 LIC for UOM 9.0 and USM 9.0	UCMS-B-MON20K
UC Management Suite Mon Bundle 30,000 LIC for UOM 9.0 and USM 9.0	UCMS-B-MON30K
Unified Operations Manager 9.0 Image - Order One to Get Access to Electronic Software Delivery Download Image for the L-UOM-B-xxx= and the L-UOM-B-xxx-UPG= Listed Below	R-UOM-9.0-K9=
Unified Operations Manager 9.0 Up to 500 IP Phone License	L-UOM-B-500=
Unified Operations Manager 9.0 Up to 1000 IP Phone License	L-UOM-B-1K=
Unified Operations Manager 9.0 Up to 2000 IP Phone License	L-UOM-B-2K=
Unified Operations Manager 9.0 Up to 5000 IP Phone License	L-UOM-B-5K=
Unified Operations Manager 9.0 Up to 10,000 IP Phone License	L-UOM-B-10K=
Unified Operations Manager 9.0 Up to 20,000 IP Phone License	L-UOM-B-20K=
Unified Operations Manager 9.0 Up to 30,000 IP Phone License	L-UOM-B-30K=
Unified Operations Manager 9.0 Up to 500 IP Phone Upgrade License	L-UOM-B-500-UPG=
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Unified Operations Manager 9.0 Up to 30,000 IP Phone Upgrade License	L-UOM-B-30K-UPG=

## Cisco Unified Communications Services

Cisco Unified Communications Services allows you to accelerate cost savings and productivity gains associated with deploying a secure, resilient Cisco Unified Communications Solution. Delivered by Cisco and our certified partners, our portfolio of services is based on proven methodologies for unifying voice, video, data, and mobile applications on fixed and mobile networks. Our unique lifecycle approach to services enhances your technology experience to accelerate true business advantage. For more information about Cisco services, visit [Cisco Technical Support Services](#) or [Cisco Advanced Services](#).

### For More Information

For more information about the Cisco Unified Communications Management Suite, please visit <http://www.cisco.com/go/ucmanagement>, contact your local account representative, or send an email to the Cisco product marketing group at [ask-ucms@cisco.com](mailto:ask-ucms@cisco.com).




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