



CHAPTER 1

Prerequisites

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This chapter describes the prerequisites for installing Cisco Unified Operations Manager (with Cisco Unified Service Monitor) on a Windows system. It includes:

- [Product Overview, page 1-1](#)
- [Server Requirements, page 1-3](#)
- [Client Requirements, page 1-5](#)
- [System Capacity, page 1-6](#)
- [Supported Devices, page 1-6](#)

Product Overview

Cisco Unified Operations Manager (Operations Manager) is a product from the Cisco Unified Communications Management Suite, which provides a comprehensive and efficient solution for network management, provisioning, and monitoring of Cisco Unified Communications deployments.

Operations Manager monitors and evaluates the current status of both the IP communications infrastructure and the underlying transport infrastructure in the network. Operations Manager uses open interfaces such as Simple Network Management Protocol (SNMP), Hypertext Transfer Protocol (HTTP), and Windows Management Instrumentation (WMI) to remotely poll data from different devices in the IP communications deployment.



Note

Operations Manager does not deploy any agent software on the devices being monitored and thus is nondisruptive to system operations.

Cisco Unified Operations Manager increases productivity of network managers in the following ways:

- Provides contextual diagnostic tools—Enables you to isolate problems more quickly:
 - Diagnostic tests provide performance and connectivity details about different elements of the converged IP communications infrastructure.
 - Synthetic tests replicate end-user activity and verify gateway availability and other configuration and operational aspects of the IP communications infrastructure.
 - IP service-level agreement (SLA)-based diagnostic tests can measure the performance of WAN links and node-to-node network quality.

- Clickable information in notification messages—Includes context-sensitive links to more detailed information about service outages.
- Context-sensitive links to other CiscoWorks tools and Cisco tools—For managing IP communications implementations.
- Presents service-quality alerts—Uses information from Cisco Unified Service Monitor, when it is also deployed, to:
 - Display mean opinion scores (MOSs) associated with poor voice quality between pairs of endpoints (Cisco IP Phones, Cisco Unity messaging systems, or voice gateways) involved in a call and other associated details about the voice-quality problem.
 - Enable you to perform a probable path trace between the two endpoints and reports on any outages or problems on intermediate nodes in the path.
- Provides information on current connectivity-related and registration-related outages affecting IP phones (both Session Initiation Protocol and Skinny Client Control Protocol based phones) in the network. In addition, provides contextual information that enables locating and identifying the IP phones involved.
- Tracks IP communications devices and IP phone inventory—Tracks IP phone status changes and creates a variety of reports that document move, add, and change operations on IP phones in the network.
- Provides real-time notifications—Uses SNMP traps, syslog notifications, and e-mail to report the status of the network being monitored to a higher-level entity (typically, to a manager of managers).

New Features in Cisco Unified Operations Manager 2.0.1

Cisco Unified Operations Manager adds the following:

- Ability to create and run phone tests on demand using the UI to select, from the phone report, the phones that need to be tested.
- Support for Cisco TelePresence System.
- Ability to identify and generate reports for all Cisco 1040 Sensors connected to the switches that Cisco Operations Manager monitors.
- Ability to identify and monitor Rich Media Appliance support in Cisco Unified Communications Manager. Includes a new icon for the Rich Media Appliance in the Service Level View.



Note Starting with versions 4.3, 5.1, and 6.0, the product we formerly referred to as Cisco Unified CallManager will be called Cisco Unified Communications Manager (Unified Communications Manager). Throughout this document, any reference to Unified Communications Manager can also be understood to refer to Cisco Unified CallManager, unless explicitly noted.

- Changes to the phone search, allowing for wildcard entries for extension number, IP address, and MAC address. The first matched result displays the corresponding Tree and Map View.

- Changes to the topology, include the following:
 - Avoidance overlaps of links and node icons.
 - Higher resolution displays.
- Support for the following Cisco Unified IP Phones:
 - 7931
 - 7911

Server Requirements

Table 1-1 lists the minimum server system requirements for installing Operations Manager (with Service Monitor). These requirements are for installation only, not for deployment of both Operations Manager and Service Monitor.

**Note**

For guidelines on deploying both Operations Manager and Service Monitor, see the *Deployment Best Practices Guide for Cisco Unified Operations Manager 2.0* located on Cisco.com at http://www.cisco.com/en/US/products/ps6535/products_installation_and_configuration_guides_list.html.

Table 1-1 Server System Requirements for Operations Manager

Server Requirements Description	Specification		
	Small Deployment (Up to 1,000 Phones)	Medium Deployment (Up to 10,000 Phones)	Large Deployment (Up to 30,000 Phones)
System Parameters			
Processor	<ul style="list-style-type: none"> Intel Pentium or Xeon processor equal to or greater than 2 GHz or AMD Opteron processor equal to or greater than 2 GHz 	<ul style="list-style-type: none"> Dual Intel Pentium or Xeon processor equal to or greater than 3 GHz or Dual AMD Opteron processor equal to or greater than 3 GHz 	<ul style="list-style-type: none"> Dual Intel Pentium or Xeon processor equal to or greater than 3 GHz or Dual AMD Opteron processor equal to or greater than 3 GHz
Memory (RAM)	4 GB.	4 GB.	4 GB.
Swap File Space	4 GB.	4 GB.	4 GB.
Disk Space ¹	<ul style="list-style-type: none"> 60 GB recommended. NTFS file system (required for secure operation). At least 16 MB in Windows temporary directory (%TEMP%). 	<ul style="list-style-type: none"> 72 GB recommended. NTFS file system (required for secure operation). At least 16 MB in Windows temporary directory (%TEMP%). 	<ul style="list-style-type: none"> 72 GB recommended. NTFS file system (required for secure operation). At least 16 MB in Windows temporary directory (%TEMP%).
Hardware	<ul style="list-style-type: none"> Color monitor. CD-ROM drive. Support one or two 10/100 NICs (one is required, and the second is for failover support; both NIC cards must have the same IP address). 		
Software ^{2, 3}	<ul style="list-style-type: none"> One of the following: <ul style="list-style-type: none"> Windows Server 2003 with Service Pack (SP) 1 or SP 2, Standard and Enterprise Editions. Windows Server 2003 R2. ODBC Driver Manager⁴ 3.5.10 or later. <p>Note If you are going to use Cisco Unified Service Monitor, configure the server to use Network Time Protocol (NTP) to synchronize with the time server that is used by Cisco Unified Communications Managers in your network. See NTP Configuration Notes, page 2-17.</p> <p>Note Windows Terminal Services is supported in remote administration mode only.</p>		

- Do not install Operations Manager on a FAT file system.
- You must install Operations Manager on a dedicated system. Do not install Operations Manager on a Primary Domain Controller (PDC) or Backup Domain Controller (BDC). Do not install Operations Manager in an encrypted directory. Operations Manager does not support directory encryption.
- The default locale for your Windows operating system must be set to either US-English or Japanese.
- To verify the version of ODBC Driver Manager, from the Windows desktop, select **Start > Settings > Control Panel > Administrative Tools > Data Sources (ODBC)**. Select the **About** tab. If necessary, install Microsoft Data Access Component (MDAC) 2.5 or later.

Client Requirements

Table 1-2 shows the minimum system requirements for Operations Manager clients.

If a client system is available, it is recommended that you perform all configurations and day to day activities on the client system. If a client system is not available, the Operations Manager server must also meet all the system requirements for a client system (see Table 1-2).

Table 1-2 Client System Requirements

Requirement Type	Minimum Requirements
System hardware	<ul style="list-style-type: none"> Any PC or server platform with a Pentium processor greater than 1.0 GHz. Color monitor with video card set to 24 bits color depth. Screen resolution of 1024 x 768 dpi. <p>Note Not every LCD projector or monitor provides a clear display at the minimum resolution. On LCD projectors and monitors, dot pitch impacts the readability of the screen.</p>
System software	<ul style="list-style-type: none"> One of the following: <ul style="list-style-type: none"> Windows XP with Service Pack 2. Windows Server 2003 Standard or Enterprise Edition without Windows Terminal Services. Windows Server 2003 R2 Internet Explorer 6.0.28, or 6.0.37. Macromedia Flash Player 7.0 or higher. <p>Note Downloading Macromedia Flash from the Adobe website requires that you install ActiveX cookies on the system.</p>
Memory (RAM)	1 GB recommended.
Swap file space	1 GB.
Environment	<p>Clients must be able to access Operations Manager:</p> <ul style="list-style-type: none"> From outside a firewall—Refer to documentation for your firewall for how to configure client access. Across a Virtual Private Network (VPN)—The VPN tunnel should connect the client and a VPN router or similar device.

Other System Software

Operations Manager has undergone interoperability testing with McAfee Virus Scan Enterprise 8.0.



Note When using Operations Manager on a system with virus protection software, it is recommended that you enable virus protection, but you should schedule active scanning of drives and memory to occur during off-peak hours. You may experience delays, and performance may be degraded, when the virus scan software is scanning all files.

System Capacity

Table 1-3 lists the maximum capacity of Operations Manager when it is installed on system that meets the system requirements for a large deployment (see Table 1-1).

Table 1-3 System Capacity

Parameter	Maximum Capacity
Devices (voice devices).	2000
IP Phones.	30000
Ports and interfaces.	35000
Cisco Unified Communications Manager clusters.	30
Cisco Unified Communications Manager Express and Cisco Unity Express.	500
Route lists and route groups.	600
Phone status tests.	1000
Synthetic tests.	250 (150 end-to-end and 100 dial tone tests)
Node-to-Node tests.	500
SRST monitoring.	1000
Sustained events (4 minute polling interval).	75
Burst events (4 minute polling interval).	300
Service Quality traps (4 minute polling interval).	75
Concurrent client (browser) logins.	5

Supported Devices

Device adapter packages for all supported devices are installed when you install Operations Manager. Information about devices installed with Operations Manager can be found on Cisco.com.

As additional device adapter packages become available, you can download the IDUs that contain them, by logging into Cisco.com.