Cisco Monitor Manager:
For Applications Monitoring of up to 48 IP Phones

Cisco® Unified Communications is a comprehensive IP communications system of voice, video, data, mobility products and applications. It enables more effective, more secure, more personal communications that directly affect both sales and profitability. It brings people together by enabling a new way of communicating—where your business moves with you, security is everywhere, and information is always available...whenever and wherever it is needed. Cisco Unified Communications is part of an integrated solution that includes network infrastructure, security, mobility, network management products, lifecycle services, flexible deployment and outsourced management options, end-user and partner financing packages, and third-party communications applications.

For small businesses looking to reach, serve, and retain customers, Cisco introduces the Smart Business Communications System. This new affordable, complete system of voice, video, and wireless networking products makes possible highly secure access to information anytime, anywhere, enabling more effective and efficient ways of communicating with customers and employees. This solution is easy to deploy and use while allowing for business growth, with support and financing delivered through local partners.

Product Overview

Cisco Monitor Manager is a management application for small and medium-sized business (SMB) customers. It provides monitoring of key device parameters on Cisco SMB class routers, switches, voice gateways, Cisco Unified Communications Manager Express (formerly Cisco Unified CallManager Express), Cisco Unity® Express, security appliances, access points, and Cisco Unified IP Phones (see Figure 1). Cisco Monitor Manager also provides support for the new Cisco Unified Communications 500 Series for Small Business. It monitors the network 24 hours a day and periodically polls and collects inventory and performance-monitoring data from managed Cisco devices in the network. Cisco Monitor Manager is a Microsoft Windows-based application that is nondisruptive to system operations and does not deploy any agent software on managed devices.

Cisco Monitor Manager performs automatic discovery of the entire underlying network infrastructure and Cisco Unified Communications System. The application provides real-time physical view, service-level details, and current operational status of each element in the Cisco Unified Communications Solution.

Figure 1.   Cisco Monitor Manager in a Small-Business Network
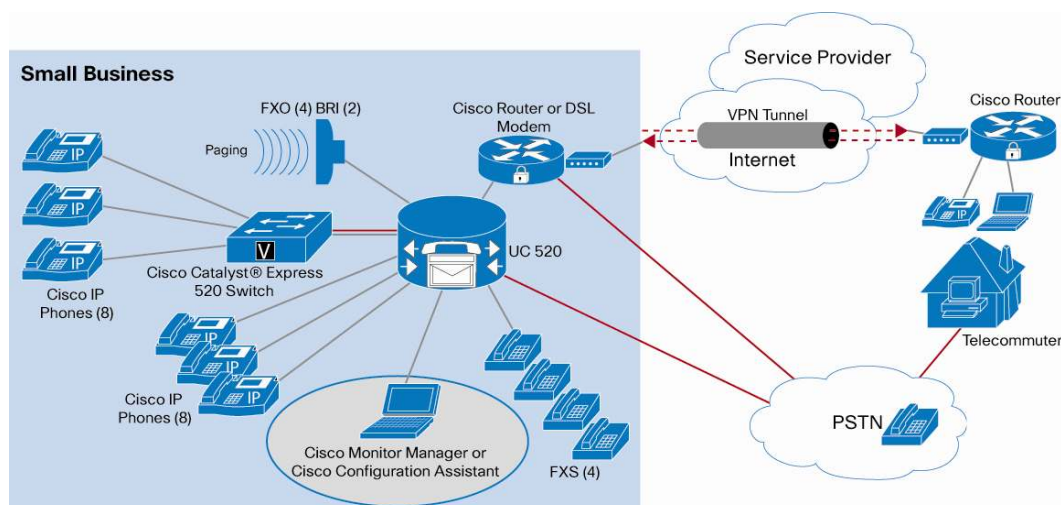
Key Features and Benefits

Cisco Monitor Manager provides the following key features and benefits:

- Voice and data network discovery and topology
- Networkwide inventory collection and reporting
- Cisco IP telephony monitoring
- Highly secure and reliable communication
- Cisco device performance monitoring
- Interface status and traffic monitoring
- Real-time alerts and notifications
- Reports
- Configuration archive

Voice and Data Network Discovery and Topology

Cisco Monitor Manager allows you to discover and view the complete topology of your network across all locations and remote offices. It supports network discovery based on Cisco Discovery Protocol (CDP), which starts from an initial seed device and discovers the entire underlying data and voice network, then visualizes it in an intuitive graphical display. Its real-time auto-refresh display shows network and device-level status plus information on faults, inventory, connectivity, and manageability for all the Cisco networking elements in the network.

Cisco Monitor Manager periodically rediscovers the topology and generates new alerts if it finds new Cisco networking devices in the network. The display also serves as a central navigation point with context-sensitive right-click menus that can be used to obtain detailed status, launch device managers for in-depth configuration, and obtain real-time as well as historical performance data, reports, and alerts (Figure 2).

A single copy of Cisco Monitor Manager deployed at your main office enables monitoring of all remote sites as well as the main office.

Figure 2.   Cisco Monitor Manager Network Topology

Networkwide Inventory Collection and Reporting

Cisco Monitor Manager periodically collects inventory information that includes cards and interface information from all managed Cisco devices in your network, storing it in an embedded database for reporting purposes (Figure 3). The application provides device-inventory reports showing all the managed Cisco devices with their operational cards and interfaces. These reports are also periodically sent to the Cisco Monitor Director server in networks that are managed by a service provider. Cisco Monitor Manager also inventories Cisco voice devices for detailed voice-related reports.

Figure 3.   Cisco Monitor Manager Networkwide Inventory Report

Cisco IP Telephony Monitoring

Cisco Monitor Manager remotely polls and collects data continuously as it monitors your different Cisco IP telephony elements, such as Cisco Unified Communications 500 Series for Small Business, Cisco Unified Communications Manager Express, Cisco Unity Express, Cisco voice gateways, and Cisco Unified IP phones. It provides real-time information and raises alerts for connectivity- and registration-related outages affecting Cisco Unified IP phones in your network, both Session Initiation Protocol (SIP) and Skinny Client Control Protocol (SCCP)-based phones. It

also shows contextual information to help locate and identify the phones. Using open interfaces such as Simple Network Management Protocol (SNMP) and HTTP/HTTPS, it periodically collects data from the Cisco Unified Communications System and the underlying transport infrastructure.

Cisco Monitor Manager provides a rich set of reports that includes trunk utilization, voice port utilization, and IP phone reports. The IP phone inventory reports give you status information about every IP phone deployed in the network, both SIP- and SCCP-based units. It provides voicemail monitoring that keeps track of the size of the mailbox and creates alerts based on configured threshold limits.

Highly Secure and Reliable Communication

Cisco Monitor Manager uses the highly secure and reliable HTTP over Secure Sockets Layer (HTTPS) protocol when discovering and retrieving configuration and performance information. The application also supports protocol fallback, using HTTP if the HTTPS protocol is not supported by a managed Cisco device.

Cisco Device Performance Monitoring

Cisco Monitor Manager provides a GUI for quick and intuitive monitoring of important device parameters such as CPU, memory, and public switched telephone network (PSTN) trunk utilization. The application periodically polls devices for these parameters and stores them in its embedded database for real-time graphing, historical analysis, and reporting purposes. You can configure thresholds for these parameters to be notified of a threshold breach. Application alerts are generated and dispatched through e-mail or pager messages and optionally sent to a Cisco Monitor Director server operating in a managed services solution mode. See Figure 4.

Figure 4. Cisco Monitor Manager Device Performance Monitoring
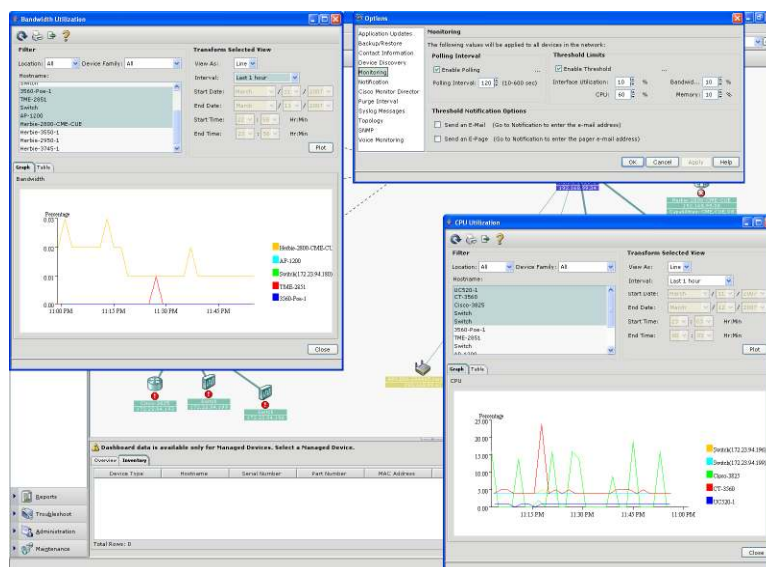
Interface Status and Traffic Monitoring

Cisco Monitor Manager monitors traffic status and important interface parameters such as packet rates, interface status, traffic counters, errors, and interface utilization. The application periodically polls devices for these parameters and stores them in the embedded database. The application also allows you to configure thresholds for these monitored parameters to be notified of a threshold breach. See Figure 5.

Figure 5. Cisco Monitor Manager Interface Monitoring
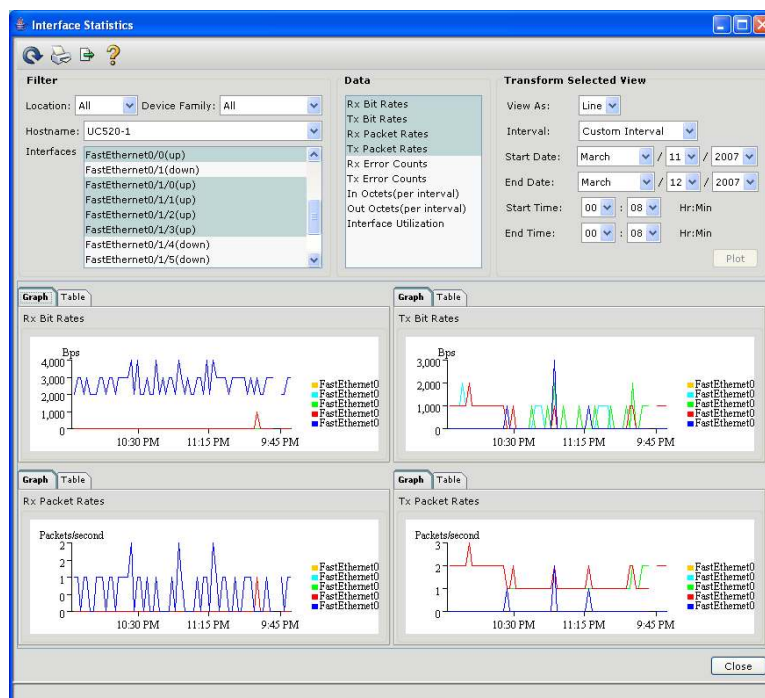
Real-Time Alerts and Notifications

Cisco Monitor Manager collects syslogs from all managed Cisco devices and displays real-time fault-monitoring information in charts or graphs to help you anticipate issues before they affect users (Figure 6). It converts emergency, alert, and critical syslogs into alert notifications and notifies network managers through e-mail and pager messages. Cisco Monitor Manager also compares monitoring data against user-defined thresholds and sends notices of a threshold breach. Cisco Monitor Manager also raises alerts on Cisco Unified Communications devices based on their service status.

Alerts are stored in the embedded database for historical reporting purposes over a user-configured time duration.

**Figure 6.** Cisco Monitor Manager Notification and Alerts
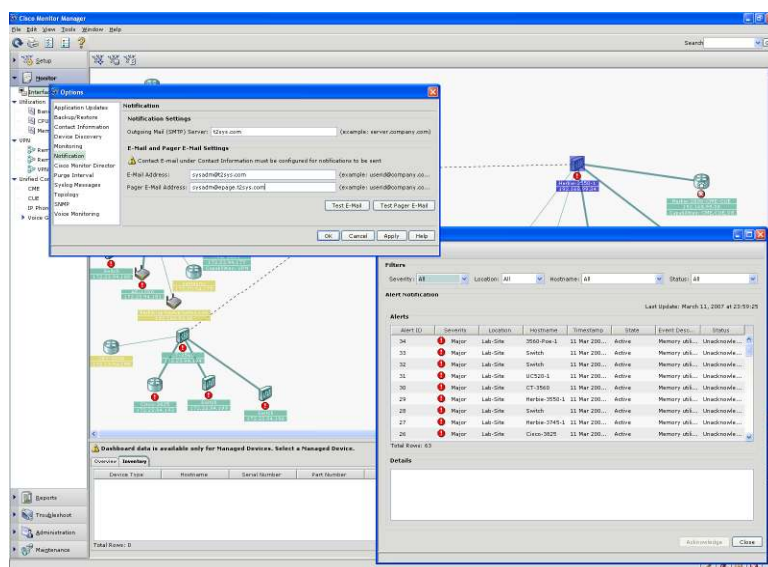
Reports

Cisco Monitor Manager provides in-depth reporting capabilities that are easy to interpret, present, and print. Data from the graphical reports can be filtered based on site, device family, or a particular managed Cisco device. Cisco Monitor Manager supports the following networkwide, easy-to-use graphical reports (Figure 7):

- Alert report

- IP Phone report

- Device performance report

- Syslog report

- End-of-sale/end-of-life report

- Device inventory report

- Configuration archive report

- Discovered devices report

Figure 7.   Cisco Monitor Manager Reports
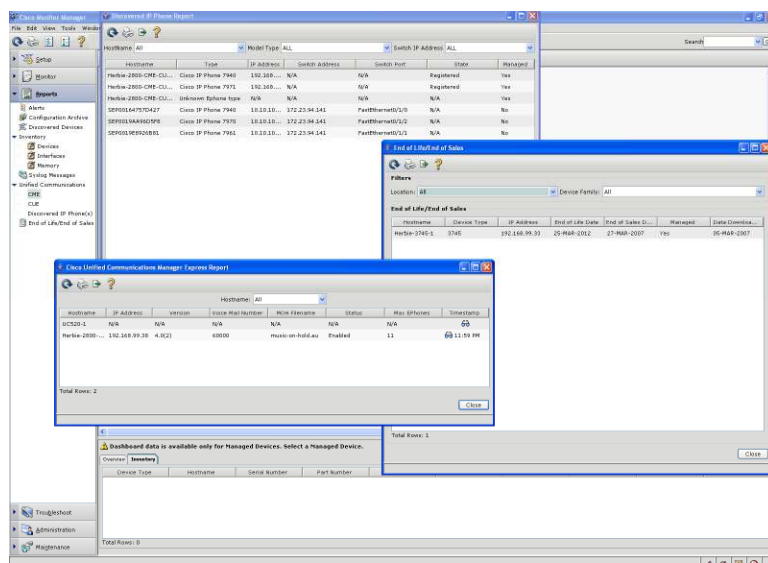
Configuration Archive

The Cisco Monitor Manager GUI helps network managers perform on-demand backup and restore of startup configuration files for all the managed Cisco devices in the network. The configuration archive feature also supports backup and restore of the VLAN database for all managed Cisco Catalyst® switches in the network (Figure 8). With this feature, you can also save running configurations to startup configurations before performing a manual backup.

Figure 8.   Cisco Monitor Manager Configuration Archive
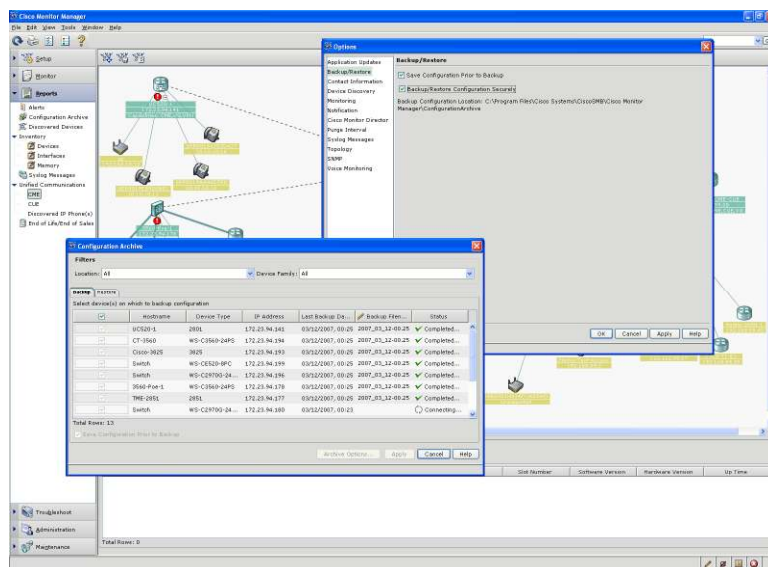
Cisco Monitor Manager Features and Benefits

Table 1.   Features and Benefits

Feature	Benefits
Ease of use and low initial investment	• Designed for small and medium-sized businesses • Intuitive and easy to use • Low-cost initial deployment
Cisco Discovery Protocol-based network discovery and complete topology	• Discovers entire data and Cisco Unified Communications network • Rich graphical display of topology spans multiple customer locations, displaying the total network with unified topologies and interconnections • Displays network and device-level fault information, device connectivity, and manageability information
Device system parameters configuration	• Provides easy-to-use configuration of basic system parameters; for in-depth data and voice configuration, use Cisco Configuration Assistant
Highly secure and reliable channel to the managed devices	• Uses HTTPS and SNMP connection to retrieve configuration and monitoring information from managed devices
Networkwide inventory collection and reporting	• Provides complete device-inventory information including card and interface details for all managed devices in the network • Provides inventory reports that can be used to keep track of devices and cards in the network
Built-in troubleshooting tools	• Facilitates debugging of network issues by providing troubleshooting tools such as traceroute and ping
IP telephony monitoring	• Discovery, inventory, and monitoring of Cisco IP telephony elements • Provides real-time information about connectivity and registration status of Cisco IP telephony elements • Raises alerts on Cisco IP telephony elements based on service status • Voice mailbox monitoring that keep track of the size of the mailbox and creates alerts based on the configured threshold limits • Monitoring of PSTN trunk and voice port utilization
Performance and interface traffic monitoring	• Collects, stores, and displays important real-time monitoring information with output options of charts and graphs • Compares monitoring data against user-defined thresholds and generates threshold-crossing alerts • Monitors interface traffic statistics and displays interface utilization • Monitors CPU and memory utilization for all managed devices
Real-time alerts and notifications through e-mail and pager	• Sends e-mail or pager messages for notification of possible discovery, syslogs, or monitoring alerts
Applications	• Self-managed solution operating as a standalone application and managed onsite
Highly secure and reliable communication	• Uses SSL connection to communicate with Cisco Monitor Director • Configurable SSL port for improved security
Configuration archive	• Facilitates backup and restore of startup configuration files • Network managers can save running configuration files prior to manual or periodic backup
End-of-sale and End-of-life reports	• Provides product end-of-sale and end-of-life reports to predict network upgrade requirements
Syslog-based alerting and reporting	• Collects and stores syslog messages from managed devices • Generates alerts and reports of syslog messages
Device manager launch point	• Supports the launch of various Cisco device managers such as the Cisco Adaptive Security Device Manager, Cisco Router and Security Device Manager, Cisco PIX® Device Manager, and Smartports
Persistent storage of monitored data and device credentials for historical reporting with built-in database	• Uses built-in database to store inventory, performance, and syslog data • Supports the ability to view, report, and analyze historical data
Discovery and monitoring of VPN peers	• Discovers VPN peers across locations • Monitors status and traffic parameters of VPN tunnels

Product Specifications

Table 2 lists system requirements for Cisco Monitor Manager, and Table 3 provides information about supported device software.

Table 2. System Requirements

Description	Specifications
Cisco networking device support	• Routers/Integrated Services Routers: Cisco 830, 850, 870, 1700, 1800, 1841, 2600, 2800, 3600, 3700, and 3800 Series • Cisco Catalyst switches: Cisco Catalyst 2900XL, 2940, 2950, 2955, 2970, 3550, 3500XL, 3560, and 3750 Series, and Catalyst Express 500 Series • Cisco Unified Communications 500 Series for Small Business • Cisco Unified Communications Manager Express, Cisco Unity Express • Cisco Unified IP phones • Security appliances: Cisco ASA 5505 and 5510; Cisco PIX 501, 506, 506E, 515, and 515E • Access points: Cisco Aironet® 1100 and 1200 Series; Airespace 1010, 1020, and 1030 Series; Airespace 2006, 4112, 4124, 4136, WLC521 and AP521, and 4402 Wireless LAN Controllers, Cisco Integrated Services Router network modules
Scalability criteria	• Networking devices: 5 • Access points: 5 • Cisco Unified IP phones: up to 48 Please contact your Cisco Sales representative for higher device count support
Operating systems	• Windows XP Professional (Service Pack 2) • Windows 2000 Professional (Service Pack 4)
Protocols	• HTTP/HTTPS, SNMP, Cisco Discovery Protocol, TFTP
Processor	• Pentium IV 1.2 GHz
Memory	• 1 GB RAM or more
Disk space	• 1 GB or more

Table 3. Device Software Support Information

Device Family	Devices	Software Versions*
Cisco Aironet access points	Cisco Aironet 1100, AP521 and 1200 Series	12.2(15)JA and later
Cisco Airespace access points**	Cisco Airespace 2006, 4112, 4124, 4136, and 4402 Wireless LAN Controllers, WLC521 and AP521. Airespace 1010, 1020, and 1030 Series	Not supported as fully managed devices in release 1.1**
Cisco routers	Cisco 830/850/870, Cisco 1700/1800/1841, Cisco 2600/ 2800, Cisco 3600/ 3700/ 3800	12.2(13)ZH and later
	Cisco SBS 101/106/107/200	12.3(8)YG and later
Cisco Unified Communications 500 Series for Small Business	Cisco Unified Communications 500 Series for Small Business	
Cisco Catalyst switches	Cisco Catalyst 2900XL, 2940, 2950, 2955, 2970, 3550, 3500XL, 3560, and 3750 Series, and Catalyst Express 500 Series	12.0(5.1)XU and later
Cisco ASA and Cisco PIX security appliances	Cisco ASA 5505 and 5510 Cisco PIX 501, 506, 506E, 515, and 515E	7.0 and later
Cisco Unified Communications Express	Cisco Unified Communications Manager Express	3.3 and above
	Cisco Unity Express	2.0 and above
Cisco Unified IP phones	Cisco IP Phones 7900 Series	–

* Indicates the minimum software version supported by the device family. Individual devices in the family may require later versions.

** These devices will not be supported as fully managed devices. Thus no inventory, syslog, and monitoring functions will be available for these devices in release 1.1. These devices would only be discovered as neighbor devices provided CDP is turned on for them. Cisco Monitor Manager 1.1 will not allow these devices to be added as initial devices. Cisco Monitor Manager 1.1 will show the controller and access points on the topology map. It will allow launching the embedded device manager on the controller.

For more information about system requirements, refer to the Cisco Monitor Manager Quick Start Guide at: http://www.cisco.com/go/sbnm.

Ordering Information

Cisco Monitor Manager is offered as standalone applications for small and medium-sized businesses. The application offers additional software and support licenses. The product is also offered without license keys for a limited trial and demonstration period. License purchases following the trial period are required for continued use of the product. Refer to the online product bulletins for further ordering details. Cisco Monitor Manager is available for purchase through regular Cisco sales and distribution channels worldwide. To place an order, visit the Cisco Ordering Home Page.

To download a time-based trial version of the latest Cisco Monitor Manager software or purchase a perpetual license for use beyond the trial period, contact your nearest Cisco channel partner or reseller.

Table 4 lists ordering information for Cisco Monitor Manager release 1.1.

Table 4.   Ordering Information

Product/Part Number	Description
MON-1.1-LTD-K9	Cisco Monitor Manager 1.1 Single SW, Perpetual
MON-1.1-STD20UP-K9	Cisco Monitor Manager 1.1 LTD to STD 20 Device, Perpetual

Cisco Monitor Manager licensing options are also detailed in the product bulletin under the Cisco Monitor Manager "Product Literature" section at: http://www.cisco.com/go/sbnm.

For More Information

For more information about Cisco Monitor Manager, visit http://www.cisco.com/go/sbnm or contact your local Cisco account representative.

Cisco Unified Communications Services and Support

Using the Cisco Lifecycle Services approach, Cisco and its partners offer a broad portfolio of end-to-end services to support the Cisco Unified Communications system. These services are based on proven methodologies for deploying, operating, and optimizing IP communications solutions. Initial planning and design services, for example, can help you meet aggressive deployment schedules and minimize network disruption during implementation. Operate services reduce the risk of communications downtime with expert technical support, and optimize services enhance solution performance for operational excellence. Cisco and its partners offer a system-level service and support approach that can help you create and maintain a resilient, converged network that meets your business needs.

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