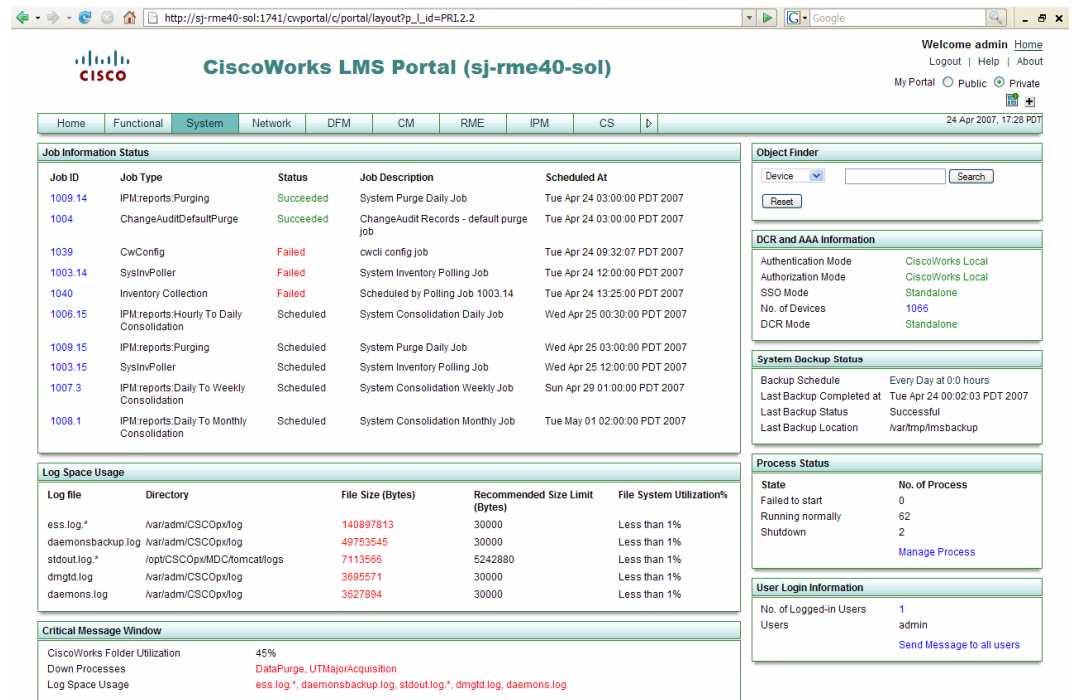


# CiscoWorks LAN Management Solution 3.0

## Product Overview

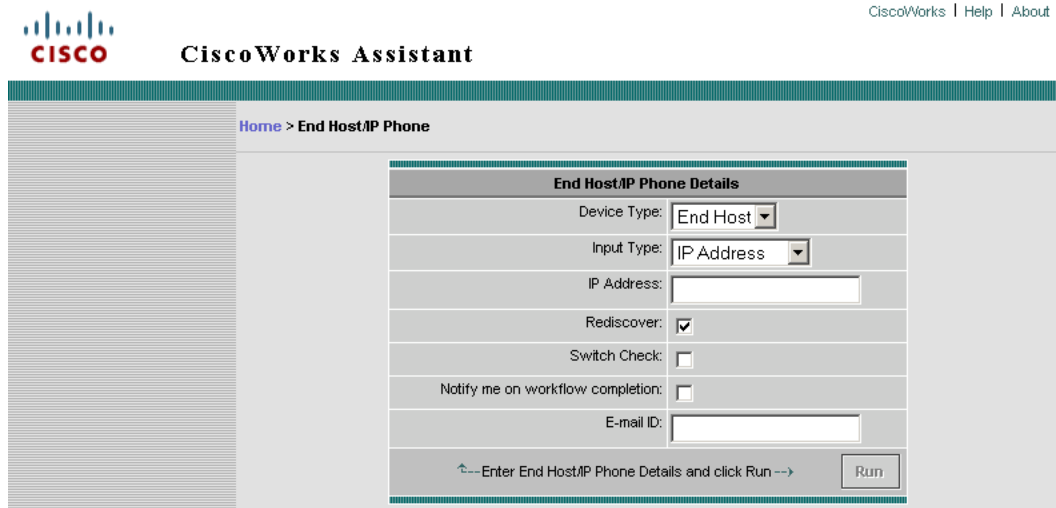
CiscoWorks LAN Management Solution (LMS) is an integrated suite of management tools that simplify the configuration, administration, monitoring, and troubleshooting of Cisco® networks. Built upon popular Internet-based standards, CiscoWorks LMS applications help enable network operators to manage the network through a browser-based interface that can be accessed anytime from anywhere within the network. CiscoWorks LMS maintains a centralized list of all Cisco network devices and their credentials that serves as a single repository for all CiscoWorks applications whether they are installed locally or distributed in a multiserver deployment. CiscoWorks LMS Portal enables functional views that can be tailored to meet the needs of an individual or group of network operations staff, simplifying integration and navigation between Cisco and other third-party application functionality. See Figure 1.

Figure 1. CiscoWorks LMS Portal



A new workflow engine, CiscoWorks Assistant, provides a set of intuitive procedures for CiscoWorks server setup and troubleshooting network related problems. See Figure 2.

Figure 2. CiscoWorks Assistant



Using common centralized systems and network-inventory knowledge, CiscoWorks LMS delivers a unique platform of cross-functional management capabilities that reduce network administration overhead and simplify troubleshooting, improving overall network availability.

CiscoWorks LMS applications are delivered on a single DVD, one for the Windows operating system and another for the Solaris operating system, and installation is performed by a single, quick and easy installer. The following applications are included in the CiscoWorks LMS 3.0 package:

- CiscoWorks Common Services 3.1 (includes CiscoWorks LMS Portal and CiscoWorks Assistant)
- CiscoView 6.1.6
- CiscoWorks Resource Manager Essentials (RME) 4.1
- CiscoWorks Campus Manager 5.0
- CiscoWorks Device Fault Manager (DFM) 3.0
- CiscoWorks Internetwork Performance Monitor (IPM) 4.0

CiscoWorks LMS is part of the CiscoWorks Family of products that provide comprehensive network management solutions to improve IT organizational effectiveness through task automation, simplification, and integration. CiscoWorks LMS is a component of the Cisco Proactive Automation of Change Execution (PACE) solution. PACE provides an integrated suite of Cisco products and services for centralizing configuration, change, and compliance management.

### Features and Benefits

CiscoWorks LMS 3.0 is a new major software release that delivers improvements in scalability, performance, and application-level functionality. It provides a centralized system for sharing device information across all applications, improving manageability, and allowing the management system to adjust to changes more dynamically. Delivered on a single DVD, the CiscoWorks LMS installation process is new and improved, providing faster uptime and the capability that allows the user to install in unattended mode. A new portal interface helps facilitate rapid navigation between tools and that can be modified to meet a specific individual's needs. The network desktop comes with three default views that can be modified by the systems administrator as well as customized views:

- **Functional view:** Similar to the currently shipping product, this view provides a list of applications and their corresponding functions.
- **System view:** Provides a system-level view into the status of various system-level attributes, including job status, backup information, system-level events, application-related details.
- **Network view:** Allows for quick visibility into various network-level reports for faster troubleshooting of network-related problems.
- **Customized view:** The user also has the option of defining and saving personalized views.

CiscoWorks LMS 3.0 introduces a new workflow engine called CiscoWorks Assistant. CiscoWorks Assistant provides three different workflows that help with time-consuming tasks and advanced troubleshooting.

CiscoWorks LMS 3.0 utilizes security information maintained in Cisco Secure Access Control Server (ACS) to simplify the management of user privileges. Cisco Secure ACS integration provides flexibility in defining user roles and supports secured user views of specific devices, groups of devices, or by geographic or logical network segments. Significant improvement in performance, such as multithreading background tasks, has reduced the time needed to deliver updates to the network, as well as generate reports. Efficient task processing and its shared database of managed devices allow CiscoWorks LMS to be deployed into larger networks.

CiscoWorks LMS consists of operationally focused tools capable of fault management, scalable topology views, sophisticated configuration, Layer 2 and 3 path analysis, voice-supported path trace, WAN performance troubleshooting, end-station tracking, and device troubleshooting. CiscoWorks LMS is built on the CiscoWorks Common Services management infrastructure and foundation. This design facilitates operations workflow between applications by linking data collection, monitoring, and analysis tools—all from a single desktop application. For example, a user complaint of slow response time or a poor IP phone connection can be quickly diagnosed using CiscoWorks LMS Layer 2 path tools that automatically acquire user-path information stored in one database and highlight devices on a topology map. Additionally, switch or router configurations can then be quickly examined to detect anomalies or the need for changes. Those actions may draw information from one or more applications.

CiscoWorks LMS uses Internet standards to tie together best-in-class tools and to take advantage of their capabilities through data- and task-integration standards. Using the Common Information Model (CIM) and Extensible Markup Language (XML), which are industry standards for data sharing, allows CiscoWorks LMS a means of extracting data and using it with popular network management products.

Tables 1 lists the CiscoWorks LMS 3.0 applications, and Table 2 lists the features and benefits of CiscoWorks LMS 3.0.

**Table 1.** CiscoWorks LAN Management Solution 3.0 Applications

Applications	Description
<b>CiscoWorks Device Fault Manager (DFM)</b>	Real-time fault detection, analysis, and reporting using device knowledge and fault rules based on Cisco best practices for each device.
<b>CiscoWorks Campus Manager</b>	A robust set of Layer 2 tools for device and connectivity discovery, detailed topology views, virtual LAN/LAN Emulation (VLAN/LANE) and ATM configuration, end-station tracking, Layer 2 and 3 path analysis, and IP phone user and path information.

<b>CiscoWorks Resource Manager Essentials (RME)</b>	Tools for managing Cisco devices using inventory- and device-change management, network-configuration and software-image management, network availability, and syslog analysis.
<b>CiscoWorks CiscoView</b>	GUI providing back- and front-panel displays of devices in a dynamic, color-coded graphical display. Simplifies device-status monitoring, device-specific component diagnostics, and application launching.
<b>CiscoWorks Internetwork Performance Monitor (IPM)</b>	A network response-time and availability troubleshooting application. This tool empowers network engineers to proactively troubleshoot network performance using real-time and historical reports.
<b>CiscoWorks Server (Windows or Solaris Server running CiscoWorks Common Services)</b>	Provides the infrastructure for a common management desktop experience and the services for securing access to all CiscoWorks applications. Facilities include a foundation for integrating with other Cisco and third-party applications.

**Table 2.** CiscoWorks LMS 3.0 Features and Benefits

Function	Component	Description
<b>Offers intelligent, automatic discovery of Cisco devices to create topology views of the network</b>	CiscoWorks Campus Manager	The topology services discover Cisco devices and calculate Layer 2 relationships to provide views of the Cisco network by ATM domain, VLAN Trunking Protocol (VTP) domain, LAN edge view, and a general Layer 2 view.
<b>Gives topology status indications</b>	CiscoWorks Campus Manager	The topology maps indicate the discovery and Simple Network Management Protocol (SNMP) status of Cisco devices; these maps also are launching points for other CiscoWorks applications.
<b>Configures, manages, and monitors VLAN and ATM services and networks</b>	CiscoWorks Campus Manager	CiscoWorks Campus Manager provides tools for creating, deleting, and editing VLANs; it provides ATM tools for displaying virtual circuits and for configuring soft permanent virtual connections (SPVCs) and soft permanent virtual paths (SPVPs).
<b>Discovers end stations and IP phones connected to switch ports and identifies user locations based on user ID</b>	CiscoWorks Campus Manager	The user-tracking function correlates MAC address and IP address to switch port; integration with Microsoft's PDC and Novell's NDS tree provides the user ID for even more efficient user location and tracking. Dynamic option for "real"-time collection of port-related activity.
<b>Traces Layer 2 and Layer 3 connectivity between two points (such as devices, servers, or phones) in the network</b>	CiscoWorks Campus Manager	The path-analysis tool performs path analysis for Layer 2 and Layer 3 devices using the device host name or IP address and shows results on a map display, in a table display, or in a trace display.
<b>Discrepancy reporting with automated fix option</b>	CiscoWorks Campus Manager	Quickly identifies port-level discrepancies, that is, port speed issues, and provides the ability to automatically fix the problem.
<b>Intelligently analyzes fault conditions, detecting problems before they become network disruptions</b>	CiscoWorks Device Fault Manager	The automated fault detection recognizes common problems in networks without forcing users to define their own rules sets, SNMP trap filters, or device-polling intervals.
<b>Interprets fault conditions at both the device and VLAN levels</b>	CiscoWorks Device Fault Manager	With the characteristics of over a 100 Cisco routers and switches predefined, new device support is easily added through Cisco.com. CiscoWorks Device Fault Manager simplifies managing both Layer 2 and Layer 3 environments.
<b>Offers detailed software and hardware inventory reporting including PSIRT and end-of-sale and end-of-life related information</b>	CiscoWorks Resource Manager Essentials	CiscoWorks RME provides accurate Cisco product-inventory baseline information, including memory, slots, software versions, and BootROMs needed to make decisions about the network. Provides ability to generate reports on PSIRT (product security incidents) and end-of-sale and end-of-life devices.
<b>Offers automated update engines for device software and configuration changes</b>	CiscoWorks Resource Manager Essentials	CiscoWorks RME allows software and configuration updates to be sent to selected devices on a scheduled basis; it reduces time and errors involved in network updates.
<b>Offers a consolidated troubleshooting tools center</b>	CiscoWorks Resource Manager Essentials	A wide collection of switch- and router-analysis tools is accessible from a single location; third-party applications can link to the tool center.
<b>Offers centralized change-audit logging</b>	CiscoWorks Resource Manager Essentials	A comprehensive change-monitoring log records users and applications that are active on the network.

<b>Offers graphical device management</b>	CiscoWorks CiscoView	CiscoView displays a browser representation of Cisco router and switch devices, color-coded to indicate operational states, with access to configuration and monitoring tools.
<b>Provides network response and availability information for WAN networks</b>	CiscoWorks Internetwork Performance Monitor	CiscoWorks IPM simplifies the identification of devices contributing to latency and network delays and allows WAN managers to manage the effectiveness of voice-over-IP (VoIP) and quality of service (QoS) features implemented in their networks.
<b>Network portal for flexible user display</b>	CiscoWorks Server	Portal technology allows the user to customize views into the network management application functionality or chose from one of the three default views provided.
<b>Workflows for improved setup and troubleshooting</b>	CiscoWorks Assistant	CiscoWorks Assistant provides workflows for simplifying setup of CiscoWorks and for faster troubleshooting of device-related issues.
<b>Provides application-access security</b>	CiscoWorks Server	Its management desktop controls user access to applications, helping ensure that only appropriate classes of users can access tools that change network parameters versus read-only tools.
<b>Offers third-party integration tools and interfaces like the Network Management Integration Module (NMIM)</b>	CiscoWorks Server	The CiscoWorks Server simplifies the Web integration of third-party and other Cisco management tools.

**Table 3.** System Requirements: Server

Part# (SKU)	Solaris	Microsoft Windows
<b>CWLMS-3.0-100-K9</b>	Not supported	Intel Pentium 4 at 2.6 GHz for 1 CPU with 2 GB RAM memory and 4 GB swap space
<b>CWLMS-3.0-300-K9</b>	<ul style="list-style-type: none"> <li>SunFire v210 - 1 UltraSPARC IIIi CPU at 1.3 GHz with 2 GB RAM memory and 4 GB swap space on Solaris 9.</li> <li>SunFire v210 - 1 UltraSPARC IIIi CPU at 1.3 GHz with 4 GB RAM memory and 8 GB swap space on Solaris 10.</li> </ul>	Intel Pentium 4 at 2.6 GHz for 1 CPU with 2 GB RAM memory 4 GB swap space.
<b>CWLMS-3.0-1.5K-K9</b>	SunFire v440 - 2 UltraSPARC IIIi CPU at 1.28 GHz with 4 GB RAM memory t and 8 GB swap space.	Windows 2003 Server Standard and Enterprise Editions with 2 Intel Xeon CPU at 3.66 GHz and 4 GB RAM memory and 8 GB swap space.
<b>CWLMS-3.0-5K-K9</b>	Dedicated Servers per product in LMS Suite : SunFire v440 - 4 UltraSPARC IV CPU at 1.03 GHz with 4 GB RAM memory and 8 GB swap space.*	<ul style="list-style-type: none"> <li>Dedicated Servers per product in LMS Suite: Windows 2003 Server Standard and Enterprise Editions 4</li> <li>Intel Xeon CPU at 3.66 GHz with 4 GB RAM memory and 8 GB swap space.*</li> </ul>
<b>CWLMS-3.0-10K-K9</b>	<ul style="list-style-type: none"> <li>Dedicated Servers per product in LMS Suite:</li> <li>SunFire v440 - 4 UltraSPARC IV CPU at 1.03 GHz with 4 GB RAM memory and 8 GB swap space.*</li> </ul>	<ul style="list-style-type: none"> <li>Dedicated Servers per product in LMS Suite:* Windows 2003 Server Standard and Enterprise Editions 4</li> <li>Intel Xeon CPU at 3.66 GHz with 4 GB RAM memory and 8 GB of swap space.*</li> </ul>
<b>Minimum Disk</b>	80GB Disk Space	80GB Disk Space
<b>Processor Support</b>	<ul style="list-style-type: none"> <li>UltraSPARC III (280R, 480R)</li> <li>UltraSPARC IIIi processor (V240, V250, V440)</li> <li>UltraSPARC IV processor (V490, V890)</li> <li>UltraSPARC IV+ processor (V490, V890)</li> <li>UltraSPARC T1 processor (Sun Fire T1000 Server, Sun Fire T2000 Server)</li> </ul>	<p>Intel Processors</p> <ul style="list-style-type: none"> <li>Intel Xeon processor (Dual Core)</li> <li>Intel Core Duo processor T2600 - T2300</li> <li>Intel Pentium processor Extreme Edition 965 (Dual Core)</li> <li>Intel Pentium D processor 960 (Dual Core)</li> <li>Intel Pentium 4 processor with Hyper-Threading Technology</li> </ul> <p>AMD Processors</p> <ul style="list-style-type: none"> <li>Dual-Core AMD Opteron Processor</li> <li>AMD Opteron Processor</li> <li>AMD Athlon 64 FX Processor</li> <li>AMD Athlon 64 X2 Dual-Core</li> </ul>

\*Please note that for solution servers running all products of the LMS 3.0 suite, the maximum scalability limit is

3,000 devices with the indicated hardware requirements configured with 8 GB RAM memory and 16 GB swap space.

**Table 4.** System Requirements: Client

<b>Disk space</b>	<ul style="list-style-type: none"> <li>• Solaris: 1 GB swap space</li> <li>• Windows: 1 GB virtual memory</li> </ul>
<b>Memory</b>	512 MB
<b>Hardware and software</b>	<ul style="list-style-type: none"> <li>• IBM PC-compatible system with at least Intel Pentium IV processor running               <ul style="list-style-type: none"> <li>- Windows 2000 Professional with Service Pack 4</li> <li>- Windows 2000 Server with Service Pack 4</li> <li>- Windows 2000 Advanced Server with Service Pack 4</li> <li>- Windows Server 2003 Standard and Enterprise Edition with Service Pack 1</li> <li>- Windows 2003 R2 Server Standard and Enterprise Editions</li> <li>- Windows XP with Service Pack 2</li> </ul> </li> <li>• Solaris 8, Solaris 9               <ul style="list-style-type: none"> <li>- (English and Japanese only)</li> </ul> </li> </ul>
<b>Browser</b>	<ul style="list-style-type: none"> <li>• Internet Explorer 6.0. Service Pack 2—Windows 2000, Windows Server 2003</li> <li>• Internet Explorer 7.0</li> <li>• Firefox 2.0</li> </ul>

### Ordering Information

CiscoWorks LMS 3.0 is available for purchase through regular Cisco sales and distribution channels worldwide. To place an order, visit the [Cisco Ordering Homepage](#).

CiscoWorks LMS licensing options are described in the CiscoWorks LMS product bulletin, viewed at [http://www.cisco.com/en/US/products/sw/cscowork/ps2425/prod\\_bulletins\\_list.html](http://www.cisco.com/en/US/products/sw/cscowork/ps2425/prod_bulletins_list.html).

### Service and Support

Using the Cisco Lifecycle Services approach, Cisco and its partners provide a broad portfolio of end-to-end services and support that can help increase your network's business value and return on investment. This approach defines the minimum set of activities needed, by technology and by network complexity, to help you successfully deploy and operate Cisco technologies and optimize their performance throughout the lifecycle of your network.

### For More Information

For more information about CiscoWorks LAN Management Solution, visit <http://www.cisco.com/go/lms>, contact your local Cisco account representative, or send an e-mail to the product marketing group at [lms-pm@cisco.com](mailto:lms-pm@cisco.com).



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