

# Cisco ICS System Manager for the Cisco ICS 7750

The ICS 7750 Cisco Integrated Communications System brings the benefits of converged IP services to midmarket businesses and enterprise branch offices. The Cisco ICS 7750 is a versatile IP telephony and services solution that helps businesses harness the power of the Internet through converged applications, enabling them to anticipate and respond to customer needs more efficiently. Call processing, voice applications, and multiservice IP routing are integrated within the system chassis to deliver true convergence while enhancing system manageability. The modular system architecture enables expansion of call processing, routing capacity, and IP services to deliver system availability and scalability. The Cisco ICS 7750 gives customers the flexibility to choose the optimal configuration for their business environments, and allows them to increase profitability through improved customer interactions.

Cisco ICS System Manager, for the Cisco ICS 7750, is a unique suite of tools to simplify the daily tasks related to operations, administration, management, and provisioning of an integrated voice and data communications network. It is designed for network administrators with either data or telephony background. Network administrators will find Cisco ICS System Manager useful for proactive management—allowing them to obtain advanced notification of potential problems, and to effectively react to day-to-day systems management-related challenges.

## Product Description

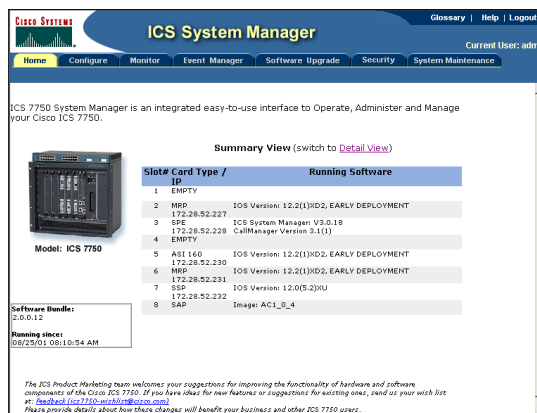
Cisco ICS System Manager for the Cisco ICS 7750 provides a comprehensive suite of tools for the management of an integrated data and voice network from a centralized, Web-based user interface. These tools enable:

- Remote configuration
- Preventive fault management
- Performance monitoring
- Real-time reporting
- Cisco IOS® Software image management
- Access-level security for the Cisco ICS 7750

Because Cisco ICS System Manager is Web based, network managers can access its capabilities from anywhere on the network, saving valuable time. The integrated graphical user interface (GUI) improves efficiency by avoiding multiple management platforms and reduces training and operations costs.

The Cisco ICS 7750 supports Simple Network Management Protocol (SNMP), allowing administrators to retain the option of using existing enterprise network management applications, such as CiscoWorks and HP OpenView.

Figure 1:  
ICS System Manager





## Business Benefits

### Reduced Cost of Operations

Cisco ICS System Manager provides a built-in, easy-to-use interface for data and voice components. Depending on network size, a single administrator can now manage the converged infrastructure with the help of field technicians. This reduces the ongoing personnel training, hardware, and software operational costs, and improves employee productivity.

### Centralized Management

Enterprises and midmarket businesses can scale their remote site deployments of Cisco ICS 7750 systems by effectively managing these remote sites from a centralized network operations center (NOC) by using CiscoWorks and other SNMP, standards-based management software.

### Outsourced Management

Cisco ICS System Manager enables Cisco channel partners to remotely operate and manage their customers' Cisco ICS 7750 systems. Integrated virtual private network (VPN) and firewall features allow for highly secure remote access.

## Functionality

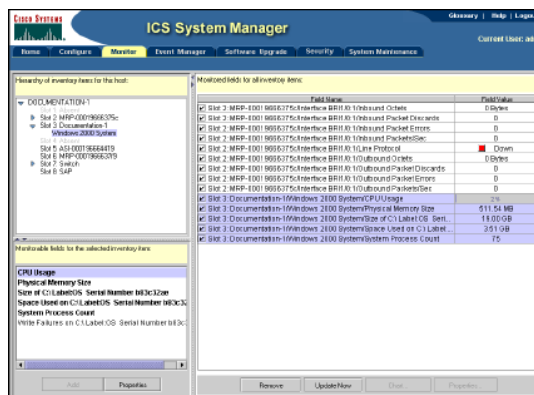
### Remote Configuration

Cisco ICS System Manager provides the Web interface to configure components of the Cisco ICS 7750, such as SSP. Configuration of IP phones and voice gateways is performed through the Cisco CallManager administrative interface. Cisco IOS experts can use the Cisco IOS CLI to configure any of the IOS based system cards.

### Performance Monitoring

Cisco ICS 7750 allows administrators to remotely monitor all critical components of systems via Cisco ICS System Manager and to view the data in real time through easy-to-read charts (see Figure 2). Administrators can use the performance-monitoring feature to obtain baseline of current system performance and plan for future expansion.

Figure 2:  
Monitor





## Preventive Fault Management Module (FMM)

Cisco ICS System Software tracks critical environmental parameters such as temperature, power level, etc. Based on built-in, factory configured rules FMM can automatically take pre-defined actions like increase the fan speed. Cisco ICS System Manager has advanced event management features and provides a single view into system-wide syslog messages and SNMP traps. Administrators can create customized reports on historical events.

For example, administrators can view all severity level 3 or lower events sent the previous week from a power supply. Various predefined reports can be used as a template to create site-specific, customized event reports. Administrators can also create site-specific event-notification rules, such as all severity level 3 or lower events from power supply to be forwarded via pager or email notification (see Figure 3). The built-in fault management feature allows administrators from constantly monitoring their Cisco ICS 7750 systems and be informed of potential future problems.

Figure 3:  
Event Manager

The screenshot shows the Cisco ICS System Manager web interface. The main title is 'ICS System Manager'. The navigation menu includes Home, Configure, Monitor, Event Manager (selected), Software Upgrade, Security, and System Maintenance. The current user is 'admin'. The left sidebar contains links for Live Viewer, Preferences, Rules (with sub-links for Custom, Availability, and Reports), and Reports (with sub-links for Custom and Pre-defined). The main content area is titled 'Event Manager | Edit a Rule' and shows a rule configuration form for a rule named 'test'. The form has a table for conditions and an operation section.

Conditions		Operator	Actions
facility	Equals	syslog	AND OR Edit, Delete
severity	Greater than or Equal to	warning	Edit, Delete

Operation: Page [dropdown] Configure... [button]

Submit [button] Cancel [button] Help [button]

Step 2: Add the conditions and an operation to this rule.

## Remote Software Upgrade

Administrators can use Cisco ICS System Manager to remotely manage Cisco IOS images on the Cisco ICS 7750 and remotely upgrade specific system cards in the chassis. A library of Cisco IOS images downloaded from www.cisco.com or from a CD can be maintained on the Cisco ICS 7750 for archive or for later use (see Figure 4). Remote software upgrade functionality allows administrators to avoid expensive truck rolls for any software update and perform multisite software updates from a central location.

All the necessary system software components for example, Microsoft hot-fixes, System Manager, FMM, IOS images, etc. are packaged in a bundle for easy, remote upgrade of all System Processing Engines (SPE) in the ICS7750 chassis. Automatic backup of software configuration during software upgrade allows easier, and faster recovery from any failures. Users can download the latest system software bundle from www.cisco.com.



Figure 4:  
Software Upgrade

The screenshot shows the Cisco ICS System Manager interface with the 'Software Upgrade' tab selected. It contains three tables: System Cards / Image Table, Software Library, and History Log.

System Card	Address	Type	Image
MRP-0001966638ec	00:01:96:66:38:ec	MRP	ics7700-sv3y-mz.nirvana_2101
Alarm Card		SAP	AC1_0_6.img
Switch	00:01:96:5e:3f:00	SSP	c2900XL-c3h2z-mz-120.5.2-XU.tar

Image Name	Version	Size	Action
<a href="#">AC1_0_6.img</a>	AC1_0_6	0.07 MB	<a href="#">Deliver to a system card</a> , <a href="#">Delete</a> , <a href="#">Details</a>
<a href="#">c2900XL-c3h2z-mz-120.5.2-XU.tar</a>	12.0(S.2)XU	2.72 MB	<a href="#">Deliver to a system card</a> , <a href="#">Delete</a> , <a href="#">Details</a>
<a href="#">ics7700-sv3y-mz.nirvana_2101</a>	12.2 (20011011:190449)	8.03 MB	<a href="#">Deliver to a system card</a> , <a href="#">Delete</a> , <a href="#">Details</a>

Date/Time	Action	By
10/25/2001 11:42:00 AM	Delivery Image : c2900XL-c3h2z-mz-120.5.2-XU.tar to device Switch (00:01:96:5e:3f:00)	Image Install Tool
10/25/2001 11:37:00 AM	Delivery Image : AC1_0_6.img to device (Alarm Card)	Image Install Tool

## Security

Cisco ICS System Manager provides built-in access profiles for the ICS 7750. These access profiles can be used to create a custom profile to suit site-specific security needs. This allows multiple remote administrators with different security or expertise levels to work on a system simultaneously (see Figure 5).

Figure 5:  
Security

The screenshot shows the Cisco ICS System Manager interface with the 'Security' tab selected. It displays 'Cisco ICS 7700 System User Management' and 'ICS 7700 System Group Management' sections.

User ID	Member of	Action
admin	Administrator, SSP Manager, Monitor, Event Manager, Software Upgrade, System Maintenance, System Setup, Fan Manager, COM Port Manager	<a href="#">Edit</a>
fan	Monitor	<a href="#">Edit</a> , <a href="#">Delete</a>

Group Name	Group Description
Administrator	Configure the ICS system
COM Port Manager	COM Port Manager Group - Configure COM Ports
Event Manager	Configure Event Manager
Fan Manager	Fan Manager Group - Configure Fan
Monitor	Configure Monitor
Software Upgrade	Perform Software Upgrade
SSP Manager	Configure SSP
System Maintenance	System Maintenance Group - System Maintenance
System Setup	System Setup Group - Configure System Setup

## Wizard-based Installation

The Cisco ICS 7750 has a simple, wizard-based installation process that manages required basic configuration of system data and voice components.

## Diagnostics

Detailed diagnostics in ICSConfig validates all necessary hardware and software components. ICSConfig can detect flaws in basic network configuration and recommend the necessary corrective actions.



## DHCP Services for IP Phones and other IP Clients

Cisco ICS System Manager has a built-in DHCP server for IP Phones and other IP clients networked to the ICS 7750. This feature allows customers to avoid the purchase and maintenance of an external server to provision IP addresses for their IP devices.

## Automatic Backup

Cisco ICS System Manager provides a Web-based backup of critical system information. Automated backups, based on user preferences, can be performed at regularly scheduled intervals to preserve data to external media. (Figure 6)

Figure 6:  
Backup

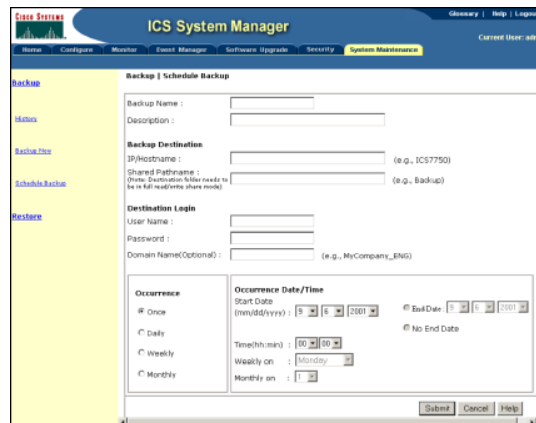


Figure 7:  
CiscoWorks2000-based Centralized, Scalable, Web-based Network Management

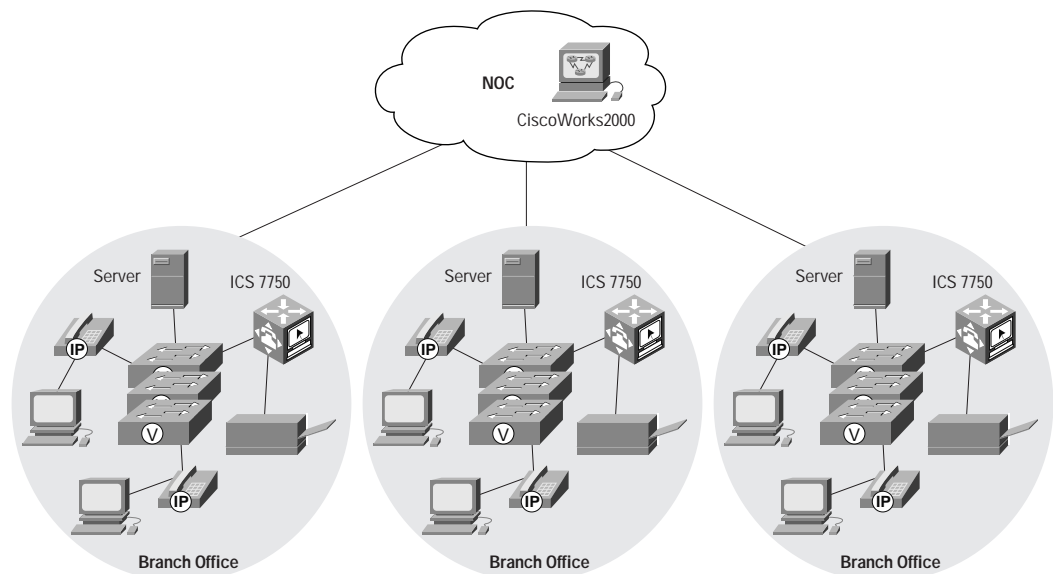
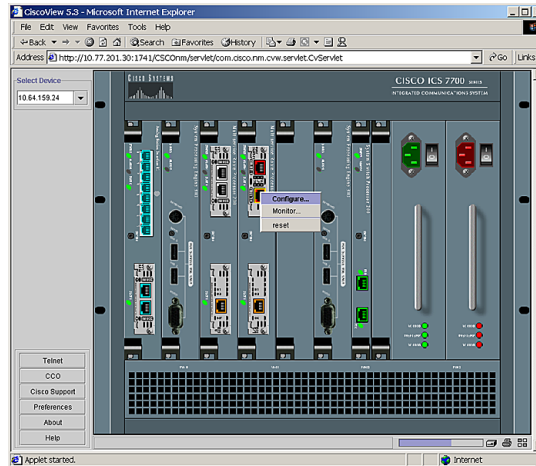




Figure 8:  
Web-based, Front-Panel View of ICS7750 using CiscoView



## Centralized Network Management

The Cisco ICS 7750 can be managed by the powerful CiscoWorks network management products. The LAN Management Solution (LMS) product suite leverages the power of intranets with browser-based access anywhere within the network. Network managers can use a Web-browser to log in, and immediately monitor uptime of each device. For detailed, real-time device status information, a network operations staff can launch the award-winning CiscoView application from the fault-management station and check on the operation of the power supplies and CPU, and the operational status of each system card at a glance.

For more sophisticated network-wide information, network managers can launch the Campus Manager application, which automatically discovers the physical and logical representations of the Cisco ICS 7750. This object-based discovery system offers detailed information on the location and type of each node within the network and the type of links that connect the nodes together. It also displays integrity reports on the configurations between each node. All information is provided graphically within the topology interface with search and location utilities. This topology interface offers a convenient launching point for other applications within LMS, including the popular Resource Manager Essentials application.

## Advanced Configuration and Diagnostics

The system alarm processor (SAP) provides two COM ports and one console interface. The COM ports can be used for interfacing with an external SMDI-based voice mail server or to an UPS for relaying automatic alerts.

A modem can also be attached to the COM ports for out-of-band remote management in case of a network (LAN/WAN) outage thus avoiding a truck roll to the site. The console interface provides a local connection to directly configure and troubleshoot any system card in the Cisco ICS 7750 through an advanced command line interface.

## Service and Support Solutions

Cisco Service and Support Solutions are designed for one purpose—to ensure customer success by delivering a suite of proactive services. Delivered directly or through an ecosystem of best-of-breed service partners, Cisco Service and Support offerings provide presales network audit planning, design consulting, network implementation, operational support, and network optimization.

- Advanced Services enable you to plan, design, build, implement, and optimize your solution for rapid deployment and increased system stability and availability.
- Technical Support Services provide the maintenance and troubleshooting you need to keep your solution operational.

By purchasing service and support with the Cisco ICS 7750 Integrated Communications System, customers can confidently deploy a converged network architecture using Cisco experience, expertise, and resources.

## System Manager Technical Specifications

### Hardware Specifications

Cisco ICS System Manager runs on the SPE

### Client PC Hardware

At least 166 MHz CPU, at least 64 MB of RAM, CD-ROM drive, SVGA monitor with at least 640x480 pixel display and at least 256 colors

### Client Operating System

Windows 98, Windows ME, Windows NT 4.0, Windows 2000, and Windows XE

### Web-Browsers

Microsoft Internet Explorer v5.01 and later,  
Netscape Navigator v4.7 and later



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