



Cisco ICS 7750 Documentation Roadmap

Updated for Final Software Releases—March 30, 2005

The Cisco Integrated Communications System (ICS) 7750 is an integrated communications platform designed to enable easy, rapid deployment and management of key data and converged voice/data applications and services, including IP telephony, content delivery networking, and multiservice routing.

This document is intended to help you quickly locate the information that you need to understand, design networks for, install, configure, and maintain the Cisco ICS 7750.

- [Understanding the Cisco ICS 7750](#)
- [Designing IP Telephony Networks Featuring the Cisco ICS 7750](#)
- [Installing Cisco ICS 7750 Hardware Components](#)
- [Installing and Configuring Cisco ICS 7750 Software Applications](#)
- [Placing Calls and Making Final Connections](#)
- [Cisco ICS 7750 System Management Tasks](#)
- [Maintaining and Troubleshooting the Cisco ICS 7750](#)
- [Migrating a Cisco ICS 7750 System, page 15](#)

Understanding the Cisco ICS 7750

The Cisco ICS 7750 has all the elements needed to deliver data, voice, and video in a single chassis—multiservice router/voice gateway cards based on Cisco IOS software, application server cards running core voice applications, call processing software, web-based system management software, and a data switching interface card for connectivity to Ethernet switches.

The following information is available:

- [Product Overview](#)
- [Hardware Features and Technical Specifications](#)
- [Software Features](#)
- [Accessing the System](#)



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Product Overview

- [Introduction to the Cisco ICS 7750](#)—Briefly describes the product and its role in IP telephony networks.
- [Cisco ICS 7750 Overview](#) (requires the Macromedia Flash plug-in)—A multimedia demonstration that shows typical uses of the Cisco ICS 7750.
- [Cisco ICS 7750 Data Sheet](#)—Describes product functionality and features.

Hardware Features and Technical Specifications

The following hardware feature descriptions and technical specifications are available in the *Cisco ICS 7750 System Description*:

- [Chassis and backplane](#)
- [Multiservice route processor \(MRP\)](#)
- [Power supply module](#)
- [System alarm processor \(SAP\)](#)
- [System processing engine \(SPE\)](#)
- [System switch processor \(SSP\)](#)
- [Voice interface cards \(VICs\), voice WAN interface cards \(VWICs\), and WAN interface cards \(WICs\)](#)

Software Features

The following software feature descriptions are available in the *Cisco ICS 7750 System Description*:

- [Cisco CallManager](#)
- [Cisco CallManager Extended Services](#)
- [Cisco Customer Response Solutions](#)
- [Cisco IOS](#)
- [Cisco IOS Firewall](#)
- [Cisco Unity](#)
- [CiscoWorks](#)
- [Fault management module \(FMM\)](#)
- [ICS System Manager](#)

Designing IP Telephony Networks Featuring the Cisco ICS 7750

The Cisco ICS 7750 is designed to be installed as a Cisco AVVID (Architecture for Voice, Video and Integrated Data) solution. Cisco AVVID brings to multiservice networking a standards-based, open-systems architecture for converged networking.

The following information is available:

- [Site Preparation](#)
- [Design Considerations](#)
- [Migration Strategies](#)

Site Preparation

- [Evaluating and documenting the existing data infrastructure](#) (7 MB download-.pdf format)—Chapter 3, Planning the IP Telephony Network, tells how to evaluate your current network capacity and plan for the deployment of an IP telephony network.
- [Preparing for Cisco ICS 7750 installation](#)—Provides information about safety precautions, site requirements (such as placement recommendations, cooling requirements, and cabling guidelines), and required tools and equipment.

Design Considerations

- [Building a branch office](#)—Describes design issues when building an IP telephony network with up to 100 users.
- [Dial plan configurations](#) (7 MB download-.pdf format)—Chapter 4, Designing the IP Telephony Network, describes design considerations for building dial plans with Cisco CallManager.
- [E911 and 911 emergency services](#) (7 MB download-.pdf format)—Chapter 4, Designing the IP Telephony Network, provides guidelines for how to handle emergency calls over an IP telephony network.
- [Security considerations](#) (7 MB download-.pdf format)—Chapter 4, Designing the IP Telephony Network, describes ways to protect the security of an IP telephony network. See also [Network Security Considerations](#).
- [System power consumption](#)—Provides information about Cisco ICS 7750 power requirements under various loads.
- Codec and digital signaling processor (DSP) and considerations. You might need to consider issues such as the following when installing packet voice/data modules (PVDMs) and choosing codec configurations on ASIs and MRPs:
 - [Supported codecs](#)
 - [Codec interoperability](#)
 - [Delay introduced by codecs](#)
 - [DSP groups](#)
 - [Choosing codecs](#)
 - [Choosing DSP firmware](#)
 - [Determining how many DSPs are needed](#)

- [Deciding when to use transcoding](#)
- [Choosing PVDMs](#)

Migration Strategies

- [Migrating to an IP telephony network](#)—Describes scenarios that you might encounter when migrating from a network with telephony components (such as PBXs and key systems) to an IP telephony network.

Installing Cisco ICS 7750 Hardware Components

The following information about product installation is available:

- [Mounting and Grounding the System](#)
- [Connecting MRP Ports](#)
- [Connecting SAP Ports](#)
- [Connecting Peripherals to the SPE](#)
- [Connecting Cisco IP Phones and Other Devices to the Cisco ICS 7750](#)
- [Connecting Power to and Turning on the System](#)

Mounting and Grounding the System

- [Mounting the Cisco ICS 7750](#)—Tells how to install the cable management bracket and how to mount the system on a desktop or in an equipment rack.
- [Grounding the Cisco ICS 7750](#)—Tells how to ground the system in various configurations.

Connecting MRP Ports

- [Connecting FXS VICs](#)—Tells how to use a standard RJ-11 telephone cable to connect Foreign Exchange Station (FXS) ports on an ASI 81, ASI 160, or MRP to analog telephones or fax machines.
- [Connecting FXO VICs](#)—Tells how to use a standard RJ-11 telephone cable to connect Foreign Exchange Office (FXO) ports on an ASI 81 or MRP to the PSTN or to a PBX.
- [Connecting E&M VICs](#)—Tells how to use a straight-through RJ-48C-to-RJ-48C cable to connect Ear and Mouth (E&M) ports on an ASI 81 or MRP to the PSTN or to a PBX.
- [Connecting analog DID VICs](#)—Tells how to use a standard RJ-11 telephone cable to connect analog Direct Inward Dial (DID) ports on an ASI 81 or MRP to the PSTN or to a PBX.
- [Connecting ISDN BRI NT/TE VICs](#)—Tells how to use a straight-through RJ-48C-to-RJ-48C cable (NT interface) or an RJ-48C-to-RJ-48C crossover cable (TE interface) to connect ISDN ports on an ASI 81 or MRP to an ISDN network.
- [Connecting ISDN BRI WICs](#)—Tells how to use a straight-through RJ-48C-to-RJ-48C cable to connect ISDN BRI WICs to an NT1 (S/T interface) or to an ISDN network (U interface).
- [Connecting T1/E1 VWICs](#)—Tells how to use a straight-through RJ-48C-to-RJ-48C cable to connect multiflex T1 or E1 ports on an ASI 81 or MRP to a T1 or E1 wall jack.

- [Connecting serial WICs](#)—Tells how to use the appropriate serial cable to connect serial WICs to the WAN.
- [Connecting DSU/CSU WICs](#)—Tells how to use a straight-through RJ-48S-to-RJ-48S cable (56/64-kbps) or an RJ-48C-to-RJ-48C cable (T1/FT1) to connect DSU/CSU WICs to the appropriate wall jack.

Connecting SAP Ports

- [Connecting the SAP console port](#)—Tells how to use an EIA/TIA-232 rollover cable and a RJ-45-to-DB-9 adapter or a RJ-45-to-DB-25 adapter to connect a monitor or a modem to the console port. See also [Configuring the System for Remote System Manager Dial-Up](#).
- Connecting the SAP COM ports:
 - [Connecting a UPS](#)—Tells how to use an EIA/TIA-232 rollover cable and an RJ-45-to-DB-9 adapter to connect an APC-Smart-UPS to the SAP COM1 port. See also [Monitoring a UPS](#).
 - [Connecting a legacy voice mail system](#)—Tells how to connect an SMDI-compliant legacy voice mail system (such as the Octel 250) to the SAP COM1 or COM2 port. See also [Configuring the System for Voice Mail](#).

Connecting Peripherals to the SPE

- [Using peripherals with SPE 310s](#)—Describes known issues and best practices for connecting a CD-ROM drive, monitor, keyboard, mouse, and hub to SPE 310s.
- [Attaching the CD-ROM drive tray](#)—Tells how to attach the CD-ROM drive tray to the chassis.
- [Installing the CD-ROM drive](#)—Tells how to connect the CD-ROM drive to one of the USB ports on the SPE.
- [Connecting a monitor, keyboard, and mouse](#)—Tells how to connect these devices to the SPE.

Connecting Cisco IP Phones and Other Devices to the Cisco ICS 7750

- [Connecting devices to Catalyst switches](#)—Tells how to make the physical connections between these devices.
- [Connecting Cisco IP phones](#)—Describes installation and configuration issues that you need to consider when connecting Cisco IP phones.

Connecting Power to and Turning on the System

- Connecting power:
 - [Power supply usage guidelines](#)—Provides guidelines on how to use power supply modules (in the chassis), along with a UPS and one or more RPS 300s. See also [Power and Grounding Requirements](#), [Power Supply Configurations](#), and [System Power Consumption](#).
 - [Recommended power configuration \(five switches\)](#)—Provides an illustration showing how to connect components in a system configuration that includes five Catalyst 3524-PWR XL switches, two chassis power supply modules, two UPSs, an RPS 300, and three dedicated wall outlets.

- [Turning on the system](#)—Tells how to power on the system.
- [Verifying system installation](#)—Tells how to use system LEDs to ensure that cards are operating properly. See also [Solving Hardware Problems](#).

Installing and Configuring Cisco ICS 7750 Software Applications

The following information about software installation and initial configuration is available:

- [Completing Initial Software Configuration](#)
- [Setting the System Date and Time](#)
- [Installing System Software Release 2.6.0](#)
- [Upgrading to System Software Release 2.6.0](#)
- [Installing Cisco CallManager 3.3\(2\)](#)
- [Upgrading to Cisco CallManager 3.3\(2\)](#)
- [Configuring Cisco CallManager 3.3\(x\)](#)
- [Upgrading to Cisco CallManager 3.3\(4\)](#)
- [Upgrading to Cisco CallManager 4.0\(2\)](#)
- [Configuring Interfaces with Cisco IOS](#)
- [Setting Up and Installing Cisco Unity Voice Messaging 3.1\(5\) \(Optional\)](#)
- [Installing Cisco Unity Unified Messaging 3.1\(5\) \(Optional\)](#)
- [Configuring Cisco Unity 3.1\(5\) \(Optional\)](#)
- [Upgrading to Cisco Unity Voice Mail 3.1\(5\) \(Optional\)](#)
- [Upgrading to Cisco Unity 4.0\(1\) \(Optional\)](#)
- [Upgrading to Cisco Unity 4.0\(4\) \(Optional\)](#)
- [Installing and Configuring Cisco Customer Response Applications 2.2 \(Optional\)](#)
- [Installing and Configuring Cisco Customer Response Applications 3.0 \(Optional\)](#)

Completing Initial Software Configuration

- [Configuring a PC for initial configuration](#)—Tells how to configure the PC IP address so that you can run the ICSConfig program.
- [Connecting the PC to the SSP](#)—Tells how to use an Ethernet cable to connect a PC to one of the SSP Ethernet ports. *Do not connect the SSP to the LAN until ICSConfig is complete*—see [Connecting to the LAN](#).
- [Running ICSConfig](#)—Tells how to input system parameters and complete initial software configuration.
- [Reconfiguring the PC](#)—Tells how to change the PC IP address to its original setting.

Setting the System Date and Time

- [Setting the date and time on SPE cards](#)—Tells how to use Terminal Services Client to configure the date and time through the Control Panel on SPE cards.
- [Setting the date and time on SSP and MRP cards](#)—Tells how to open a terminal emulation session and configure the date and time SSP and MRP cards by entering IOS commands.

Installing System Software Release 2.6.0

- [Installing System Software Release 2.6.0](#)—Tells how to install ICS System Manager or ICS Core Software release 2.6.0 on a new or reimaged SPE.

Upgrading to System Software Release 2.6.0

- [Upgrading to System Software Release 2.6.0](#)—Tells how to upgrade from release 2.1.0, 2.2.0, 2.3.0, or 2.4.0, or 2.5.0 to 2.6.0.

Upgrading to System Software Releases 2.6.1 and 2.6.2

- [Release Notes for System Software Release 2.6.1 and 2.6.2](#)—Tells how to upgrade from release 2.6.0 to release 2.6.1 or 2.6.2.

Installing Cisco CallManager 3.3(2)

- [Installing Cisco CallManager 3.3\(2\)](#)—Tells how to install Cisco CallManager 3.3(2) on an SPE.

Upgrading to Cisco CallManager 3.3(2)

- [Upgrading to Cisco CallManager 3.3\(2\)](#)—Tells how to upgrade from Cisco CallManager 3.1 or 3.2 to Cisco CallManager 3.3(2).

Upgrading to Cisco CallManager 3.3(4)

- [Release Notes for Cisco CallManager 3.3\(4\) on the Cisco ICS 7750](#)—Tells how to upgrade from Cisco CallManager 3.1 or 3.2 to Cisco CallManager 3.3(4).

Configuring Cisco CallManager 3.3(x)

- [System Configuration overview](#)—Summarizes system configuration tasks, such as configuring system-level settings (such as CallManager groups and device pools), designing and configuring a dial plan, and configuring system-wide features (such as call park and call pickup).
- [Cisco CallManager Administration Guide](#)—Tells how to configure Cisco CallManager 3.2(x).

Upgrading to Cisco CallManager 4.0(2)

- [Release Notes for Cisco CallManager 4.0\(2\) on the Cisco ICS 7750](#)—Tells how to upgrade from Cisco CallManager 3.1 or 3.2 to Cisco CallManager 4.0(2).

Configuring Interfaces with Cisco IOS

- [Configuring SSP Ethernet interfaces](#)—Tells how to set up the SSP Ethernet ports on the SSP.
- [Configuring MRP interfaces for LAN access](#)—Tells how to configure a VIC or VWIC interface for connection to the LAN (using Fast Ethernet).
- [Configuring MRP interfaces for WAN access](#)—Tells how to configure a WIC or VWIC interface for connection to the WAN (using a serial, ISDN BRI, T1, fractional T1, E1, or fractional E1 connection).
- [Configuring MRP analog voice interfaces](#)—Tells how to configure FXO, FXS, and E&M interfaces for connection to analog devices or to a PBX or the PSTN.
- [Configuring MRP digital voice interfaces](#)—Tells how to configure T1, fractional T1, E1, and fractional E1 interfaces. See also [TDM Clocking Scenarios](#).
- [Configuring MRP ISDN interfaces](#)—Tells how to configure ISDN BRI and PRI.
- [Configuring MRP interfaces for MGCP](#)—Tells how to use MGCP on voice interfaces to enable Cisco CallManager administration and redundant call agent features on these interfaces.

Setting Up and Installing Cisco Unity Voice Messaging 3.1(5) (Optional)

- [Registering Cisco Unity Voice Messaging](#)—Tells how to register the software so that you receive the activation code that is needed to complete the software installation.
- [Setting Up the SPE as the Cisco Unity Server](#)—Tells how to configure an SPE so that it can act as the Cisco Unity server.
- [Adjusting Network Settings](#)—Tells how to synchronize the time among SPEs.
- [Installing the NIMDA Patch](#)—Tells how to install a patch which protects SPEs from the NIMDA virus.



Note At the end of the procedure for installing the NIMDA patch, you are instructed to attach the network cable to the server. Do not perform this step for the Cisco ICS 7750.

- [Installing the USB Key Driver](#)—Tells how to install a driver which is required for the USB system key.



Note You need to have the CD-ROM drive connected to one of the USB ports. You also need to have both a keyboard and a mouse connected to the PS/2 port, using the Y-cable. You will need the other USB port on the SPE for the system key. You must install the USB system key driver before you insert the system key into the USB port; otherwise, the SPE might not recognize the key.

- [Installing Active Directory](#). Tells how to install Active Directory on the SPE on which Cisco Unity Voice Messaging will be installed.

- [Installing the Microsoft Desktop Engine 2000 \(MSDE\)](#)—Tells how to install the MSDE 2000 data store on the target SPE.
- [Installing Microsoft SQL Enterprise Manager](#)—Tells how to install Microsoft SQL Enterprise Manager on the target SPE as an MSDE troubleshooting tool.
- [Installing Microsoft Internet Explorer 5.5 Service Pack 2](#)—Tells how to install the necessary version of Microsoft Internet Explorer.
- [Installing Microsoft Message Queuing](#)—Tells how to install Microsoft Message Queuing on the target SPE as a reporting and logging management tool.
- [Installing Internet Information Services \(IIS\) components](#)—Tells how to install the NNTP Service and SMTP Service IIS components on the target SPE.
- [Installing Microsoft XML Parser \(MSXML3\) and MSXML3 Service Pack](#)—Tells how to install these components, which are necessary to enable the use of the Cisco Unity Visual Messaging Interface (VMI) to manage voice messages.
- [Installing Microsoft Exchange 2000](#)—Tells how to install the runtime version of Microsoft Exchange 2000 on the target SPE.
- [Updating the Active Directory Schema](#)—Tells how to modify the Active Directory settings so that it is possible to install Unity Voice Messaging on the target SPE.
- [Installing support software](#)—Tells how to install software that is necessary to support Cisco Unity Voice Messaging, including Symantec pcAnywhere, Adobe Acrobat Reader, Trend Micro ScanMail, and Veritas Backup Exec.
- [Setting User Rights for the Cisco Unity Installation and Service Accounts](#)—Tells how to establish security policy for the Cisco Unity installation and service accounts on the target SPE.
- [Installing Cisco Unity Voice Messaging](#)—Tells how to install Cisco Unity Voice Messaging on the target SPE.

Installing Cisco Unity Unified Messaging 3.1(5) (Optional)

- [Preparing for the Installation](#)—Lists the information that you need before beginning the installation.
- [Setting Up the Hardware](#)—Tells how to configure an SPE so that it can act as the Cisco Unity server.
- [Customizing the Cisco Unity SPE](#)—Tells how to set up the Microsoft environment on the SPE.
- [Creating Accounts and Setting Up Rights and Permissions](#)—Tells how to establish security policy for the Cisco Unity installation and service accounts on the target SPE.
- [Installing and Configuring Cisco Unity Software](#)—Tells how to install Cisco Unity Voice Messaging on the target SPE.
- [Completing Software Installation](#)—Tells how to reinstall the Nimda patch and integrate Cisco Unity with Cisco CallManager.

Configuring Cisco Unity 3.1(5) (Optional)

- [System Overview](#)—Summarizes configuration tasks, such as defining schedules, setting up phones, and setting up connections between sites.
- [Integrating Cisco Unity with Cisco CallManager](#)—Tells how to integrate Cisco Unity 3.1(5) with Cisco CallManager 3.2.

- [Cisco Unity System Administration Guide](#)—Tells how to configure Cisco Unity.
- [Customizing Cisco Unity](#)—Tells how to set up subscriber mailboxes and configure other aspects of Cisco Unity.

Upgrading to Cisco Unity Voice Mail 3.1(5) (Optional)

- [Upgrading to Cisco Unity Voice Mail 3.1\(5\)](#)—Tells how to upgrade from Cisco Unity Voice Mail Release 3.1(3) or 3.1(4) to Release 3.1(5).

Upgrading to Cisco Unity 4.0(1) (Optional)

- [Release Notes for Upgrading to Cisco Unity 4.0\(1\)](#)—Tells how to upgrade from Cisco Unity Voice Mail Release 3.1 to Release 4.0(1).

Upgrading to Cisco Unity 4.0(4) (Optional)

- [Release Notes for Upgrading to Cisco Unity 4.0\(4\)](#)—Tells how to upgrade from Cisco Unity Voice Mail Release 3.1 or 4.0 to Release 4.0(4).

Installing and Configuring Cisco Customer Response Applications 2.2 (Optional)

- [Introducing the Cisco Customer Response Applications \(CRA\)](#)—Provides introductory information about Cisco IP Interactive Voice Response (IP IVR) and Cisco IP Integrated Contact Distribution (IP ICD).
- [Installation and Configuration Roadmap](#)—Provides an overview of the steps that need to be completed for successful installation and configuration of Cisco CRA on the Cisco ICS 7750.
- [Preparing to Install CRA](#)—Describes preparations that need to be completed before installing CRA on the Cisco ICS 7750, depending on the type of installation that you choose.
- [Installing CRA](#)—Tells how to install CRA on an SPE in the Cisco ICS 7750.
- [Configuring CRA](#)—Tells how to configure CRA on the Cisco ICS 7750 through the Cisco CallManager Applications Administration interface.

Installing and Configuring Cisco Customer Response Applications 3.0 (Optional)

- [Release Notes for Cisco Customer Response Applications 3.0](#)—Provides information about Cisco CRA Release 3.0 and tells how to upgrade from Cisco CRA 2.2 to Release 3.0.
- [Release Notes for Cisco Customer Response Applications 3.0\(2\)](#)—Provides information about Cisco CRA Release 3.0(2) and tells how to upgrade to Release 3.0(2).
- [Release Notes for Cisco Customer Response Applications 3.0\(3\)](#)—Provides information about Cisco CRA Release 3.0(3) and tells how to upgrade to Release 3.0(3).

- [Setting Up Switched Port Analyzer for Monitoring and Recording IP-ICD Agents](#)—Provides information about setting up and configuring equipment to provide IP-ICD agent monitoring and recording capability.

Installing and Configuring Cisco Customer Response Applications 3.1(3) (Optional)

- [Release Notes for Cisco Customer Response Applications 3.1\(3\)](#)—Provides information about Cisco CRA Release 3.1(3) and tells how to upgrade Cisco CRA to Release 3.1(3).
- [Setting Up Switched Port Analyzer for Monitoring and Recording IP-ICD Agents](#)—Provides information about setting up and configuring equipment to provide IP-ICD agent monitoring and recording capability.

Installing and Configuring Cisco Customer Response Applications 3.5(2) (Optional)

- [Release Notes for Cisco Customer Response Applications 3.5\(2\)](#)—Provides information about Cisco CRA Release 3.5(2) and tells how to upgrade Cisco CRA to Release 3.5(2).
- [Setting Up Switched Port Analyzer for Monitoring and Recording IP-ICD Agents](#)—Provides information about setting up and configuring equipment to provide IP-ICD agent monitoring and recording capability.

Placing Calls and Making Final Connections

The following information is available about the final actions you need to take to start using your IP telephony network:

- [Placing Your First Call](#)
- [Connecting the System to the LAN](#)

Placing Your First Call

- [Making a call](#)—Tells how to place your first call over the IP telephony network.

Connecting the System to the LAN

- [Connecting to the LAN](#)—Tells how to connect the SSP to Ethernet switches, in various configurations.

Cisco ICS 7750 System Management Tasks

The following information about operating the Cisco ICS 7750 is available:

- [Accessing the System](#)
- [Backing Up System Data](#)
- [Software Configuration Best Practices](#)
- [Configuring Logging](#)
- [Monitoring System Performance](#)

Accessing the System

- [Accessing ICSCfg](#)—Tells how to access the browser user interface that takes an inventory of system cards and enables you to change system parameters.
- [Accessing ICS System Manager](#)—Tells how to access the browser user interface that enables you to manage and monitor system status.
- [Accessing Cisco CallManager](#)—Tells how to access the browser user interface that enables you to manage system call processing.
- Accessing the SPE Windows user interface:
 - [Using Terminal Services Client](#)—Tells how to use Terminal Services Client to access the SPE Windows user interface.
 - [Using directly connected peripherals](#)—Tells how to use a directly connected monitor, keyboard, and mouse to access the SPE Windows user interface.
- [Accessing SPEs through Telnet](#)—Tells how to open a Telnet session with an SPE.
- [Accessing the IOS CLI on MRPs and the SSP through Telnet](#)—Tells how to open a Telnet session with one of system cards that runs IOS.
- [Accessing processor cards through the SAP](#)—Tells how to access a CLI on the SAP that enables you to connect to other system cards.

Backing Up System Data

- [Backing up system data](#)—Tells how to back up SPE registry settings, ICS System Manager database records, and IOS configuration files for ASIs and MRPs. See also [Restoring Data to the SPE Running System Manager](#).
- Backing up Cisco CallManager:
 - [Backing up Cisco CallManager 3.3](#)—Tells how to back up Cisco CallManager 3.1 data.
- [Backing up Cisco Unity Voice Mail](#)—Tells how to use VERITAS Backup Exec to back up Cisco Unity data.

Software Configuration Best Practices

- [Best practices for Microsoft SQL Server](#)—Provides guidance on preventing distributed denial of service (DDoS) attacks and the intended use of Microsoft SQL Server on the Cisco ICS 7750.

- [Best practices for configuring DHCP](#)—Provides guidance on the intended use of Cisco Network Registrar (CNR) and other DHCP servers on the Cisco ICS 7750 or on other servers.
- [Best practices for using the IOS CLI](#)—Provides guidance on commands that should be entered only through ICSCfg, rather than through the IOS CLI.

Configuring Logging

- [Handling log messages with ICS System Manager](#)—Provides information about the Event Manager feature of ICS System Manager. See also [How to Read Log Messages](#) and [Understanding Traps](#).
- [Changing the log destination](#)—Tells how to redirect log messages to buffers or UNIX servers.

Monitoring System Performance

- [Evaluating system performance with ICS System Manager](#)—Provides information about ICS System Manager monitoring functions.
- [Evaluating system performance with Cisco CallManager](#)—Tells how to use the Serviceability Real-Time Monitoring (RTM) tool to monitor system call processing performance.
- Evaluating system performance with Cisco IOS:
 - [Evaluating reachability and response times](#)—Tells how to poll remote parts of the network to determine how long it takes to send a packet and receive a response.
 - [Using show commands](#)—Provides general information about commands such as **show interfaces**, **show version**. See also the “Basic Command-Line Interface Commands” section in the “Cisco IOS User Interfaces Commands” chapter in the *Cisco IOS Configuration Fundamentals Configuration Guide*.
- [Monitoring a UPS](#)—Tells how to monitor an APC Smart-UPS.

Maintaining and Troubleshooting the Cisco ICS 7750

The following information about product maintenance and troubleshooting is available:

- [Shutting Down the System](#)
- [Removing and Replacing Components](#)
- [Configuring the System for Remote Dial-Up Access to ICS System Manager](#)
- [Reimaging SPEs](#)
- [Restoring System Data](#)
- [Password Recovery](#)
- [Troubleshooting Hardware Problems](#)

Shutting Down the System

- [Shutting down the Cisco ICS 7750](#)—Tells how to properly shut down the system chassis.

Removing and Replacing Components

- [Guidelines on how to remove and replace system components](#)—Provides general information about the removal and replacement of system components, and the hot-swapping of system processor cards.
- Removing and replacing cards and modules:
 - [ASIs, MRPs, SAP, SSP](#)
 - [Fan tray](#)
 - [SPEs](#)
 - [Power supply modules](#)
 - [VICs, WICs, VWICs](#)
- Removing and replacing DIMMs, PVDMs, and VPN modules:
 - [Module overview](#)—Provides information about the DIMMs, PVDMs and VPN module that are supported in ASIs, MRPs, and SPEs.
 - [Locating modules](#)—Tells how to find the slots where DIMMs, PVDMs, and VPN modules are installed.
 - [Removing and installing DIMMs](#)—Tells how to remove and install memory modules in ASIs, MRPs, and SPEs.
 - [Removing and installing PVDMs](#)—Tells how to remove and install DSP modules in ASIs and MRPs.
 - [Installing VPN modules](#)—Tells how to install a VPN module in an MRP.
- [Verifying card installation](#)—Tells how to use the LEDs on processor cards to determine that they are properly installed.

Configuring the System for Remote Dial-Up Access to ICS System Manager

- [Installing a modem](#)—Tells how to connect a modem to the SAP COM1 port to enable remote dial-up access to ICS System Manager.
- [Configuring the modem](#)—Tells how to configure the modem to enable remote dial-up access to ICS System Manager.

Replacing SPEs

- [Replacing a Failed SPE](#)—Provides information about how to replace a failed SPE.

Reimaging SPEs

- [Reimaging process and scenarios](#)—Provides information about what happens during reimaging and describes situations that typically require reimaging.
- [Preparing for SPE reimaging](#)—Provides a list of the information that you need to have available to complete SPE reimaging.
- [Reimaging the SPE](#)—Tells how to reimage Microsoft Windows 2000 Server on SPEs.

Restoring System Data

- [Restoring system data](#)—Tells how to restore SPE registry settings, ICS System Manager database records, and IOS configuration files for ASIs and MRPs.
- [Restoring Cisco CallManager 3.3 data](#). Tells how the Cisco IP Telephony Applications Restore Utility works.
- [Restoring Cisco Unity data](#)—Tells how to use VERITAS Backup Exec to restore Cisco Unity data.

Password Recovery

- [Password recovery scenarios](#)—Describes situations where password recovery might be required.
- [Recovering ASI and MRP passwords](#)—Tells how to reset ASIs and MRPs which do not have flash memory, so that their passwords are retrieved from the SPE running System Manager.
- [Recovering SSP passwords](#)—Tells how to reset the SSP so that you can change its passwords to their original values.

Troubleshooting Hardware Problems

- [Fans](#)—Tells how to check fan speed and how to solve problems with fans.
- [Power supply modules](#)—Tells how to locate and solve problems with power supply modules.
- ASIs and MRPs:
 - [Hardware and interface problems](#)—Tells how to isolate and solve problems related to ASIs, MRPs, and the interface cards installed in them.
 - [Boot problems](#)—Provides general guidelines and solutions to specific instances of ASI and MRP boot problems.
- [SPEs](#): Tells how to locate and solve problems with SPEs.
- [SSP](#):
 - [Hardware and interface problems](#)—Tells how to isolate and solve problems related to the SSP and its interfaces.
 - [Boot problems](#)—Provides a solution to be used when a replacement SSP card does not boot properly.

Migrating a Cisco ICS 7750 System

- [Migrating a Cisco ICS 7750 System to a Media Convergence Server \(MCS\)](#)—Tells how to migrate all software applications from the Cisco ICS 7750 to a new server platform.

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

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You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation DVD

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