



Preface

Objectives

This document describes the concepts and functions of Signaling System Number 7 (SS7). SS7 is widely deployed in the public switched telephone network (PSTN). It sources out-of-band signaling throughout the PSTN.

Audience

The guide is intended for system administrators and service technicians charged with configuring and maintaining end office switching systems.

Organization

This document describes SS7 functions and components in the following chapters:

Chapter 1	Overview	Briefly describes signaling methods used in the PSTN.
Chapter 2	SS7 Signaling Architecture	Describes SS7 components and link types.
Chapter 3	SS7 Protocol Stack	Describes protocol stack elements in relation to the layers of the OSI model.
Chapter 4	SS7 Signal Units	Describes the format and structure of SS7 signal types.
Chapter 5	ISUP and TCAP	Describes setup of calls and database queries using the ISUP and TCAP protocols.

Conventions

This document uses the following conventions:

**Note**

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the manual.

**Caution**

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

**Warning**

Warning means *danger*. You are in a situation that could cause bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translated versions of the warning, refer to the *Regulatory Compliance and Safety* document that accompanied the device.

Related Documentation

Related documentation includes:

- *Cisco VCO/4K Hardware Planning Guide*
- *Cisco VCO/4K Site Preparation Guide*
- *Cisco VCO/4K Hardware Installation Guide*
- *Cisco VCO/4K System Maintenance Manual*
- *Cisco VCO/4K Troubleshooting Guide*
- *Cisco VCO/4K Mechanical Assemblies*
- *Cisco VCO/4K Card Technical Descriptions*
- *Cisco VCO/4K Software Installation Guide*
- *Cisco VCO/4K System Administrator's Guide*
- *Cisco VCO/4K Standard Programming Reference*
- *Cisco VCO/4K Extended Programming Reference*
- *Cisco VCO/4K System Messages*
- *Cisco VCO/4K Supervision and Call Progress Tone Detection*
- *Cisco VCO/4K Conferencing Guide*
- *Cisco VCO/4K SS7 Subsystem Manual, ANSI Software Version 5.2*
- *Cisco VCO/4K ITU Subsystem Manual, ITU Software Version 5.2*
- *Cisco VCO/4K China Integrated SS7 Manual*
- *Cisco VCO/4K ISDN Supplement*
- *Cisco VCO/4K ASIST/API Programming Reference*
- *Cisco VCO/4K TeleRouter Reference Guide*
- *Cisco VCO/4K Ethernet Guide*
- *Cisco VCO/4K MIB Reference*

- *Cisco VCO/4K Country Supplements*

Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- <http://www.cisco.com>
- <http://www-china.cisco.com>
- <http://www-europe.cisco.com>

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

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- Registered Cisco Direct Customers can order Cisco Product documentation from the Networking Products MarketPlace:
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- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, in North America, by calling 800 553-NETS(6387).

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To submit your comments by mail, for your convenience many documents contain a response card behind the front cover. Otherwise, you can mail your comments to the following address:

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Document Resource Connection
170 West Tasman Drive
San Jose, CA 95134-9883

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at anytime, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco.

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To access Cisco.com, go to the following website:

<http://www.cisco.com>

Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://www.cisco.com/tac/caseopen>

Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

