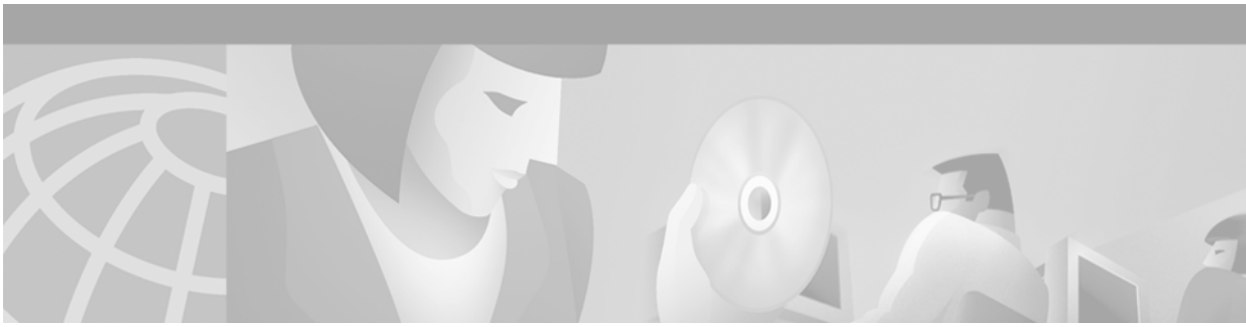

Release Notes for Cisco SS7 Interconnect for Voice Gateways Solution Release 1.3

April 18, 2002

These release notes describe the features and caveats for Release 1.3 of the Cisco SS7 Interconnect for Voice Gateways Solution. The following sections list the contents of this document and describe the solution and its components.

Contents

These release notes describe the following topics:

Introduction

The Cisco SS7 Interconnect for Voice Gateways Solution is a distributed system that provides SS7 connectivity for Voice-over-IP (VoIP) media gateways by using the Cisco Media Gateway Controller (also referred to as the Cisco SC2200) and the media gateways as a bridge from the H.323 IP network to the PSTN network. This solution interacts over the IP network with other Cisco H.323 VoIP media gateways. In addition, the Cisco SS7 Interconnect for Voice Gateways Solution can interoperate with H.323 endpoints, using non-SS7 signaling such as ISDN PRI and channelized T1/E1.

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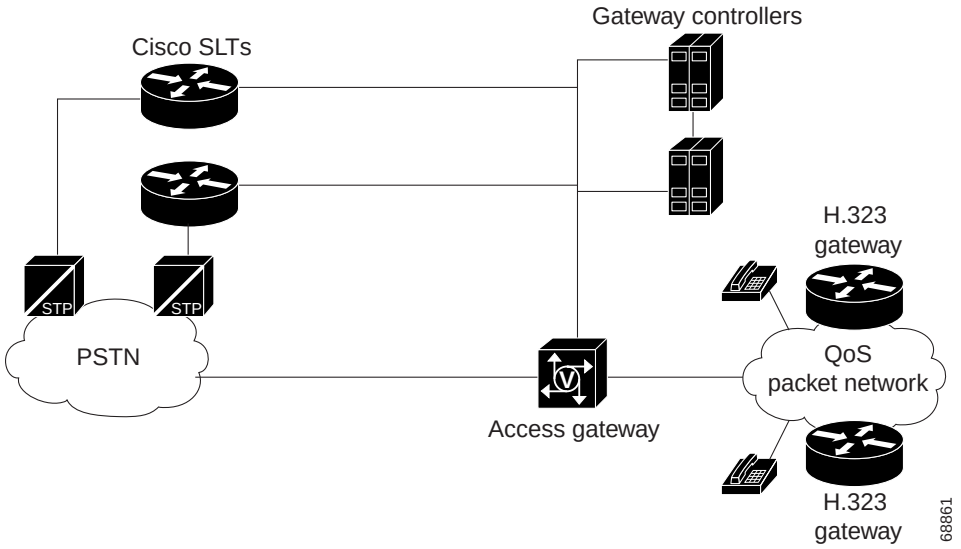
Figure 1 illustrates where the Cisco SS7 Interconnect for Voice Gateways Solution is located when it is dropped into a PSTN to offload calls. By placing the solution as close to the ingress switch as possible, voice and data traffic ties up fewer PSTN resources. The direct connection of the Cisco SS7 Interconnect for Voice Gateways Solution to the SS7 network provides advantages such as faster call setup and teardown, and SS7's look-ahead capabilities for rerouting to avoid downed network nodes and links.

Figure 1 Cisco SS7 Interconnect for Voice Gateways Solution



Hardware Requirements

Table 1 Hardware Requirements for Solution Components

Component Type	Product Name	Flash Memory Required	DRAM Memory Required	Other Hardware Requirements
Media Gateway Controller	Cisco SC2200	—	—	See *Release Notes for Cisco Media Gateway Controller Software Release 7.4(12)*
SS7 Signaling Pre-Processor	Cisco SLT (SLT 2611 or SLT 2651)	16 MB	48 MB	—
Media Gateway	Cisco AS5300	16 MB	128 MB	—
	Cisco AS5350	32 MB	128 MB	—
	Cisco AS5400	32 MB	256 MB	—
	Cisco AS5800	16 MB	256 MB	—
	Cisco AS5850	32 MB	512 MB	—

Table 1 Hardware Requirements for Solution Components (continued)

Component Type	Product Name	Flash Memory Required	DRAM Memory Required	Other Hardware Requirements
Network Management	Cisco Media Gateway Controller Node Manager (CMNM)	—	—	See *Installing CMNM*
	Voice Services Provisioning Tool (VSPT)	—	—	Sun Ultra-5 workstation running Solaris 2.6
	Cisco Works2000 Voice Manager (CVM)	—	—	See release notes: • for Solaris platforms • for Windows platforms

Software Requirements

Table 2 lists the required versions of Cisco IOS and other software for the components supported by the Cisco SS7 Interconnect for Voice Gateways Solution. This table includes links to the Software Center, where you can download the software you need to upgrade your solution to Release 1.3.

Note You need a CCO account to download the software listed in Table 2.

Caution The December 10, 2001, software release is listed here for reference purposes only. This release was obsoleted because of security concerns. Cisco Systems recommends that you upgrade your components to the software versions listed in the April 18, 2002, column. See Cisco Security Advisory for details

Table 2 Software Requirements for Solution Components

Component	Release 1.3 December 10, 2001	Release 1.3 IOS/MGCS Patch Update April 18, 2002	Release 1.3 IOS/MGCS Patch Update August 12, 2002
Cisco SC2200	• Media Gateway Controller Software Version 7.4(12) • Patches CSCOgp008 and CSCOgs009	• Media Gateway Controller Software Version 7.4(12) • Patches CSCOgp011 and CSCOgs011	• Media Gateway Controller Software Version 7.4(12) • Latest Patches (Patch Information)
Cisco SLT 2611 or Cisco SLT 2651	Cisco IOS Release 12.2(2)XA1	Cisco IOS Release 12.2(2)XA4	Cisco IOS Release 12.2(8)T4
Cisco AS5300	Cisco IOS Release 12.2(2)XA4 Cisco VCWare	Cisco IOS Release 12.2(2)XB3 Cisco VCWare	Cisco IOS Release 12.2(11)T Cisco VCWare 10.26
Cisco AS5350	Cisco IOS Release 12.2(2)XA4	Cisco IOS Release 12.2(2)XA5	Cisco IOS Release 12.2(11)T
Cisco AS5400	Cisco IOS Release 12.2(2)XA4	Cisco IOS Release 12.2(2)XA5	Cisco IOS Release 12.2(11)T

Table 2 Software Requirements for Solution Components (continued)

Component	Release 1.3 December 10, 2001	Release 1.3 IOS/MGCS Patch Update April 18, 2002	Release 1.3 IOS/MGCS Patch Update August 12, 2002
Cisco AS5800	—	Cisco IOS Release 12.2(2)XB3	Cisco IOS Release 12.2(11)T
Cisco AS5850	—	Cisco IOS Release 12.2(2)XB4 [1]	Cisco IOS Release 12.2(11)T
CMNM	• Version 1.5 • Patches and documentation	• Version 1.5 • Patches and documentation	• Version 1.5 • Patches and documentation
Cisco VSPT	• Version 1.6 • Patches and documentation	• Version 1.6 • Patches and documentation	• Version 1.6 • Patches and documentation
CiscoWorks2000 Voice Manager	• Version 2.0.2 • Patches and documentation	• Version 2.0.2 • Patches and documentation	• Version 2.0.2 • Patches and documentation

1. Access to this release of Cisco IOS is restricted. To obtain this release, please send email to tv13_5850_xb4@cisco.com.

New Features

Table 3 lists the features that have been added to Release 1.3 of the Cisco SS7 Interconnect for Voice Gateways Solution.

Table 3 New Features in the Cisco SS7 Interconnect for Voice Gateways Solution

Feature	Supported Platform	Minimum Cisco IOS Version Required	Reference Documentation
Support for new gateways	Cisco AS5350	Cisco IOS Release 12.2(2)XA4	*SS7 Interconnect for Access Servers and Voice Gateways Solutions Media Gateway Guide*
	Cisco AS5400	Cisco IOS Release 12.2(2)XA4	
	Cisco AS5800	Cisco IOS Release 12.2(2)XB2	
	Cisco AS5850	Cisco IOS Release 12.2(2)XB4 [1]	
Support for up to 4 SS7 links per Cisco SLT	Cisco SLT 2651	Cisco IOS Release 12.2(2)XA1	*Release Notes for Cisco Signaling Link Terminal for Cisco IOS Release 12.2 XA*
Support for Cisco Media Gateway Controller Node Manager (CMNM)	CMNM 1.5	—	*Cisco Media Gateway Controller Node Manager User's Guide*
Support for Voice Services Provisioning Tool (VSPT)	VSPT 1.6	—	*SS7 Interconnect for Voice Gateways Solution Provisioning Guide*
Support for Cisco Voice Manager (CVM)	CVM 2.0.2	—	CiscoWorks2000 Voice Manager 2.02

1. Access to this release of Cisco IOS is restricted. To obtain this release, please send email to tv13_5850_xb4@cisco.com.

Caveats

Caveats describe unexpected behavior in the Cisco SS7 Interconnect for Voice Gateways Solution. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious. To review caveats that affect the individual components of the Cisco SS7 Interconnect for Voice Gateways Solution, refer to the following online release notes:

- Cisco SC2200 Signaling Controller
- Cisco Signaling Link Terminal
- Cisco AS5300 Universal Access Server
- Cisco AS5350 Universal Gateway
- Cisco AS5400 Universal Gateway
- Cisco AS5800 Universal Gateway
- Cisco AS5850 Universal Gateway

Handover-Split Mode Limitations

Cisco AS5850s configured for handover-split mode operate under the following limitations:

- Each Cisco AS5850 can support two CT3 trunks. Cisco AS5850s configured for classic-split mode can support up to four CT3 trunks each.
- Because the Cisco PGW 2200 can support only two RLM links to an NFAS group, you can assign only one interface to each RSC card in a Cisco AS5850 operating in handover-split mode. This prevents link redundancy between the individual RSCs and the Cisco PGW 2200s.
- After an RSC fails, it takes up to 2 minutes for the active RSC to take over for the failed RSC. During this time, calls handled by the failed RSC are dropped, and new calls are not accepted. Calls handled by the active RSC are not affected by a switchover.
- There is intermittently a 2 to 3 second outage (dsp timeout event errors and no bearer path) when redundancy handover peer-resources is executed. Customers may face this problem in field when one of the route switch controllers (RSCs) fails temporarily and run **handover peer-resources** after the failed RSC is back in service.

  Use the **redundancy handover peer-resources busyout-period** command when instructing the active RSC to release control of the slots usually controlled by the standby RSC. This is to avoid dsp timeout event errors caused by the sudden disruption of active calls that are using the DSP resources on the relinquished slots.

Open Caveats—Cisco SS7 Interconnect for Voice Gateways Release 1.3

This section describes possibly unexpected behavior by Release 1.3 of the Cisco SS7 Interconnect for Voice Gateways Solution.

- CSCdu30427

  If an SS7 destination point code sends a release with cause values 0x3F (service or option not available, unspecified) or 0x51, the media gateway controller will change this cause value to 0x1F (normal, unspecified). There is no workaround.

- CSCdu30397

  If an SS7 release message is sent with cause codes 0x29, 0x2A, or 0x6F by a SS7 destination point code, the Cisco Media Gateway Controller will change the cause code to 0x2C (Request circuit/channel not available). There is no workaround.

- CSCdu33449

  A setting in XECfgParm.dat, *.SysScreeningCheck, has a default value of “false”. If screening is configured on the Cisco SC2200 and assigned to an SS7 path, all calls will be rejected by the Cisco SC2200. The workaround for this problem is to modify the XECfgParm.dat file and change this value to “true”. After changing the XECfgParm.dat file the MGC software must be restarted. This can be accomplished in a redundant configuration by forcing two manual switchovers.

- CSCdu38874

  During a failover on the master SC where both ethernet connections are lost, the failover correctly switches to the slave SC. However, once the ethernet connections are restored on the master, the SC does not return to Standby mode. The workaround is as follows:

  With the slave in Active mode, execute (as root) on the Master:

  /etc/init.d/CiscoMGC stop

  After the SC software has stopped, restart it using the following command:

  /etc/init.d/CiscoMGC start

  To verify that the SC has entered the Standby state, return to mml and execute the following command:

  rtrv-ne

- CSCdu84585

  In MGC software release 7.4(12), the command **set-admin-state:<NASPATH>:reset** does not work. There is not workaround.

- CSCdv06429

  After dynamically modifying trunk files, the command **prov-sync** may cause the SC to switch over. There is no workaround.

- CSCdv07849

  After an SS7 DPC failure, calls may hang in the Cisco SC2200. As a workaround, enter the **sta-aud** command. For further details on this procedure, refer to *Release Notes for Cisco Media Gateway Controller Software Release 7.4(11)*.

- CSCdv68173

  When configuring AAA broadcast for the purpose of introducing a second RADIUS accounting server, the order of entry of the server groups will determine whether calls pass authorization or not.

- CSCdv73991

  On the Cisco AS5300, AS5350, AS5400, and AS5800 in a Cisco SS7 Interconnect for Voice Gateways solution, if **isdn negotiate-bchan resend-setup** is configured under the serial interface for the NFAS group, this will cause a renegotiation of the channel if the channel used by the NAS on egress calls is unavailable for some reason in the SS7 network (glare, COT failure, etc.). The

CDR that is generated by the NAS in this particular scenario will contain the value of the original channel in the cisco-vsa-port-string field, instead of the new renegotiated value. There is no workaround.

- CSCdw03032

  The ExtCOT parameter, used when provisioning **sigsvcprop** on the Cisco SC2200, is case sensitive. When configuring COT, be sure to specify **Loop** (with an upper-case L) or **Transponder** (with an upper-case T).

- CSCdw21435

  On a Cisco AS5400 in a Cisco SS7 Interconnect for Voice Gateways solution, a manual COT test may fail. This problem is seen when the following configuration **modem inout** under **line x/xx x/yyy** is not in place.

  The workaround is to use the following configuration:

```
line 1/00 1/107
modem InOut
line 3/00 3/107
no flush-at-activation
modem InOut
line 5/00 5/107
no flush-at-activation
modem InOut
```

- CSCdx41673

  When the Cisco AS5800 carries simultaneous egress and ingress calls, it selects blocked channels to terminate egress calls. This problem has been observed in 122-9.4.PI4 load.

  All the channels of controller t1 1/0/0 were blocked from the Cisco SC2200 and controllers t1 1/0/1 to 1/0/8 were used for terminating calls. Controllers 1/1/0 to 1/1/9 were also up and in unblocked condition. Egress traffic was running for long time at 2 cps rate and there was 99.9% CCR. After some time, controllers 1/1/0 to 1/1/9 were used for ingress traffic at 1 cps rate. This has caused 5800 to select the blocked channels of controller 1/0/0 to terminate the egress calls. Since these channels were blocked, the Cisco SC2200 re-negotiates the channel-id. The **sh isdn service** command shows controller 1/0/0 is blocked by the Cisco SC2200.

- CSCdx55462

  In the call scenario:

  SS7--->SC2200--->AS5300----H.323---->AS5300----CAS

  when one of the controllers is down at the egress gateway, the active calls are released with cause value 34- No circuit Available- to the ingress SS7 side. Sending cause value 34 is not correct in this scenario, because the call is already answered and may be active for several minutes. If the egress side is SS7, cause code 41 is sent. Because of sending cause code 34, most probably these calls will not be billed also.

- CSCdx59298

  On the Cisco gateway running Cisco IOS Release 12.2(10.6)T, if a T1 or E1 goes down while calls are active, the calls will be correctly released but with the incorrect release cause code (16, normal call clearing). They should be released with cause 41, Temporary Failure. There is no workaround.

- CSCdx66983

  When the controller T3 card is hot swapped, the controller T3 never comes up until the framing type is changed.

The Cisco AS5850 was configured in handover split mode. RSC6 and RSC7 were both up and running calls. The controller 12/0 was controlled by RSC7 and was set up to egress ss7 calls and physically loopbacked externally. While calls were being terminated, the controller 12/0 was pulled from slot and then pushed back in. Controller T3 12/0 did not come up, whereas controllers t1 12/0:1 to 12/0:28 all came up. Calls to RSC7 could be terminated even though controller t3 12/0 was down.

The box is power recycled and both RSC6 and RSC7 came up. Controller 12/0 came up momentarily and the next second went down. All controllers belonging to 12/0 came up. The framing type was set to m23 and I changed to c-bit. After changing the framing type, the controller 12/0 has come up and all associated t1 also. But **show call res voice stats** shows no free DS0 resources and the right half of the AS5850's resources become unavailable.

After **shut** and **no shut** on the rlm g 2, the DS0 resources become available.

- CSCdx87165

  On the Cisco AS5xx0 family of routers, 10 to 15% of COT tests may fail when the gateway is terminating transponder COT. This does not affect COT tests when the gateway is terminating Loop COT.

  The workaround is to upgrade to SPE v7.17 or greater. First check www.cisco.com for np.7.17.spe:

  http://www.cisco.com/cgi-bin/tablebuild.pl/nextport-spe

  If version 7.17 or later is not yet available, e-mail **xu-nextport@cisco.com** with details of your problem. A special SPE image can be downloaded to resolve this issue. Someone on the mail alias will provide you with details for accessing the file and how to download it.

- CSCdy33065

  Customers using Cisco Access Servers (such as Cisco AS5400 or Cisco AS5300) in the Cisco SS7 Interconnect for Voice Gateways solution may find that the radius CDR generated for CAS signaling-terminated calls do not show the DS0 number of "cisco-vsa-port-string" and "cisco-avpair" fields correctly and always set it to 0.

Troubleshooting

For information on troubleshooting procedures for the Cisco SS7 Interconnect for Voice Gateways Solution, refer to the *Cisco MGC Software Release 7 Operations, Maintenance, and Troubleshooting Guide*.

Related Documentation

Consult the following online documentation for information about hardware installation and system requirements for the Cisco SS7 Interconnect for Voice Gateways Solution.

Solution Documentation

- *Cisco SS7 Interconnect for Voice Gateways Solution Overview 1.3*
- *SS7 Interconnect for Access Servers and Voice Gateways Solutions Media Gateway Guide*
- *SS7 Interconnect for Voice Gateways Solution Provisioning Guide*
- *Cisco Media Gateway Controller Hardware Installation Guide*

Platform-Specific Documents

Platform-specific release notes are available for the following components:

- Cisco Media Gateway Controller
- Cisco Signaling Link Terminal
- Cisco AS5300 Universal Access Server
- Cisco AS5350 Universal Gateway
- Cisco AS5400 Universal Gateway
- Cisco AS5800 Universal Gateway
- Cisco AS5850 Universal Gateway
- Cisco Media Gateway Controller Node Manager (CMNM)
- CiscoWorks2000 Voice Manager 2.02

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
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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

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- 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.