



Release Notes for Cisco ASAP Solution Release 3.0

This document presents the following major topics:

- [Introduction, page 2](#)
- [Solution Components: Hardware and Software Requirements, page 6](#)
- [Related Documentation, page 10](#)
- [Caveats for Cisco ASAP Solution Release 3.0, page 18](#)
- [Important Notes, page 20](#)
- [Limitations and Restrictions, page 21](#)
- [Upgrading to Cisco ASAP Solution Release 3.0, page 22](#)
- [Obtaining Documentation, page 23](#)
- [Obtaining Technical Assistance, page 24](#)



Tip

Use this document online. This document provides hyperlinks to related documents and websites, including release notes for solution components and Cisco IOS images.

Document History

Document Version	Date	Notes
1	10/17/02	This document was first published.



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Introduction

This section presents the following topics:

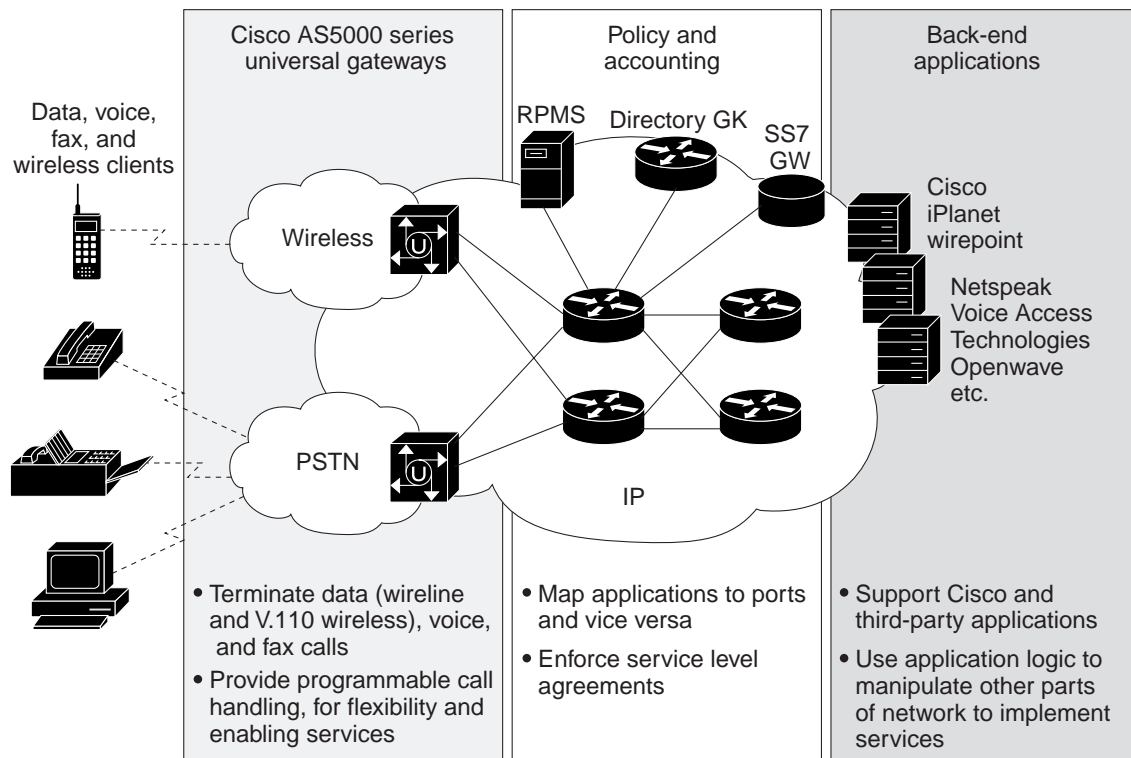
- [Solution Architecture and General Features](#)
- [What Changed Between Release 2.0 and Release 3.0?](#), page 3

Solution Architecture and General Features

The Cisco Any Service, Any Port (ASAP) Solution architecture allows service providers to deliver integrated data, voice, fax, and wireless data (V.110) services on a single platform.

The Cisco ASAP Solution does not provide all possible features, but its layered architecture is designed to support their development. [Figure 1](#) illustrates the three basic components, or layers, that the Cisco ASAP Solution will provide as it continues to evolve.

Figure 1 Cisco ASAP Solution Architecture



- At the front end, Cisco UGs terminate data, voice, fax, and wireless calls through open, programmable gateways (GWs).

This programmability is essential to service providers, who must rapidly adapt their infrastructure to new opportunities.

- At the back end, customers can use carrier-class services from a wide range of Cisco Ecosystem Partners. Again, the programmability of the UGs is essential to application developers, as it is the UG features that make services carrier class.

- In the middle, a layer of policy and accounting products map applications to ports and vice versa. In addition, these products authenticate user sessions, enforce service-level agreements (SLAs), and implement VoIP dial plans.

The Cisco ASAP Solution provides the following benefits and features, among others:

- Universal ports provide *any service on any port* of a single universal gateway *at any time*. Call types that are supported are modem, asynchronous data, voice, fax, and wireless data (V.110).
- As all the above call types are implemented on a single universal gateway, capital costs are minimized and the complexity of preprovisioning gateways for different services is eliminated.
- *Dynamic call-by-call handling*—Offering any call type on any port—is the key software function that makes it possible for you to use the universal port DSP functionality by mapping incoming calls to different service-implementation software running on the gateway.
- *Enhanced call admission control*—Ensures that a gateway never accepts a call that it cannot complete; this feature proactively informs network elements, such as H.323 gatekeepers, when the gateway is reaching capacity to aid in intelligent voice/fax call-routing decisions.

For more detail, see the following:

- [Cisco IOS and Media Gateway Controller \(MGC\) Features Supported, page 4](#).
- [Solution Documentation, page 10](#)

What Changed Between Release 2.0 and Release 3.0?

Previous Releases

The features of Release 2.0 are the same as those of Release 1.0. Cisco ASAP Solution Release 2.0 introduced Cisco IOS Release 12.2(2)XB5 on the gateway components. Refer to the previous release notes:

- [Release Notes for Cisco ASAP Solution Releases 1.0 and 2.0](#)
<http://www.cisco.com/univercd/cc/td/doc/product/access/solution/asap/asaprn.htm>

This Release

Cisco ASAP Solution Release 3.0 introduces changes in the following areas:

- [New Cisco IOS Software](#)
- [New Cisco MGC Software, page 4](#)

New Cisco IOS Software

Cisco ASAP Solution Release 3.0 introduces Cisco IOS Release 12.2(11)T on the gateway components. See [Table 2 on page 7](#) and [Table 5 on page 15](#).

New Cisco MGC Software

Cisco ASAP Solution Release 3.0 uses Release 9 of the Cisco Media Gateway Controller (MGC) Software. The controller formerly referred to as the Cisco SC2200 is now referred to as the Cisco PGW 2200. (PGW stands for PSTN gateway.) For details and the latest MGC release notes, refer to Cisco Media Gateway Controller Software Release 9 Documentation at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/index.htm>



Note

Cisco ASAP Solution Release 3.0 was tested with Release 9.2(2) of the MGC software.

See also [Cisco Media Gateway Controller Documentation, page 13](#).

Cisco IOS and Media Gateway Controller (MGC) Features Supported

[Table 1](#) lists or provides references to the specific Cisco IOS and MGC features enabled and supported by previous and current releases of the Cisco ASAP Solution.

Table 1 *Cisco IOS and MGC Features Enabled and Supported by Previous and Current Releases of the Cisco ASAP Solution*

Feature Area	Supported in Releases 1.0 and 2.0	Introduced in Release 3.0
General	Call-by-call voice, dial, and fax services on a single platform (Cisco AS5350 and Cisco AS5400 universal gateways) using a universal port DSP	Supported in all releases
Dial	Dial support through the Cisco AS5400, Cisco AS5350, Cisco AS5300, Cisco AS5800, and the Cisco AS5850	See Dial, page 11 : <ul style="list-style-type: none"> • Support for AAA resource accounting • Support for Cisco RPMS 2.0 (RADIUS) • Support for V.92 Modem on Hold (MICA and NextPort firmware) • Support for V.92 Quick Connect (MICA and NextPort firmware)
Voice	VoIP services: phone to phone, PC to phone, prepaid and postpaid calling, and long-distance toll bypass	Support for Digiquant billing applications

Table 1 *Cisco IOS and MGC Features Enabled and Supported by Previous and Current Releases of the Cisco ASAP Solution (continued)*

Feature Area	Supported in Releases 1.0 and 2.0	Introduced in Release 3.0
SS7 Interconnect (including signaling link terminals)	SS7 interconnect	See Signaling System 7 (SS7) , page 12: <ul style="list-style-type: none"> GTD for GKTMP using SS7 Interconnect for Voice Gateways Version 2.0 R2 and ISUP ISUP Transparency for Voice Gateways Version 2.0 Integrated SLTs SS7 four-link support for Cisco SLTs
	Remote signaling link terminals (SLTs) and gateways	See Signaling System 7 (SS7) , page 12: <ul style="list-style-type: none"> Integrated SLTs SS7 four-link support for Cisco SLTs
	Support for Release 7 of media gateway controller (MGC) software on the Cisco SC2200	Support for Release 9 of MGC software on the Cisco PGW 2200 See Cisco Media Gateway Controller Release 9 , page 13
Call Admission Control	Enhanced call admission control	See Call Admission Control (CAC) , page 12 <ul style="list-style-type: none"> Call admission control for H.323 VoIP gateways
Carrier Sensitive Routing	Not formally supported	See Carrier Sensitive Routing (CSR) , page 12: <ul style="list-style-type: none"> Enhancements to VoIP gatekeeper trunk and carrier-based routing Enhancements to VoIP gateway trunk and carrier-based routing Support for outgoing trunk group ID and carrier ID for gateways and gatekeepers
TDM Switching and ISUP Interoperability	ISUP-to-ISUP TDM switching (without ISUP transparency)	See Time-Division Multiplexing Switching , page 13: <ul style="list-style-type: none"> TDM switching with ISUP transparency for dial
	ISUP-to-PRI TDM switching	
	ISUP-to-ISUP VoIP calls (without ISUP transparency)	
	ISUP-to-CAS VoIP calls	
	ISUP-to-PRI VoIP calls	
SIP	Not formally supported	Support for SS7-to-SIP and SIP-to-SS7 calls through the Cisco PGW 2200
Management	Network management using Cisco UGM, CMNM, Cisco RPMS, Cisco VSPT, and Cisco AR (for RADIUS-compliant proxy and local AAA services)	See Dial , page 11: <ul style="list-style-type: none"> Support for Cisco RPMS 2.0 (RADIUS)
	Cisco RPMS for port policy management (for dial calls only)	

Additional Cisco IOS Features

For a list of other Cisco IOS features that are applicable to components that support the Cisco ASAP Solution, refer to Cisco IOS Release 12.2(2)T at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/index.htm>



Note

For available features, always refer to the most recent Cisco documentation, including release notes, for the Cisco operating system that a particular platform is running. Refer also to Cisco IOS Software Configuration at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/software/index.htm>

Caveats

For resolved and open caveats for Cisco ASAP Solution Release 3.0, see [Caveats for Cisco ASAP Solution Release 3.0, page 18](#).

Solution Documentation

For documentation that supports the Cisco ASAP Solution, including an overview (with additional features and a variety of network architecture scenarios), provisioning information, and release notes, see [Solution Documentation, page 10](#).

Solution Components: Hardware and Software Requirements

The Cisco ASAP Solution may feature both Cisco and third-party components, as listed in the following sections:

- [Cisco Core Components and Software Releases](#)
- [Cisco Network Management Components and Other Tools, page 7](#)
- [Third-Party Components, page 10](#)

The following sections list the components and the software that supports them.

Cisco Core Components and Software Releases

At a Glance

[Table 2](#) lists the core components and the software releases tested in Cisco ASAP Solution Releases 3.0. This section is only a brief overview. See [For More Detail, page 7](#).



Tip

When you view this document online, the components in the Hardware column of [Table 2](#) serve as links to the platform-specific release notes. Refer to the release notes for each platform and software image that you use in the Cisco ASAP Solution.

**Note**

Different customers use different subsets of the following components.

Table 2 *At a Glance: Cisco Core Components and Software Releases for Cisco ASAP Solution Release 3.0*

Hardware (with links to documentation)	Purpose	Software Release Tested
Cisco AS5350	Universal gateways	Cisco IOS Release 12.2(11)T1
Cisco AS5400		
Cisco AS5850		
Cisco AS5300	Dial-only gateways	
Cisco AS5800		
Cisco 3660	H.323 gatekeepers and directory gatekeepers	
Cisco 7200 series		
Cisco PGW 2200 (configured for signaling) (Sun Netra t 100/105, t 1400/1405, t 1100/1105, t 1120/1125)	PSTN signaling gateway (required for SS7; formerly referred to as the Cisco SC2200)	Media Gateway Controller Software Release 9.2(2)
Cisco 2611 or Cisco 2651 SLT	SS7 signaling link termination system	Cisco IOS Release 12.2(8)T4

For More Detail

For details see [Cisco ASAP Solution Software Matrix, page 13](#). [Table 5 on page 15](#) also provides hyperlinks to release notes and the Cisco IOS Upgrade Planner, where you can download Cisco IOS images for components of the Cisco ASAP Solution. Also see [How to Use the Cisco IOS Upgrade Planner, page 16](#).

Cisco Network Management Components and Other Tools

[Table 3](#) describes the optional Cisco network management components and additional tools that you can use with Cisco ASAP Solution Release 3.0.

**Tip**

When you view this document online, the components in the first column of [Table 3](#) serve as links to release notes and platform-specific documentation. Refer to the release notes for each platform and software release that you use in the Cisco ASAP Solution.

Table 3 Cisco Network Management Components for the Cisco ASAP Solution

Component (with links to documentation)	Minimum Software Release Required	Platform Hardware	Platform Software
Cisco Info Center	CIC Release 3.0	SunUltra II or higher	Solaris 2.6 or 2.7 with latest patches
Cisco Resource Policy Management System (Cisco RPMS) ¹	Cisco RPMS Release 1.1 (Cisco ASAP 3.0 has been tested with Cisco RPMS Release 2.0.5.3)	Sun Ultra 60 or higher	Sun Solaris 2.6, 2.7, or 2.8 with latest patches Oracle 8.x and later releases
			Netscape 4.04 or later releases Microsoft Internet Explorer 4.x and later releases
CiscoWorks2000 Voice Manager	CiscoWorks2000 VM Release 2.0.2	Microsoft Windows server with 450 MHz CPU	Windows NT 4.0 with Service Pack 5, Cisco Works2000 CD One
		Sun server (SPARC/ UltraSPARC) with 333 MHz CPU	Solaris 2.6 with the latest kernel, Cisco Works2000 CD One for Solaris
		Any client	Microsoft Windows 95 running Netscape 4.04 or Internet Explorer 4.01 and 64 MB of virtual memory; or Windows NT running Netscape 4.04 or Internet Explorer 4.01 and 64 MB of virtual memory; or Solaris running Netscape 4.04 with Telnet and Java enabled and 64 MB of virtual memory
Cisco Universal Gateway Manager (Cisco UGM)	Cisco UGM Release 1.0	Sun Ultra 60 or later versions	Solaris 2.6; Cisco EMF 3.0.4, Patch 12
Cisco MGC Node Manager (CMNM)	CMNM Release 1.5 (Cisco ASAP 3.0 was tested with CMNM Release 2.3.1)	Sun Ultra 60 or later versions	Sun Solaris 2.6

Table 3 Cisco Network Management Components for the Cisco ASAP Solution (continued)

Component (with links to documentation)	Minimum Software Release Required	Platform Hardware	Platform Software
Cisco Billing and Measurements Server (Cisco BAMS)	Cisco BAMS Release 3.08 (Cisco ASAP 3.0 was tested with Cisco BAMS Release 3.10)	Sun Netra series	See latest product documentation
Cisco Voice Services Provisioning Tool (Cisco VSPT)	Cisco VSPT Release 1.6 (Cisco ASAP 3.0 was tested with VSPT Release 2.2(2))	Sun Ultra-5 Workstation	Sun Solaris 2.6
Cisco Access Registrar (Cisco AR)	Cisco AR Release 1.7 R1 (Cisco ASAP 3.0 was tested with Cisco AR Release 1.7R3)		Sun Solaris 2.6
Cisco Internet Performance Manager (Cisco IPM) ²	Cisco IPM Release 2.3, Cisco IOS Release 12.1(3) or later	Microsoft Windows server and client	Microsoft Windows NT 4.0 with Service Pack 6a; Windows 2000 Professional with Service Pack 1; Windows 2000 Server with Service Pack 1; Windows 98 (client only)
		Sun server and client	Solaris 2.6 or 2.7 with latest patches

1. Previously referred to as Cisco Resource Pool Management Server.
2. Requirements depend on client/server architecture. Refer to documentation for Internetwork Performance Monitor, Release 2.3, at the following URL:
<http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/ipmcw2k/cipm23/index.htm>

**Note**

Consult with your Cisco account representative regarding the suitability of the above components for your needs.

Third-Party Components

Table 4 lists optional third-party components for Cisco ASAP Solution Release 3.0. The Trinagy product is used for managing network performance, and MIND-iPhonEX and Digiquant are used for billing.



Note

For the most current information, contact your Cisco account representative, visit the manufacturer's website, or contact the manufacturer's representative.

Table 4 *Third-Party Components*

Component	Manufacturer	Product and Version	Website
Trinagy network performance management	Trinagy	TREND 3.6.1 or later versions; TRENDweb 3.2	http://www.trinagy.com
MIND-iPhonEX	MIND CTI	MIND-iPhonEX 4.2 (w/ Oracle 8.06)	http://www.mindcti.com
Digiquant billing software	Digiquant	Digiquant 3.2.1	http://www2.digiquant.com

Related Documentation

There are four basic categories of supporting documents:

- [Solution Documentation](#)
- [Cisco IOS Documentation for New Features, page 11](#)
- [Cisco Media Gateway Controller Documentation, page 13](#)
- [Documents for Related Solutions, page 13](#)

Solution Documentation

For general information about the Cisco ASAP Solution, refer to the following documents:

- [Cisco ASAP Solution Overview and Planning Guide](#)
- [Cisco ASAP Solution Implementation Guide](#)
- [Release Notes for Cisco ASAP Solution Releases 1.0 and 2.0](#)
- [Cisco Integrated Network Solutions Operations, Maintenance, and Troubleshooting Guide](#)

These documents, along with links to supporting platform and related solution documents, are available at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/access/solution/asap/index.htm>

Cisco IOS Documentation for New Features

This section provides a list of features and functionality that are introduced in Cisco ASAP Solution Release 3.0. This section also provides hyperlinks to publications that include feature information and configuration examples.



Note

The publication names are in *italics*. When applicable, the path to the most useful section of the publication is provided after the publication name. The path items can be book part titles, chapter titles, section names, or subsection names.

The features are categorized as follows:

- [Dial](#)
- [Signaling System 7 \(SS7\)](#)
- [Call Admission Control \(CAC\)](#)
- [Carrier Sensitive Routing \(CSR\)](#)
- [Time-Division Multiplexing Switching](#)

Dial

Cisco ASAP Solution Release 3.0 introduces the following dial features:

- AAA Resource Accounting (dial billing)
 - Cisco IOS Security Configuration Guide, Release 12.2*: See Authentication, Authorization, and Accounting (AAA) > Configuring Accounting > AA Accounting Types > Resource Accounting
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cgcr/fsecur_c/index.htm
- Cisco RPMS 2.0 RADIUS-based Support
 - Cisco Resource Policy Management System 2.0 Configuration Guide*: See Configuring the Universal Gateway
http://www.cisco.com/univercd/cc/td/doc/product/access/acs_soft/rpms/rpms_2-0/config/index.htm
 - Cisco Resource Policy Management System 2.0 Solutions Guide*: See Cisco RPMS Features > RADIUS-Based Support
http://www.cisco.com/univercd/cc/td/doc/product/access/acs_soft/rpms/rpms_2-0/soln/index.htm
- V.92 Modem on Hold
 - For Cisco MICA portware:
V.92 Modem on Hold for Cisco AS5300 and Cisco AS5800 Universal Access Servers
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xb/122xb_2/ft92mmoh.htm
 - For NextPort firmware:
V.92 Modem on Hold for Cisco AS5350, Cisco AS5400, and Cisco AS5850 Universal Gateways and Cisco AS5800 Universal Access Servers
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xb/122xb_2/ftv92moh.htm

- V.92 Quick Connect

For Cisco MICA portware:

V.92 Quick Connect for Cisco AS5300 and Cisco AS5800 Universal Access Servers

http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xb/122xb_2/122xb2_2/ft92mqc.htm

For NextPort firmware:

V.92 Quick Connect for Cisco AS5350, Cisco AS5400, and Cisco AS5850 Universal Gateways and Cisco AS5800 Universal Access Servers

http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xb/122xb_2/122xb2_2/ftv92qc.htm

Signaling System 7 (SS7)

Cisco ASAP Solution Release 3.0 introduces the following SS7 features:

- *GTD for GKTMP Using SS7 Interconnect for Voice Gateways Version 2.0*

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/ftgtdpy2.htm>

- *R2 and ISUP Transparency for Voice Gateways Version 2.0*

http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/ft_isup1.htm

- *Integrated Signaling Link Terminal*

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/ftintslt.htm>

- *SS7 Four-Link Support for Cisco Signaling Link Terminal*

http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t4/ft_4lnk.htm



Note

See also [Cisco Media Gateway Controller Documentation](#), page 13.

Call Admission Control (CAC)

Cisco ASAP Solution Release 3.0 introduces the following CAC feature:

- *Call Admission Control for H.323 VoIP Gateways*, 12.2(11)T feature module, at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/ftcac58.htm>

For general CAC information, refer to *VoIP Call Admission Control*.

Carrier Sensitive Routing (CSR)

Cisco ASAP Solution Release 3.0 introduces the following CSR features:

- *VoIP Gatekeeper Trunk and Carrier Based Routing Enhancements*

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/ftgkrenb.htm>

- *VoIP Gateway Trunk and Carrier Based Routing Enhancements*
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/ftgwrepg.htm>
- *VoIP Outgoing Trunk Group ID and Carrier ID for Gateways and Gatekeepers*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/ft_otgci.htm

Time-Division Multiplexing Switching

Cisco ASAP Solution Release 3.0 introduces support of time-division multiplexing (TDM) switching with ISUP transparency for dial. Previous releases support TDM switching with ISUP transparency for voice only.

Cisco Media Gateway Controller Documentation

Cisco Media Gateway Controller Release 9

Cisco ASAP Solution Release 3.0 uses Release 9 of the media gateway controller (MGC) software. Refer to the following, in particular the release notes, for new features:

- *Cisco Media Gateway Controller Software Release 9 Documentation*
<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/index.htm>
- *Solution Release Notes for Cisco SS7 Interconnect for Voice Gateways 2.0*
<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/soln/voip20/voip2rn2.htm>

Documents for Related Solutions

Documents related to the Cisco ASAP Solution include the following:

- *Cisco Wholesale Voice Solution*
http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel7/soln/wv_rel1/index.htm
- *Cisco SS7 Interconnect for Voice Gateways Solutions*
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/tv/index.htm>
- *Cisco SS7 Interconnect for Access Servers Solutions*
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/td/index.htm>

Cisco ASAP Solution Software Matrix

[Table 5 on page 15](#) is a matrix that lists the tested Cisco IOS and other software releases for a given release of the Cisco ASAP Solution. If you are implementing the Cisco ASAP Solution for the first time, Cisco recommends that you use the most recent software releases in [Table 5](#). If you have already implemented the Cisco ASAP Solution in your network, use the entries in [Table 5](#) as options for upgrading your solution components.

Table 5 also provides hyperlinks to release notes and the Cisco IOS Upgrade Planner where you can download Cisco IOS images for components of the Cisco ASAP Solution. See [How to Use the Cisco IOS Upgrade Planner, page 16](#).



Tip

To determine the release currently running on a platform, see [Determining Software Release Versions, page 17](#).

Before you download a Cisco IOS image, do the following:

- Select a feature set. Consult with your Cisco account representative to determine the Cisco IOS features that are required for your installation.
- Check the release notes for the platform and software release for Flash and DRAM memory requirements which vary, depending on whether IP Plus or Enterprise Plus Cisco IOS software images are used, and whether the images support Open Settlement Protocol (OSP).



Note

OSP enables service providers who use Cisco Open Packet Telephony to communicate directly with a clearinghouse service provider. OSP may also be required in certain billing environments. Contact your Cisco account representative for further information.

OSP and clearinghouses are described as part of the Cisco Wholesale Voice Solution at the following URL: http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel7/soln/wv_re11/index.htm

The binary images of the following feature sets are different, although their functionality is the same:

Identifier	Feature Set (Image Variant)
-is-	IP Plus
-js-	Enterprise Plus
-ik8s-	IP Plus with OSP
-jk8s-	Enterprise Plus with OSP
-ix-	IP with H.323



Tip

When you view this document online, some of the components in the first column of [Table 5](#) serve as links to the Cisco IOS Upgrade Planner where you can download the Cisco IOS images. The software release names in the remainder of the table serve as links to the platform-specific release notes.

Table 5 Cisco ASAP Solution Software Matrix

Component	Cisco Software Releases That Were Tested for Cisco ASAP Solution Release —			
	3.0 10/21/02	2.0 06/11/02	1.0 03/04/02	(Before Cisco IOS Security Update) 1.0 12/12/01
Cisco AS5350 (Universal port)	12.2(11)T1	12.2(2)XB5	12.2(2)XA5	12.2(2)XA4
Cisco AS5400 (Universal port)				
Cisco AS5300 (Dial only)				
Cisco AS5850 (Dial only)			12.1(5)XV4	12.1(5)XV3
Cisco AS5800 (Dial only)			12.1(5)XM7	12.1(5)XM5
Cisco 3660 (Gatekeeper)			12.2(2)XA5	12.2(2)XA5
Cisco 7200 (Gatekeeper)				
Cisco PGW 2200 (PSTN gateway)	9.2(2) Patch: http://www.cisco.com/cgi-bin/tablebuild.pl/mgc-922	7.4(12) Patches CSCOgp016, CSCOgs016	7.4(12) Patch CSCOgs012	7.4(12) Patches CSCOgp008, CSCOgs009
Cisco 2611 or Cisco 2651 SLT (Signaling link terminal)	12.2(8)T4	12.2(8)T	12.2(2)XA5	12.2(2)XA4
Cisco RPMS	2.0.5.3	1.1	1.1	1.1
Cisco CMNM	2.3.1 Patches: http://www.cisco.com/kobayashi/sww-center/sw-voice.shtml	1.5 P 2	1.5	1.5
Cisco UGM	2.1 ¹	2.0 with Cisco EMF 3.2 patch 1.4	2.0	1.0

Table 5 Cisco ASAP Solution Software Matrix (continued)

Component	Cisco Software Releases That Were Tested for Cisco ASAP Solution Release —			
	3.0 10/21/02	2.0 06/11/02	1.0 03/04/02	(Before Cisco IOS Security Update) 1.0 12/12/01
Cisco VSPT	2.2(2) Patches: http://www.cisco.com/kobayashi/sww-center/sw-voice.shtml	1.6(4)	1.6	1.6
Cisco BAMS	3.10 Patches: http://www.cisco.com/kobayashi/sww-center/sw-voice.shtml	n/a	n/a	n/a
Cisco AR	1.7R3	1.7R3	1.7R1	1.7R1
CIC	3.0.1 or later ¹	3.0.1	3.0.1	3.0.1

1. Recommended; not formally tested.

How to Use the Cisco IOS Upgrade Planner



Note

You need a Cisco.com password and user ID to access the Cisco IOS Upgrade Planner.

- Step 1** To access the Cisco IOS Upgrade Planner, complete one of the following steps:
 - a. Within the online version of these release notes, click the platform name in [Table 5](#).
 - b. Go to <http://www.cisco.com/cgi-bin/Software/Iosplanner/Planner-tool/iosplanner.cgi?>, and select the platform name from the first column.
- Step 2** Go to the Select Release column and find the heading Early Deployment Updates.
- Step 3** Search for the release name that corresponds with the name in the Solution Release column in [Table 5](#) (under “Cisco Software Releases That Were Tested for Cisco ASAP Solution Release —”).
- Step 4** Click the link for that release.
The Cisco IOS Upgrade Planner is refreshed.
- Step 5** Read all instructions on that page. Then, click the appropriate software feature in the column Select Software Feature.
The Cisco IOS Upgrade Planner is refreshed.
- Step 6** Read all instructions and the agreement on that page. If you agree with the conditions, click **I read above requirements and agree with them**.
The IOS Upgrade Planner is refreshed.

- Step 7** Read all instructions on that page. You can select from a variety of download options. Cisco recommends that you click the file name of the binary image under File name in the Software Download table.

**Caution**

Make sure that you have enough memory on your system for the file. Note the Size 'Bytes' column in the Cisco IOS Upgrade Planner.

- Step 8** Continue as prompted.

Determining Software Release Versions

The following will assist you in determining the software versions currently running on the following platforms. For other platforms, refer to their respective documentation.

Cisco IOS Software

To determine the release of Cisco IOS software that is currently running, log in to the router and enter the **show version EXEC** command. The following sample output from the **show version** command indicates the version number on the second output line:

```
Router> show version
Cisco Internetwork Operating System Software
IOS (tm) 12.2 Software c5350-i-mz, Version 12.2(2), RELEASE SOFTWARE
```

Cisco PGW 2200

Enter the following MML command on the Cisco PGW 2200:

```
va-perch mml> rtrv-ne
MGC-01 - Media Gateway Controller 2001-11-16 14:13:44 M RTRV
"Type:MGC"
"Hardware platform:sun4u sparc SUNW,Ultra-80"
"Vendor:"Cisco Systems, Inc.""
"Location:MGC-01 - Media Gateway Controller"
"Version:"7.4(12)""
"Platform State:ACTIVE"
```

To determine the patch level, enter the following command on the Cisco PGW 2200:

```
hostname# pkginfo | grep CSCO
```

Cisco RPMS Host

Enter the following command from within the RPMS home directory of the RPMS host:

```
<RPMS_home_dir> /sbin/crpms-info
```

Caveats for Cisco ASAP Solution Release 3.0

This section lists only those caveats that are relevant to Cisco ASAP Solution Release 3.0. Caveats that were open in Releases 1.0 and 2.0 are not relevant to this tested version of the solution.

To see all caveats related to Cisco IOS Release 12.2 T, see Caveats for Cisco IOS Release 12.2 T at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cavs/122tcavs.htm>



Note

For additional caveats that may affect your Cisco ASAP Solution network, refer to the release notes for each platform and software release that you use as a solution component. If you view this document online, the software release numbers in [Table 5](#) serve as links to the platform-specific release notes.

If you have an account with Cisco.com, you can use Bug Navigator II to find caveats of any severity for any release. To find the open caveats for all components used in a specific implementation of the Cisco ASAP Solution, you must query the system for each of the component and software releases used or being planned for your Cisco ASAP Solution network. To reach Bug Navigator II, go to <http://www.cisco.com> and press Login. Then choose Technical Support > Software Center > Cisco IOS Software > Cisco Bugtool Navigator II. You can also go directly to the following URL:

http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.

Open Caveats

The following are the severity 1 and severity 2, for the components in the Cisco ASAP Solution Release 3.0. Workarounds are provided where applicable.

CSCdx73043

Symptoms: When the command **show call resource voice stats** is issued on a Cisco AS5300, the “Inuse channels” counter under “DS0 Statistics” does not increment for the the first inbound ISDN call that is made. The second and subsequent calls are counted correctly, but the counter will be off by one if the first call is an inbound call.

Conditions: This is seen only for inbound ISDN calls on a Cisco AS5300.

Workaround: There is no workaround.

CSCdx75692

Symptoms: For modem hairpin calls from PRI or CAS to SS7, when the initial outgoing SS7 call fails, a second setup request is sent, and the call may fail.

Conditions: This is seen on a Cisco AS5400.

Workaround: There is no workaround.

CSCdx83645

Symptoms: When the first RADIUS VPDN authorization is rejected by the AAA server and user authentication is accepted by AAA, the NAS may send out another VPDN authorization to the AAA server.

Conditions: This is seen on Cisco AS5000 series platforms.

Workaround: There is no workaround.

CSCdx91881

Symptoms: On the Cisco AS5850, packets that are switched on static routes that point to a dialer interface (or to an address on a dialer interface) will be punted. This may lead to higher CPU utilization.

Conditions: This is seen only on the Cisco AS5850.

Workaround: There is no workaround.

CSCdy16923

Symptoms: The following traceback is seen while digital and modem calls are terminated on a NAS:

```
Jul 23 11:08:07.432: %FM-3-INTERNAL_ERROR: fm_marvel_get_hwidb_unicast_streamid
-Process= "PPP IP Route", ipl= 2, pid= 92
-Traceback= 602AA23C 602AA58C 602BB0E0 600A6C10 600A15C8 600A19B0 600A1BA8 600A2318
600A4B38 600A4FE8 6048F1A4 6048F2BC 6048AA50 6048AB90
```

Conditions: This is seen on a Cisco AS5400.

Workaround: There is no workaround.

CSCdy20763

Symptoms: The following NAKs are observed, along with session aborts, under stress conditions for voice calls on the originating gateway:

```
4d18h: %NP-3-NAKRSP: NAK Response Received - command 0x1301, result code 0x8001, msg id
0x13
4d18h: %NP_EST-6-CTRL_NAK_RSP: (NP address 5/0/2/255), Msg ID=0xF201,
Result=INVALID_SESSION_NUMBER, Data format=Binary, Data len=20, Data=00 05 02 85 00 00
F2 01 00 02 00 00 00 03 00
```

Conditions: This is seen on a Cisco AS5400.

Workaround: There is no workaround.

CSCdy37043

Symptoms: When the new Cisco IOS built-in IVR scripts are used with the new **voice class aaa** configuration, a call will fail.

Conditions: This is seen on Cisco AS5000 series platforms.

Workaround: Modify the IVR script so that the current line

```
aaa authenticate $ani $dnis
reads
aaa authenticate $ani $dnis -l leg_incoming
```

CSCdy13000

Symptoms: When the Trunk Group Resource Manager (TGRM) is used for data calls, channels are stuck in the pending state in the TGRM.

Conditions: This is seen on Cisco AS5000 series platforms with a trunk group configured for data calls.

Workaround: There is no workaround.

CSCdy48109

Symptoms: Call admission control (CAC) does not set the 31st B-channel to Out-of-Service when call busyout treatment is triggered.

Condition: This is seen on a Cisco AS5000 series platform that is running Cisco IOS Release 12.2(11)T in an E1 SS7 environment. If a Cisco AS5000 series platform is configured to busyout B-channels when it crosses a configurable CPU utilization threshold as a CAC option, it will busyout only B-channels 1 to 30 of an E1 controller when this CAC condition is met.

Workaround: There is no workaround.

CSCdy13736

Symptoms: When an E1 configuration is imported from an existing PGW, the “DS1 Type” field in the External Node is selected as “T1” instead of as “E1.”

Conditions: This is seen with Cisco VSPT version 2.2(2).

Workaround: There is no workaround.

Important Notes

Updates to Release Notes

Check these release notes periodically for new tested configurations of the solution. Cisco is working to resolve the [Caveats for Cisco ASAP Solution Release 3.0](#).

TAC

If you call TAC for assistance (see [Obtaining Technical Assistance](#), p. 25), specify that you are working with an SS7 Cisco ASAP Solution configuration. TAC may recommend software releases that are not listed in these release notes. Follow the TAC recommendations.

Cisco IOS Release Rebuilds

The Cisco software releases are undergoing improvements to resolve the [Caveats for Cisco ASAP Solution Release 3.0](#). If a release rebuild becomes available, Cisco recommends that you upgrade to the latest software images. An example of a release rebuild is from Cisco IOS Release 12.2(2)XA4 to Cisco IOS Release 12.2(2)XA5.

Limitations and Restrictions

Cisco Access Registrar

The Cisco Access Registrar (AR) might respond with attributes that are not supported by the universal gateway (UG) when the UG requests VPDN profile information for a user. For the call to work, those attributes must be filtered by Cisco AR or on the NAS. The solution is to write a Tcl script similar to that illustrated in the following steps:

- Step 1** Create a script and place it in `$ARHOME/scripts/radius/tcl`. The following example shows how the `removeBadAttribute` script is created. In the example, the script removes the RADIUS attributes “State” and “Termination-Action” before sending the RADIUS response back to the network access server.

```
proc removeBadAttribute {request response environ} {
    $response remove State
    $response remove Termination-Action
}
```

- Step 2** Create the script definition in `/radius/scripts` using the **aregcmd** command as follows:

```
aregcmd
cd /radius/scripts
add removeBadAttribute
cd removeBadAttribute
set language tcl
set filename $ARHOME/scripts/radius/removeBadAttribute.tcl
```

- Step 3** Set `/radius/OutgoingScript~ scriptname` using the **aregcmd** command as follows:

```
aregcmd
set /radius/OutgoingScript/removeBadAttribute
```

- Step 4** In the `/Radius/Advanced` directory on the Cisco AR, set the object `MaximumNumberOfRadiusPackets` value to 8192. This enables the transfer of larger packets when the primary Cisco AR communicates with the backup Cisco AR. Core dumps occur on both master and backup Cisco ARs when this number is smaller than the largest packet used during replication.



Caution

When the UG tries to get a VPDN profile from the RADIUS server, it uses a user ID in the form of `dnis:xxxxxxxx` for the username field. If this user does not exist in the RADIUS database, the NAS (UG) fails to find a VPD N profile on the RADIUS.

Cisco RPMS

If Cisco RPMS is installed in the Cisco ASAP Solution and it has a VPDN profile that matches a call, the VPDN tunnel information must come from RPMS. If a customer wants VPDN information from elsewhere (like client or Wholesale AAA), the customer needs to ensure that RPMS does not have a matching VPDN profile.

MIND CTI Debit Card Payment

If using a MIND CTI server with multiple Ethernet interfaces, make sure to bind (in the Windows NT networking setup) the interface you want RADIUS traffic to go through first, before other interfaces are tried. The software looks for this interface first in the bind table and if it is not there, the process fails.

Cisco PGW 2200

The TLinkAlignTime-sigPath property (located in the *propSet.dat* file) removes the restriction of the TLinkAlignTime property, which is limited to only the ISUPV3_UK and UK_AXE10 protocols. The new property opens the code to all ITU protocols (Q.761, Q.767, and ANSI), plus ISUPV3_UK and UK_AXE10.

The value provisioned in the TLinkAlignTime property specifies the duration of the TLinkAlign timer. When the signaling links to a specific switch are lost as a result of excessive errors, the TLinkAlign timer is set against all call instances associated with that switch. Valid values are 0 to *n* (in milliseconds). The default is 0.

If the TLinkAlignTime value is set to any value other than 0, the affected calls wait for the specified amount of time. If the signaling link is restored before the TLinkAlign timer expires, the call continues and the TLinkAlign timer is reset. If the signaling link is not restored before the TLinkAlign timer expires, the call is dropped (released).

If the TLinkAlignTime value is set to 0, the TLinkAlign timer is disabled. In this case, the call instance either (1) waits for an infinite amount of time (until the signaling link is restored), or (2) the call is released by either the caller hanging up or some other call processing action.

Cisco IPM

In order to support Cisco Internetwork Performance Monitor (IPM) for voice applications, Cisco Service Assurance Agent (SAA) must be enabled on those routers selected as the source and the target for probing and monitoring. That feature is available in the IP Plus and Enterprise Plus feature sets. See the feature sets table in the section [Cisco ASAP Solution Software Matrix, page 13](#).



Note

For more information about SAA and the commands and features it supports, refer to Network Monitoring Using Cisco Service Assurance Agent at the following URL:
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122cgcr/ffun_c/fcfprt3/fcf017.htm

Upgrading to Cisco ASAP Solution Release 3.0

Upgrading Platform Images

For the platform Cisco software images that you need for upgrading to the Cisco ASAP Solution, refer to [Table 5 on page 15](#).

Upgrading MGC Software

The following solutions can be upgraded to Cisco ASAP Solution 3.0:

- Cisco SS7 Interconnect for Access Servers Solution Release 2.1 or 2.2 to Cisco ASAP Solution Releases 3.0
- Cisco SS7 Interconnect for Voice Gateways Solution Release 1.0 or 1.1 to Cisco ASAP Solution Releases 3.0

**Note**

For upgrade issues that are specific to your network, contact your Cisco account representative.

Refer to the following:

Cisco Media Gateway Controller Software Release 9 Installation and Configuration Guide, at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/index.htm>

In particular, refer to *Cisco Media Gateway Controller Software Release 9 Installation and Configuration Guide*. Chapter 3 of that document, *Cisco MGC Software Releases 9.2(2) and 9.3(x) Installation*, discusses how to install Release 9.2(2).

Obtaining Documentation

These sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com>

Translated documentation is available at this URL:

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

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped 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 through an annual subscription.

Ordering Documentation

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:

http://www.cisco.com/cgi-bin/order/order_root.pl

- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit comments electronically on Cisco.com. In the Cisco Documentation home page, click the **Fax** or **Email** option in the “Leave Feedback” section at the bottom of the page.

You can e-mail your comments to bug-doc@cisco.com.

You can submit your comments by mail by using the response card behind the front cover of your document or by writing to the following address:

Cisco Systems
 Attn: Document Resource Connection
 170 West Tasman Drive
 San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com is a highly integrated Internet application and a powerful, easy-to-use tool that provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

If you want to obtain customized information and service, you can self-register on Cisco.com. To access Cisco.com, go to this URL:

<http://www.cisco.com>

Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Cisco TAC inquiries are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

The Cisco TAC resource that you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

You can use the Cisco TAC Web Site to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to this URL:

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

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

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

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC Web Site, you can open a case online by using the TAC Case Open tool at this URL:

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

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

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

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

This document is to be used in conjunction with the documents listed in [Related Documentation, page 10](#).

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