



Voice H.323/SS7 and SIP Features on Cisco AS5850 Universal Gateway

Feature History

Release	Modification
12.2(2)XB1	The following features were implemented on the Cisco AS5850.
12.2(2)XB2	Additional features were implemented on the Cisco AS5850.
12.2(11)T	This feature was integrated into Cisco IOS Release 12.2(11)T.

This document provides an overview of the existing Cisco IOS voice features that are now supported on the Cisco AS5850 Universal Gateway.

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Feature Overview

The Cisco IOS software features supported on the Cisco AS5850 universal gateway in Cisco IOS Release 12.2(2)XA are listed in the following section. These features were previously released on other Cisco platforms. Therefore it is important to note that the Cisco AS5850 platform name may not be specifically noted in the individual feature documents.

Supported IOS Features

The Cisco IOS software features being supported in the Cisco IOS release 12.2(2)XB2 are:

- *Call Transfer Capabilities Using the Refer Method*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xb/122xb_2/ftrefer.htm
- *Configurable PSTN Cause Code to SIP Response Mapping*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xb/122xb_2/ftmap.htm
- *SIP Gateway Support for the Bind Command*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xb/122xb_2/ftbind.htm
- *SIP T.38*
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/faxapp/index.htm>

The Cisco IOS software features being supported in the Cisco IOS release 12.2(2)XB1 are:

- *Call Admission Control for H.323 VoIP Gateways*
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/ftcac58.htm>
- *Cisco H.323 Multizone Enhancements*
http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/as5800/sw_conf/ios_122/pul0244x.htm
- *Cisco H.323 Scalability Interoperability Enhancements*
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t4/fth323v3.htm>
- *Cisco H.323 VoIP with SS7 for the Cisco AS5300*
http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/5300/sw_conf/voip/h3ss7_tv.htm
- *Configuring H.323 VoIP Gateway for Cisco Access Platforms*
http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/5300/sw_conf/voip/0044gw.htm
- *Configuring T1 CAS for Voice over IP on the Cisco AS5800 Universal Access Server*
http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/as5800/sw_conf/ios_122/ft_t1cas.htm

- *Dual Tone Multifrequency Relay for SIP Calls Using Named Telephone Events*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xb/122xb_2/ft_dtmf.htm
- *E1 R2 Signaling for the Cisco AS5300 and Cisco AS5200*
http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/5300/sw_conf/ios_121/5300r2.htm
- *Enhancements to the Session Initiation Protocol for VoIP on Cisco Access Platforms*
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/ftsipgv.htm>
- *Fax Relay Packet Loss Concealment*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t3/dt_0393.htm
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/faxapp/index.htm>
- *Feature Group D Support*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t3/dt_fgd.htm
- *H.323 Call Redirection Enhancements*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121limit/121x/121xm/121xm_5/ftp56670.htm
- *H.323 Version 2 Support*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xb/122xb_2/h323v2xb.htm
- *Interactive Voice Response Version 2.0 on Cisco VoIP Gateways*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t8/ft_ivr72.htm
- *Inter-Domain Gatekeeper Security Enhancement*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xa/122xa_2/ft_ctoke.htm
- *Interworking Signaling Enhancements for H.323 and SIP VoIP*
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t5/dt4t323.htm>
- *ISDN Network Side for ETSI Net5 PRI*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t1/dtpri_n5.htm
- *Network Side ISDN PRI Signalling, Trunking, and Switching*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t3/dtpri_ni.htm
- *NFAS with D Channel Backup on the Cisco AS5800 Universal Access Server*
http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/as5800/sw_conf/ios_122/ft_nfas.htm

- *Prepaid Distributed Calling Card via Packet Telephony*
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/120newft/120t/120t7/0134bowi.htm>
- *PRI/Q.931 Signaling Backhaul for Call Agent Applications*
http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/as5400/sw_conf/ios_122/122_2x/122xb/pul0144.htm/
- *PSTN Fallback*
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t3/dtpstnfb.htm>
- *Session Initiation Protocol for VoIP*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t8/ft_sip72.htm
- *SIP Gateway Support of RSVP and TEL URL*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xb/122xb_2/vvfresrv.htm
- *SIP User Agent MIB*
 CISCO-SIP-UA-MIB
<ftp://ftp.cisco.com/pub/mibs/v2/CISCO-SIP-UA-MIB.my>
 CISCO-SIP-UA-CAPABILITY
<ftp://ftp.cisco.com/pub/mibs/v2/CISCO-SIP-UA-CAPABILITY.my>
- *T1 CAS VoIP for Cisco Access Platforms*
http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/5300/sw_conf/voip/0048t1ca.htm
- *T.38 Fax for Cisco Universal Gateways*
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t11/faxapp/index.htm>
- *Universal Port Resource Pooling for Voice and Data Services*
http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122limit/122x/122xa/122xa_2/ftuprp.htm
- *VoIP Call Admission Control Using RSVP*
<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t5/dt4trsvp.htm>

Specific feature benefits are located in the respective documents listed in the “Supported IOS Features” section on page 2

Restrictions

- Modem and digital services are supported by using the 324 UPC, 24 T1s or 24 E1s trunk card and the 216 UPC features of the E1 and T3 trunkcards.

Online Insertion and Removal

- The Insertion and Removal (OIR) graceful procedure is strongly recommended. It is also recommended that the card replaced is the same type as the card removed.

RSVP

- RSVP fair-queue is not supported in this release.

Call Admission Control (CAC)

- Call Admission Control (CAC) can be optimized to improve performance when the system is exposed to CPU spikes. The adjustments include the monitored CPU threshold and the call refusal period setting.

Debit Card Applications

- Debit Card applications supports 8 calls per second (cps) rate per Route Switch Controller (RSC).

IP-Side IVR

- IP side IVR supports no more than 672 calls (1CT3) at 3-4 calls per second (cps). If the recommended values are exceeded, a high CPU utilization may be observed, resulting in excessive call disconnects.
- A mixed environment of 500 IP side IVR calls at 2-3 cps and 500 Direct-Inward-Dial (DID) calls at 2 cps is supported.

10 ms Sampling

- The AS5850 supports 4 CT3s worth of traffic per chassis (dual RSCs) with 20ms sampling VAD ON or Off or 10ms VAD ON regardless of codec used. Support for 10ms VAD OFF is required, the session is supported at 1060 per RSC (2120 per chassis) with the addition of one more 324 UPC card per RSC. For the initial release, the use of 10 ms shall be enforced for the system supported per RSC.

RSC Failover Redundancy

- RSC failover redundancy requires a Session Initiation Protocol (SIP) proxy server or gatekeeper. Reallocation of resources occurs with failure of an RSC. The reallocation mechanism is not supported when invoked by fluctuation of either the Ethernet interface or Public Switched Telephone Network (PSTN) trunk interface

Codecs Supported on the Cisco AS5850:

- g711u-law
- g711a-law
- g729r8
- g723r63

Related Features and Technologies

- Configuring Dial Plans, Dial Peers, and Digit Manipulation
- Voice over IP (VoIP)

Related Documents

For Further information on managing port services for the Cisco AS5850 refer to the following documents, available online and in the documentation CD.

- [Cisco IOS Voice, Video, and Fax Configuration Guide, Release 12.2](#)
This guide provides configuration procedures for Cisco IOS voice software features.
- [Cisco IOS Voice, Video, and Fax Command Reference, Release 12.2T](#)
This guide provides an alphabetical reference to voice commands used to configure voice software features.
- [Cisco Voice Telephony](#)
- [Configuring Voice over IP](#)
- [Cisco AS5850 Hardware Installation Guide](#)
- [Cisco AS5850 Universal Gateway Card Guide](#)
- [Cisco AS5850 Universal Gateway Commissioning Guidelines](#)
- [Cisco AS5850 Universal Gateway Operations, Administration, Maintenance, and Provisioning Guide](#)
- [Managing Port Services on the Cisco AS5850 Universal Gateway](#)
- [Managing Port Services on the Cisco AS5850 Command Reference](#)
- [SIP Gateway Support for Third Party Call Control](#)

Supported Platforms

- Cisco AS5850

Determining Platform Support Through Cisco Feature Navigator

Cisco IOS software is packaged in feature sets that support specific platforms. To get updated information regarding platform support for this feature, access Cisco Feature Navigator. Cisco Feature Navigator dynamically updates the list of supported platforms as new platform support is added for the feature.

Cisco Feature Navigator is a web-based tool that enables you to determine which Cisco IOS software images support a specific set of features and which features are supported in a specific Cisco IOS image. You can search by feature or release. Under the release section, you can compare releases side by side to display both the features unique to each software release and the features in common.

To access Cisco Feature Navigator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions at <http://www.cisco.com/register>.

Cisco Feature Navigator is updated regularly when major Cisco IOS software releases and technology releases occur. For the most current information, go to the Cisco Feature Navigator home page at the following URL:

<http://www.cisco.com/go/fn>

Availability of Cisco IOS Software Images

Platform support for particular Cisco IOS software releases is dependent on the availability of the software images for those platforms. Software images for some platforms may be deferred, delayed, or changed without prior notice. For updated information about platform support and availability of software images for each Cisco IOS software release, refer to the online release notes or, if supported, Cisco Feature Navigator.

Supported Standards, MIBs, and RFCs

Information on applicable supported Standards, MIBs and RFCs can also be found in the specific documents listed in the “[Supported IOS Features](#)” section on page 2.

Standards

Carrier protocols

- ITU V.23 at 75/1200 bps

Telcordia Technologies (formerly Bellcore) 103 at 300 bps

- ITU V.21 at 300 bps
- ITU V.22 at 1200 bps

Telcordia Technologies (formerly Bellcore) 212A at 1200 bps

- ITU V.22bis at 2400 bps
- ITU V.32 up to 9600 bps
- ITU V.32bis up to 14,400 bps
- V.32 turbo up to 19,200 bps
- V.FC up to 28,800 bps
- V.34 up to 28,800 bps
- V.34+ up to 33.6 bps
- TIA/ITU V.90
- K56flex

Error-correcting link-access protocols

- V.42 LAPM, MNP 2-4

Compression protocols

- V.42bis (includes MNP 5)

MIBs

No new or modified MIBs are supported by this feature. The following existing MIBs are supported.

- Application MIB

- CISCO-VOICE-DIAL-CONTROL-MIB
- CISCO-VOICE-DNIS-MIB
- CISCO-CAS-IF-MIB
- CISCO-DSP-MGMT-MIB
- CISCO-VOICE-IF-MIB
- DIAL-CONTROL-MIB
- ISDN-MIB

To obtain lists of supported MIBs by platform and Cisco IOS release, and to download MIB modules, go to the Cisco MIB website on Cisco.com at the following URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

RFCs

No new or modified RFCs are supported by this feature.

Prerequisites

- Ensure that your access platform has a minimum of 16 MB Flash memory and 64 MB DRAM memory.
- Establish a working IP network. For more information about configuring IP, refer to the [Cisco IOS IP Configuration Guide, Release 12.2](#).
- Cisco IOS Release 12.2(2)XB or later release for the Cisco AS5850 universal gateway
- Basic configuration of the Cisco AS5850
- Upgraded firmware



Note

Firmware automatically upgrades with the Cisco IOS Release 12.1(3)T or higher.

- The T3 card installed



Caution

Upgrade your Cisco IOS software before installing the cards.

Configuration Tasks

The Cisco IOS voice features supported on the Cisco AS5850 are already supported on other Cisco access server models, including the Cisco AS5300 series and the Cisco AS5800 universal access server. Configuration tasks for Cisco IOS voice features are described in many different documents.

For more information, see the following manuals:

- [Cisco IOS Voice, Video, and Fax Configuration Guide](#), Release 12.2
This guide provides configuration procedures for Cisco IOS voice software features. See the “Supported IOS Features” section below for information regarding specific chapters to reference.
- [Cisco IOS Voice, Video, and Fax Command Reference](#), Release 12.2

This guide provides an alphabetical reference to voice commands used to configure voice software features. See the [“Supported IOS Features”](#) section below for information regarding specific chapters to reference.

Configuration Examples

Configuration examples are found the individual Cisco IOC documents referenced in the [“Supported IOS Features”](#) section on page 4.

Command Reference

There are no new or modified commands on the Cisco AS5850. All Cisco IOS commands used are documented in the Cisco IOS Release 12.2 command reference publications, and in the individual Cisco IOS documents listed in the [“Supported IOS Features”](#) section on page 2.

