Text Part Number: 78-5280-10

Release Notes for Cisco AS5300 Universal Access Servers for Cisco IOS Release 11.3 NA

August 2, 1999

These release notes for Cisco AS5300 universal access servers support Cisco IOS Release 11.3 NA, up to and including Release 11.3(11)NA. These release notes are updated as needed to describe new features, memory requirements, hardware support, software platform deferrals, and changes to the microcode or modem code and related documents.

For a list of the software caveats that apply to Release 11.3(11)NA, see the "Caveats" section on page 15 and *Caveats for Cisco IOS Release 11.3 T*. The caveats document is updated for every maintenance release and is located on Cisco Connection Online (CCO) and the Documentation CD-ROM.

Use these release notes with *Cross-Platform Release Notes for Cisco IOS Release 11.3* on CCO and the Documentation CD-ROM.

Contents

These release notes describe the following topics:

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA

Introduction

The Cisco AS5300 universal access server is a versatile data communications platform that provides the functions of an access server, router, and digital modems in a single modular chassis. The access server is intended for Internet service providers (ISPs), telecommunications carriers, and other service providers that offer managed Internet connections, as well as medium to large sites that provide both digital and analog access to users on an enterprise network. By terminating both analog and digital calls on the same chassis simultaneously, the access server provides a clear, simple, and easy migration path from analog to digital dial access services.

For information on new features and Cisco IOS commands supported by Release 11.3 NA, refer to the "New and Changed Information" section on page 9 and the "Related Documentation" section on page 20.

Early Deployment Releases

These release notes describe only Release 11.3 NA for Cisco AS5300 universal access servers and do not describe features that are available in Release 11.3 or other Release 11. 3 Early Deployment (ED) releases.

For information about features in Release 11.3, see the *Cross-Platform Release Notes for Cisco IOS Release 11.3* on CCO and the Documentation CD-ROM.

For information about features in other platforms, see the *Product Specific Release Notes for Cisco IOS Release 11.3* on CCO and the Documentation CD-ROM.

System Requirements

This section describes the system requirements for Release 11.3 NA:

VCWare Requirements

Use the Cisco AS5300 universal access server in Cisco IOS Release 11.3(11)NA with VCWare Version 2.5x. Previous versions will not work.

Memory Requirements

Table 1 describes the memory requirements for Cisco AS5300 feature sets for Cisco IOS Release 11.3(11)NA.

Table 1 Memory Requirements for the Cisco AS5300

Feature Set	Image Name	Required Flash Memory	Required for Dual Image Flash	Required DRAM Memory	Runs From
IP Plus	c5300-is-mz	8 MB	16 MB	32 MB	RAM
Desktop Plus	c5300-ds-mz	8 MB	16 MB	32 MB	RAM
Enterprise Plus	c5300-js-mz	8 MB	16 MB	32 MB	RAM

Hardware Supported

Cisco IOS Release 11.3 NA supports Cisco AS5300 universal access servers:

- Ethernet RJ-45
- Ethernet/Fast Ethernet (RJ-45)
- Integrated Services Digital Network Primary Rate Interface (ISDN PRI)
- E1-G.703/G.704

MICA modem cards are supported on the Cisco AS5300 and are subject to the boundaries described in the "Limitations and Restrictions" section on page 14.

Determining the Version of Your Software Release

To determine the version of Cisco IOS software running on your Cisco AS5300, log in to the Cisco AS5300 and enter the **show version** EXEC command.

```
access_server> show version
Cisco Internetwork Operating System Software
IOS (tm) 5300 Software (c5300-is-mz), Version 11.3(11)NA, RELEASE SOFTWARE
```

Upgrading to a New Software Release

For information about upgrading to a new software release, see the *Cisco IOS Software Release 11.3 Upgrade Paths and Packaging Simplification* product bulletin located on CCO at:

Service & Support: Product Bulletins: Software

Under **Cisco IOS 11.3**, click **Cisco IOS Software Release 11.3 Upgrade Paths (#703: 12/97)**

This product bulletin does not contain information specific to Cisco IOS Release 11.3, but provides generic upgrade information that may apply to Cisco IOS Release 11.3.

Microcode and Modem Code Software

Microcode is the firmware or portware that runs on the Microcom 12-port or MICA 6-port modem cards. Microcode software images are bundled with the system software image—with the exception of the Channel Interface Processor (CIP) microcode (all system software images). Bundling eliminates the need to store separate microcode images. When the access server starts, the system software unpacks the microcode software bundle and loads the proper software on all the interface processor boards.

Note You could have received a later version of modem code than the one bundled with the Cisco IOS software. The modem code in Flash memory is mapped to the modems. Unless you fully understand how Cisco IOS software uses modem code, it is important to keep the factory configuration.

You can reach the release notes on CCO at:

Service & Support: **Technical Documents: Cisco Product Documentation**: **Access Servers and Access Routers**: **Firmware and Portware Information**

You can reach the release notes on the Documentation CD-ROM at:

Cisco Product Documentation: **Access Servers and Access Routers**: **Firmware and Portware Information**

The **show modemcap** command lists all versions of modem code running on the modem modules, residing in system Flash, and bundled with Cisco IOS software. Enter the **show modemcap** command to help you decide if you need to update your modem code files.

The *Cisco IOS Software Upgrade Planner* on CCO contains information about downloading software. To access this document from CCO, click **Login** on the CCO home page to access all information. From the CCO home page, go to the Software Support area, click **Software Center**, then **Cisco IOS Software** or **IOS Upgrade Planner**.

Feature Set Table

The Cisco IOS software is packaged in feature sets consisting of software images—depending on the platform. Each feature set contains a specific set of Cisco IOS features.

Release 11.3(11)NA supports the same feature sets as Release 11.3 T, but Release 11.3(11)NA can include new features supported by Cisco AS5300 universal access servers.

Note Encryption feature sets are not provided in this release. The names of the images are listed in the "Memory Requirements" section on page 3.

Table 2 lists the features and feature sets supported by Cisco AS5300 universal access servers in Cisco IOS Release 11.3 NA and uses the following conventions:

- Yes—The feature is supported in the software image.
- No—The feature is not supported in the software image.
- In—The number in the "In" column indicates the Cisco IOS release in which the feature was introduced. For example, (11) means a feature was introduced in 11.3(11)T. If a cell in this column is empty, the feature was included in the initial base release.

Table 2 Selected Features and Feature Sets for the Cisco AS5300

Feature	In	Feature Set		
		IP Plus	Desktop Plus	Enterprise Plus
IBM Support				
APPN High-Performance Routing		No	No	No
APPN MIB Enhancements		No	No	No
APPN over Ethernet LAN Emulation		No	No	No
APPN Scalability Enhancements		No	No	No
Bisync Enhancements: — Bisync 3780 Support — BSC Extended Addressing — Block Serial Tunneling (BSTUN) over Frame Relay		Yes	Yes	Yes
Cisco MultiPath Channel (CMPC)		No	No	No
DLSw+ Enhancements: — Backup Peer Extensions for Encapsulation Types — DLSw+ Border Peer Caching — DLSw+ MIB Enhancements — DLSw+ SNA Type of Service — LLC2-to-SDLC Conversion between PU4 Devices — NetBIOS Dial-on-Demand Routing — UDP Unicast Enhancement		Yes	Yes	Yes
FRAS Enhancements: — FRAS Boundary Network Node Enhancement — FRAS Dial Backup over DLSw+ — FRAS DLCI Backup — FRAS Host — FRAS MIB — SRB over Frame Relay		Yes	Yes	Yes
RIF Passthru in DLSw+	(3)	Yes	Yes	Yes
SRB over FDDI on Cisco 4000-M, 4500-M, and 4700-M Routers		No	No	No
TN3270 LU Nailing		No	No	No
TN3270 Server Enhancements		No	No	No
Token Ring LANE		No	No	No

Table 2 Selected Features and Feature Sets for the Cisco AS5300 (continued)

Feature	In	Feature Set		
		IP Plus	Desktop Plus	Enterprise Plus
Tunneling of Asynchronous Security Protocols		Yes	Yes	Yes
Internet				
DRP Server Agent		Yes	Yes	Yes
DRP Server Agent Enhancements	(2)	Yes	Yes	Yes
IP Routing				
Easy IP (Phase 1)		Yes	Yes	Yes
Hot Standby Router Protocol (HSRP) over ISL in Virtual LAN Configurations		No	Yes	Yes
IP Enhanced IGRP Route Authentication		Yes	Yes	Yes
IP Type of Service and Precedence for GRE Tunnels	(4)	Yes	Yes	Yes
PIM Version 2		Yes	Yes	Yes
TCP Enhancements: — TCP Selective Acknowledgment — TCP Timestamp		Yes	Yes	Yes
LAN Support				
AppleTalk Access List Enhancements		No	Yes	Yes
DECnet Accounting		No	Yes	Yes
IPX Named Access Lists		No	Yes	Yes
IPX SAP-after-RIP		No	Yes	Yes
NLSP Enhancements		No	No	Yes
NLSP Multicast Support		No	Yes	Yes
Management				
Cisco Call History MIB Command Line Interface		Yes	Yes	Yes
Cisco IOS Internationalization		Yes	Yes	Yes
Entity MIB, Phase 1		Yes	Yes	Yes
SNMPv2C		Yes	Yes	Yes
SNMP Inform Requests	(1)	No	No	Yes
Virtual Profiles		Yes	Yes	Yes
VPDN MIB	(2)	Yes	Yes	Yes
VPDN MIB and Syslog Facility	(3)	Yes	Yes	Yes

Table 2 Selected Features and Feature Sets for the Cisco AS5300 (continued)

Feature	In	Feature Set		
		IP Plus	Desktop Plus	Enterprise Plus
Multimedia				
IP Multicast Load Splitting across Equal-Cost Paths		Yes	Yes	Yes
IP Multicast over ATM Point-to-Multipoint Virtual Circuits		No	No	No
PIM Version 2	(2)	Yes	Yes	Yes
IP Multicast over Token Ring LANs		Yes	Yes	Yes
Stub IP Multicast Routing		Yes	Yes	Yes
Quality of Service				
RTP Header Compression		Yes	Yes	Yes
Security				
Automated Double Authentication	(3)	Yes	Yes	Yes
Certificate Authority Interoperability	(3)	No	No	No
Double Authentication		Yes	Yes	Yes
Encrypted Kerberized Telnet		No	No	No
HTTP Security		Yes	Yes	Yes
Internet Key Exchange Security Protocol	(3)	No	No	No
IPSec Network Security	(3)	No	No	No
Message Banners for AAA Authentication	(4)	Yes	Yes	Yes
MS-CHAP Support	(3)	No	No	Yes
Named Method Lists for AAA Authentication and Accounting	(3)	Yes	Yes	Yes
Per-User Configuration		Yes	Yes	Yes
Reflexive Access Lists		Yes	Yes	Yes
TCP Intercept		No	No	Yes
Vendor-Proprietary RADIUS Attributes		Yes	Yes	Yes
Vendor-Proprietary RADIUS -Additional Attributes	(3)	Yes	Yes	Yes
Switching				
AppleTalk Routing over ISL and IEEE 802.10 in Virtual LANs		No	Yes	Yes
CLNS and DECnet Fast Switching over PPP		No	No	Yes

Table 2 Selected Features and Feature Sets for the Cisco AS5300 (continued)

Feature	In	Feature Set		
		IP Plus	Desktop Plus	Enterprise Plus
DECnet/VINES/XNS over ISL: — Banyan VINES Routing over ISL Virtual LANs — DECnet Routing over ISL Virtual LANs — XNS Routing over ISL Virtual LANs		No	No	Yes
Fast-Switched Policy Routing		Yes	Yes	Yes
IPX Routing over ISL Virtual LANs		No	Yes	Yes
VIP Distributed Switching Support for IP Encapsulated in ISL		No	No	No
Terminal Services				
Telnet Extensions for Dialout		Yes	Yes	Yes
Virtual Templates for Protocol Translation		No	No	Yes
WAN Optimization				
ATM MIB Enhancements		No	No	No
PAD Enhancements		No	No	Yes
PAD Subaddressing		Yes	Yes	Yes
WAN Services				
Always On/Dynamic ISDN (AO/DI)	(3)	No	No	Yes
Bandwidth Allocation Control Protocol		Yes	Yes	Yes
Dialer Watch	(2)	Yes	Yes	Yes
E1 R2 Country Support[1]	(2)	Yes	Yes	Yes
E1 R1 Support for only Taiwan[2]	(3)	Yes	Yes	Yes
Enhanced Local Management Interface (ELMI)		Yes	Yes	Yes
Frame Relay Enhancements		Yes	Yes	Yes
Frame Relay MIB Extensions		Yes	Yes	Yes
Frame Relay Router ForeSight		Yes	Yes	Yes
ISDN Advice of Charge		Yes	Yes	Yes
ISDN Caller ID Callback		Yes	Yes	Yes
ISDN NFAS		Yes	Yes	Yes
Layer 2 Forwarding—Fast Switching		Yes	Yes	Yes
Leased-Line ISDN at 128 kbps		No	No	No

Table 2 Selected Features and Feature Sets for the Cisco AS5300 (continued)

Feature	In	Feature Set		
		IP Plus	Desktop Plus	Enterprise Plus
Microsoft Point-to-Point Compression (MPPC)	(3)	Yes	Yes	Yes
MS Callback	(2)	Yes	Yes	Yes
Modem Management Enhancements	(2)	Yes	Yes	Yes
Multiple ISDN Switch Types	(3)	Yes	Yes	Yes
National ISDN Switch Types for BRI and PRI Interfaces (NI2)	(3)	Yes	Yes	Yes
PPP over ATM		No	No	No
Stackable Home Gateway	(3)	Yes	Yes	Yes
Switched 56K Digital Connections	(2)	Yes	Yes	Yes
Telnet Extensions for Dialout	(2)	Yes	Yes	Yes
X.25 Enhancements		Yes	Yes	Yes
X.25 on ISDN		Yes	Yes	Yes
X.25 Switching between PVCs and SVCs		Yes	Yes	Yes
X.28 Emulation		Yes	Yes	Yes
Miscellaneous				
Voice over IP	(2)	Yes	Yes	Yes

1 E1 R2 country support requires specific versions of MICA portware. For details, see the MICA portware release notes, which are available on CCO in the Software Center. Note that country support varies with the portware release level, and the release notes provide a list of countries.

2 E1 R1 signaling support for Taiwan requires MICA portware version 2.3.1.0.

New and Changed Information

This section lists new features available for the AS5300 for Release 11.3(11)NA.

No New Features in Release 11.3(8)NA through 11.3(10)NA

No new features were introduced in Release 11.3(8)NA through 11.3(11)NA for the Cisco AS5300 universal access server.

New Features in Release 11.3(7)NA

This section describes the new features for the Cisco AS5300 universal access server in Cisco IOS Release 11.3(7)NA.

E1 R2 Support

R2 signaling support has been added to existing ISDN PRI over a channelized E1 interface. This feature is available in countries supporting R2 signaling.

Interactive Voice Response

The following two new Interactive Voice Response (IVR) scripts have been added to this release:

- **clid_col_npw_3**

  This script is similar to **clid_authen_col_npw**, but it allows two retries (3 tries total) for entering the account and password. For each of the two retries, it plays a special retry message.

- **clid_col_npw_npw**

  This is similar to **clid_col_npw_3**, but it does not collect a personal identification number (PIN). Instead, it uses the collected account number with a NULL password for authentication.

New Features in Release 11.3(6)NA2

This section describes the new features for the Cisco AS5300 universal access server in Cisco IOS Release 11.3(6)NA2, which introduced features supported by IP Telephony. For detailed information about these features, refer to *Configuring the Cisco AS5300 for Voice Service Provider Features*, which is an addendum to the *Cisco AS5300 Software Configuration Guide*.

The IP Telephony features include enhancements made to the functionality and configuration of both the gateway and the VoIP gatekeeper. The architecture of these features provides the quality of service (QoS), stability, and functionality necessary for carrier class real-time IP communications services. The Cisco gateway functionality and gatekeeper functionality work in concert to provide the ITU-T H.323 infrastructure.

To provide understanding of which features affect which portions of the internetworking environment, the various IP Telephony features are described in the following two categories:

- Gatekeeper
- Gateway Functionality Enhancements

Gatekeeper

The gatekeeper can manage a zone and provide bandwidth management and address resolution services to gateways when present in the network.

Gateway RAS Implementation

This refers to the Cisco AS5300 universal access server with voice cards and the Voice over IP (VoIP) image. Gateways are also referred to as VoIP gateways.

The gateway can terminate a call from the public switched telephone network (PSTN), provide user admission control using interactive voice response (IVR), direct the call to the destination, terminate the call from another gateway and send the call to the PSTN, and finally provide accounting records for the calls.

Registration, Admission, and Status (RAS) is a signaling function that performs registration, admissions, status, and disengage procedures between the VoIP gateway and the gatekeeper.

The gateway relies on Cisco IOS command-line interface commands outside the gateway configuration mode to configure the AAA servers. The two following RAS command fields have been added to the dial-peer entry to enable the RAS implementation:

- Technology prefix
- Session target RAS

AAA Enhancements

AAA represents authentication, authorization, and accounting features that are required in the VoIP gateway. The standard Cisco AAA functionality is enhanced to allow calls to:

- Create a Call Detail Record
- Authenticate based on information collected from the IVR feature or from the caller identification data

The AAA authentication feature permits RADIUS to authenticate users on the gateway. It is normally used with IVR to check the legitimacy of a prospective gateway user based on an account number (collected by IVR) or based on answer number identification (ANI).

Interactive Voice Response

This application provides basic IVR capabilities necessary to collect caller PINs, passwords, and destination phone numbers. IVR consists of simple voice prompting and digit collection to collect information from the caller for the purpose of authenticating the caller and identifying the destination.

"Simple" IVR allows the use of one of several interactive voice response scripts embedded in Cisco IOS software. The ability to modify the embedded scripts is not yet provided. However, you can modify the audio files (for the prompts).

The IVR application:

- Specifies a sequence of voice prompts and touch-tone collection instructions
- Can be assigned to specific ports or can be invoked based on the dialed number identification service (DNIS)
- Can be customized to present different interfaces to the caller

An IP/PSTN gateway can have several different IVR applications to accommodate many different gateway services.

ISDN Redirect Number Support

This feature supports the redirecting call feature of the VoIP gateway. The redirecting number is an optional field of the Q.931 setup message.

When a local exchange carrier (LEC) switch detects an incoming call that is destined for a busy or nonanswering party, the switch formulates a Q.931 setup message with the redirecting number field set to the originally called number, and sends it to the gateway. The called party number of the setup message will be set to one of the DNIS access numbers belonging to the gateway.

If a redirect number is present in an incoming call, then it is used in place of the called number (DNIS).

Rotary Call Pattern

This feature provides the ability, under certain circumstances, to route an incoming call arriving by one telephony interface back out by another telephony interface. This is primarily used to provide reliable service during network failures. Call establishment via Rotary Call Pattern will be supported via rotary group support of dial peers where multiple dial peers may match a given destination telephone number and will be selected in sequence.

In prior releases of VoIP, if you wanted the system to search through a number of destinations when a given number was dialed, you needed to configure those dial peers with the same destination pattern. Now with the Rotary Call Pattern feature, if you want the destinations to be tried in a certain order, you can assign preference (using the **preference** command) to the dial peers to reflect the desired order.

T1 CAS

Channel Associated Signaling (CAS) is the transmission of signaling information within the voice channel. In addition to receiving and placing calls, T1 CAS:

- Provides the receipt and captures dialed number identification service (DNIS) and automatic number identification (ANI) information.
- Uses DNIS and ANI to support authentication and other functions that use this information.
- Allows the support of E&M signaling on the T1 interface.
- Has been implemented on the Cisco AS5300 voice feature card to support common central office and PBX configurations for voice calls.

The development of this feature enhances and integrates T1 CAS capabilities on the DSP Module (DSPM) in order to support central office (CO) and PBX configurations for voice calls.

No New Features in Release 11.3(4)NA through 11.3(6)NA

No new features were introduced in these releases for the Cisco AS5300 universal access server.

No Release 11.3(3)NA

Cisco IOS Release 11.3(3)NA was not released.

New Features in Release 11.3(2)NA

This section describes the new features for the Cisco AS5300 universal access server in Cisco IOS Release 11.3(2)NA.

Voice over IP

The Voice over IP (VoIP) software enhancement was added to the Cisco AS5300 platform for Cisco IOS Release 11.3(2)NA. VoIP enables a Cisco AS5300 to carry live voice traffic (for example, telephone calls and faxes) over an IP network.

When used as a PTSN gateway, VoIP leverages the standardized use of H.323-based Internet telephone client applications.

VoIP on the Cisco AS5300 supports two primary applications:

- Central-site telephony termination facility for VoIP traffic from multiple voice-equipped remote office facilities
- PSTN gateway for Internet telephone traffic

Major customer applications for VoIP include:

- Toll bypass
- Remote PBX presence over WANs
- Unified voice and/or data trunking
- POTS-internet phone gateway

To use VoIP, which is primarily a software feature on the Cisco AS5300, you must install the VoIP feature card (VFC) that contains multiple digital signal processor (DSP) modules. The VFC uses the Cisco AS5300 quad T1/E1 PSTN interface and LAN or WAN routing capabilities to provide up to a 48- or 60-channel gateway for VoIP packetized voice traffic to and from T1/E1 time-division multiplexing (TDM) traffic.

Features in the Parent Release 11.3 T

Features for the Cisco AS5300 in Release 11.3 T are also supported in the current Cisco IOS Release 11.3 NA. For information about these features, see the current *Release Notes for Cisco AS5300 for Cisco IOS Release 11.3 T.*

Features added to the Cisco AS5300 for Cisco IOS Release 11.3 T between Cisco IOS Releases 11.3(2)T and Cisco IOS Release 11.3.(8)T, are not supported in Cisco IOS Release 11.3(10)NA unless they have also been added separately to Cisco IOS Release 11.3 NA and support is explicitly stated to coincide in the release notes for Cisco IOS Release 11.3(10)NA. Currently, no such features have been added. Check the feature set in the *Release Notes for Cisco AS5300 for Cisco IOS Release 11.3 T* to determine at which maintenance release a given feature was added.

Limitations and Restrictions

Release 11.3 NA is an Early Deployment (ED) release of software to support the Cisco AS5300 universal access servers. Release 11.3 NA is the same as Release 11.3 T, except that the following caveats have been resolved in Release 11.3 NA:

AAA Accounting

If you are using CiscoSecure ACS for Windows NT and H.323 accounting (AAA accounting), use version 2.1.8.4 or higher of CiscoSecure.

MICA and Microcom Modems

You can use a voice card in the Cisco AS5300 with MICA modems installed in the other feature card slot, but the equivalent configuration with Microcom modems is *not* supported.

Note You cannot use VoIP and Microcom modems at the same time.

Important Notes

The following section contains important notes about Cisco IOS Release 11.3 that may apply.

Voice Telephony over the Internet

In certain countries, use of these products or provision of voice telephony over the Internet may be prohibited and subject to laws, regulations or licenses, including requirements applicable to the use of the products under telecommunications and other laws and regulations; customers must comply with all such applicable laws in the countries where they intend to use the products.

Cisco IOS Release 11.3 NA End of Sales and End of Engineering

End of Engineering (EOE) means that there are no more regularly scheduled maintenance releases. The last maintenance release scheduled on the EOE date is only available through CCO and Field Service Operations—not through manufacturing.

- Cisco IOS Releases 11.3, 11.3 NA, and 11.3 T are scheduled to reach End of Sales (EOS) status with maintenance Releases 11.3(10), 11.3(10)NA, 11.3(10)T.
- Cisco IOS Releases 11.3, 11.3 NA, and 11.3 T are scheduled to reach EOE with Releases 11.3(11), 11.3(11)NA, and 11.3(11)T.

EOS and EOE releases are subject to change. For the most up-to-date information on the status of EOS or EOE, see the *End of Sales and End of Engineering for Cisco IOS Software Releases* product bulletins located on CCO.

Ongoing support for functionality in Releases 11.3, 11.3 NA, and 11.3 T is available in Cisco IOS Release 12.0(3)T and later maintenance releases of Cisco IOS Release 12.0 on CCO at:

Service & Support: **Product Bulletins**: **Software**

Under **Cisco IOS 11.3,** click **End of Sales and End of Engineering for Cisco IOS Software Releases 11.3 and 11.3 T (#847: 12/98)** or **Cisco IOS Software 11.3 NA EoS and EoE (#849:12/98)**

Caveats

Caveats describe unexpected behavior in Cisco IOS software releases. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious.

This section contains open and resolved caveats only for the current Cisco IOS maintenance release.

All caveats in Release 11.3 and Release 11.3 T are also in Release 11.3(11)NA.

For information on caveats in Cisco IOS Release 11.3, see "Important Notes and Caveats for Release 11.3"in *Cross-Platform Release Notes for Cisco IOS Release 11.3* on CCO and the Documentation CD-ROM. These release notes list severity 1 and 2 caveats affecting all maintenance releases.

For information on caveats in Cisco IOS Release 11.3 T, see *Caveats for Cisco IOS Release 11.3 T* on CCO and the Documentation CD-ROM.

Note If you have an account with CCO, you can use Bug Navigator II to find caveats of any severity for any release. You can reach Bug Navigator II on CCO at: **Service & Support: Online Technical Support: Software Bug Toolkit**. You can also find Bug Navigator II at http://www.cisco.com/support/bugtools.

Open Caveats—Release 11.3(11)NA

This section describes possibly unexpected behavior by Release 11.3(11)NA and describes only severity 1 and 2 caveats.

Miscellaneous

- CSCdm67714

  BPI MIB will now be available in released code.

- CSCdm68266

  When running 11.3.10NA image, ingress gw may display wrong cause code.

- CSCdm68546

  This fixes CM status display in CMTS when the modem goes offline with BPI turned on and key expiration.

Resolved Caveats—Release 11.3(11)NA

All the caveats listed in this section are resolved in Release 11.3(11)NA. This section only describes severity 1 and 2 caveats.

Basic System Services

- CSCdk80230

  Certain Internetwork Status Monitor (ISM) NetView users can issue non-enable mode commands without router authentication. Users accessing the router through NetView must be authenticated through NetView's security methods, which may include RACF and SAF. Mainframe users can be restricted from issuing any router commands through the restriction of the RUNCMD within NetView. Users issuing enable mode commands must be authorized to issue this level of command through ISM, and must possess the ENABLE mode password. If the router is controlled by TACACS+, the ISM user must have a TACACS+ User ID and Password to issue enable level commands.

  show user : command has been modified : the user field is filled up by the host name.

  Two options have been added to the following commands : **sna host dspu host**

  Options are : **no-enable** and **high-security**. These options have to be configured with focalpoint.

  — **no-enable** : When set does not allow **enable** command from the host.

  — **high-security** : When set allows the following commands in USER mode. (PRIVILEGE mode is not affected by this option.) All these commands have to be entered in full, or the command will not be allowed (i.e., sh versi is not allowed for **show version**).

  enable or **en quit**

  exit

  show ?

  show appn

  show version

  show controller

  show extended

  show dspu

  show sna

  show tech

  show memory

  show process

  show interface

  show environment

  show protocol

IBM Connectivity

- CSCdm50361

  There is a problem whereby DLSw Lite peers leak CLS connect request buffers. If possible, the customer can try using a different peer type. This patch will free an outstanding connect request if additional requests are received while the first is still pending.

Interfaces and Bridging

- CSCdk10376

  Symptom: Crash in frf9_preComp()

  Condition: Mostly frequently will occur during times when router traffic is heavy which causes memory usage to increase and a possible low memory condition to occur.

  Workaround: Disable compression or use a different type.

  Miscellaneous: Since this problem is aggravated by a low memory condition tuning the memory tuning can help prevent it from occurring but will not guarantee it can not happen.

- CSCdm41644

  This is caused by an over-write issue in BSS area with FDDI modules equipped which has potential to cause serious problem such as crash in 12.0T.

- CSCdm46735

  A PA-4R-DTR port may reset under the following circumstances:

  — A high rate of traffic is traversing the port. (200 pps or better)

  — The PA-4R-DTR port is the Active monitor of the physical ring.

  — A event on the ring occurs that forces the active monitor to purge the ring.

  When this problem occurs, the PA-4R-DTR port will reset, and the ring will experience a beacon.

  Workaround: Make sure the DTR port is not the active monitor on the ring. This can be done by ensuring that the MAC-address of the DTR card is not the highest MAC-address on the physical ring.

IP Routing Protocols

- CSCdm20483

  IP access lists fail to block pings on interfaces configured for policy routing with IP route-cache policy.

- CSCdm44957

  Some IP fragments may be incorrectly filtered out by access lists.

- CSCdm53317

  DNS replies passing from "inside" to "outside" via NAT are not NAT translated correctly in many cases. There is no work around.

Miscellaneous

- CSCdm33429

  AS5300 will get bus error when under heavy load caused by outgoing Modem calls. Have tested with IOS 11.3(9)T and 11.3(8.5)T with same results.

  Problem is reproducible within minutes.

- CSCdm49454

  Problem description: When "cable ip-broadcast-echo" is enabled, under certain timing conditions may cause a buffer leak.

  Workaround: Do not enable "cable ip-broadcast-echo" and "cable ip-multicast-echo".

- CSCdk45491

  Symptom : The NM-1FE-TX fails to autonegotiate properly when connected through an SMF connector.

  Analysis : Setting the speed to 100 manually solves the problem. An interface speed command with the following syntax is being added to overcome this. The default behaviour would be to autonegotiate.

  [no] speed {10 | 100 | auto}

- CSCdm18910

  When port info is passed from LAC and 'vpdn aaa attribute nas-port vpdn-nas' is configured, it should be mapped to correct NAS-Port-Type value.

- CSCdm22032

  Configuring PPP encaplusation on an interface and the making that interface a member of a bridge group gives tracebacks and fair-queue not properly initialized messages. Remove brdging from the interface or turning off fair queue the massages dissappear.

  00:06:39: -Traceback= 601C9C58 602015E0 60556558 60553958 6021D034 6021D020 00:06:39: Fair Queue:packet not initialized properly: 0, 0 , 38 00:06:39: -Traceback= 601C9C58 602015E0 60556558 60553958 6021D034 6021D020 00:06:39: Fair Queue:packet not initialized properly: 0, 0 , 38 00:06:39: -Traceback= 601C9C58 602015E0 60556558 60553958 6021D034 6021D020 00:06:40: Fair Queue:packet not initialized properly: 0, 0 , 38 00:06:40: -Traceback= 601C9C58 602015E0 60556558 60553958 6021D034 6021D020 00:06:40: Fair Queue:packet not initialized properly: 0, 0 , 38 00:06:40: -Traceback= 601C9C58 602015E0 60556558 60553958 6021D034 6021D020 00:06:40: Fair Queue:packet not initialized properly: 0, 0 , 38 00:06:40: -Traceback= 601C9C58 602015E0 60556558 60553958 6021D034 6021D020 00:06:40: Fair Queue:packet not initialized properly: 0, 0 , 38 00:06:40: -Traceback= 601C9C58 602015E0 60556558 60553958 6021D034 6021D020 00:06:40: Fair Queue:packet not initialized properly: 0, 0 , 38 00:06:40: -Traceback= 601C9C58 602015E0 60556558 60553958 6021D034 6021D020

- CSCdm28631

  Under conditions of stress (if the ESA is bringing up a large number of crypto sessions simultaneously), it may either enter a race condition or get the crypto initiation messages wedged in the input-q of the interface doing encryption.

Wide-Area Networking

- CSCdk37517

  DDR with **dialer dtr** does not reset DTR to a down state after an unsuccessful call attempt. Unsuccessful in this case means that DDR is triggered, DTR is raised, but the modem/TA attached to the serial port never connects so that DCD does not come up.

  This can be verified by viewing **show dialer** to ensure that the dialer state is idle, and then **show interface serial x** to check the state of DTR.

- CSCdm36123

  Customer is deterministically getting a crash (segV) when dialer rotor best is configured and 'deb dialer' is started once traffic trigger a call.

- CSCdm37653

  Reliable PPP can cause an intermittent crash when used with WFQ. Workaround is to disable Reliable PPP or WFQ.

Troubleshooting

The following section provides troubleshooting information for the Cisco AS5300 universal access server in Cisco IOS Release 11.3 NA.

Error Messages in Cisco IOS Release 11.3(2)NA: Error Messages for Telephony Voice Calls on the PSTN Interface

The following CSM-generated error messages can appear in this release.

Error Message
`Invalid voice interface controller:group`

Explanation The voice interface defined by controller:group is not yet defined within the voice software, but attempts were made to use this interface.

Recommended Action Internal software fault. Contact your field service representative if this message is coincident with dropped calls.

Error Message
`Undefined dsx0 interface for controller`

Explanation The dsx0 interface for the specified controller is not defined, but the voice software used it.

Recommended Action Internal software fault. Contact your field service representative if this message coincides with dropped calls.

Error Message
`No signaling data block is available to build the voice interface`

Explanation The voice software might be out of memory.

Error Message
`The Voice Telephony Service Provider has rejected our request to add this voice interface`

Explanation The voice software was unable to report a new signaling interface to the voice telephony service provider.

Error Message
`No memory is available to build the voice interface`

Explanation The voice software was unable to allocate memory to build a voice interface data structure. The system might be out of memory.

Error Message
`No memory is available to build any internal data structure for the voice software.`

Explanation The voice software was unable to allocate memory to build any internal data structures. The system might be out of memory.

Error Message
`CSM failed to get a free dsp channel from the DSP Resource Manager (DSPRM) to handle an incoming call`

Explanation The voice software was unable to obtain a free DSP channel from the DSP Resource Manager. All the DSPs have been used to process calls or have been taken out of service.

Error Message
`CSM failed to get a free dsp tdm channel from the DSP Resource Manager (DSPRM) to handle an incoming call`

Explanation The voice software was unable to obtain the TDM channel for a free DSP from the DSP Resource Manager. All the DSPs have been used to process calls or have been taken out of service.

Error Message
`Cannot find the voice data block which matches an asynchronous response for a call`

Explanation Internal software fault. Contact your field service representative if this message coincides with dropped calls.

Related Documentation

The following sections describe the documentation available for Cisco AS5300 universal access servers. These documents consist of hardware and software installation guides, Cisco IOS configuration and command references, system error messages, and other documents.

Documentation is available as printed manuals or electronic documents.

Use these release notes with these documents:

- Release-Specific Documents, page 21
- Platform-Specific Documents, page 21
- Feature Modules, page 22
- Cisco IOS Software Documentation Set, page 22

Release-Specific Documents

The following documents are specific to Release 11.3 and are located on CCO and the Documentation CD-ROM.

- *Release Notes for Cisco IOS Release 11.3*

  You can reach *Cross-Platform Release Notes for Cisco IOS Release 11.3* on CCO at:

  Service & Support: Technical Documents: Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Release Notes for Cisco IOS Release 11.3

  You can reach *Cross-Platform Release Notes for Cisco IOS Release 11.3* on the Documentation CD-ROM at:

  Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Release Notes for Cisco IOS Release 11.3

- Product bulletins, field notices, and other release-specific documents

  You can reach these documents on CCO at:

  Service & Support: Technical Documents

- Caveats for Cisco IOS Release 11.3NA

  As a supplement to the caveats listed in "Caveats" in these release notes, see *Caveats for Cisco IOS Release 11.3 T*, which contains caveats applicable to all platforms for all maintenance releases of Release 11.3 T.

  You can reach the caveats document on CCO at:

  Service & Support: Technical Documents: Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Caveats for Cisco IOS Release 11.3 T

  You can reach the caveats document on the Documentation CD-ROM at:

  Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Caveats for Cisco IOS Release 11.3 T

Note If you have an account with CCO, you can use Bug Navigator II to find caveats of any severity for any release. You can reach Bug Navigator II on CCO at: **Service & Support: Online Technical Support: Software Bug Toolkit**. You can also find Bug Navigator II at http://www.cisco.com/support/bugtools.

Platform-Specific Documents

The following Cisco AS5300 universal access servers documents are available:

- *Cisco AS5300 Chassis Installation Guide*
- *Cisco AS5300 Module Installation Guide*
- *Cisco AS5300 Software Configuration Guide*
- *Cisco AS5300 Quick Start Guide (with Fast Step)*
  Cisco AS5300 Universal Access Server Install and Configure
- *Configuring Cisco IOS Software Features*
- *Dial Case Study*

- Modem Information—Firmware/portware release notes, configuration notes, command references, FAQs (frequently asked questions)
- *Regulatory Compliance and Safety Information*
- Documentation for Spare Parts—Removal and replacement procedures for modem modules, feature cards, power supply

The above documentation can be found on CCO and on the Documentation CD-ROM:

- On Cisco Connection Online (CCO) at:

  Service & Support: **Technical Documents: Cisco Product Documentation**: **Access Servers and Access Routers**: **Access Servers**: **Cisco AS5300**

- On the Documentation CD at:

  Access Servers and Access Routers: **Access Servers**: **Cisco AS5300**

Feature Modules

Feature modules describe new features supported by Release 11.3 NA and are updates to the Cisco IOS documentation set. A feature module consists of a brief overview of the feature, benefits, configuration tasks, and a command reference. As updates, the feature modules are available online only. Feature module information is incorporated in the next printing of the Cisco IOS documentation set.

You can reach the feature modules on CCO at:

Service & Support: Technical Documents: Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Release Notes for Cisco IOS Release 11.3: New Features in Release 11.3

You can reach the feature modules on the Documentation CD-ROM at:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Release Notes for Cisco IOS Release 11.3: New Features in Release 11.3

Cisco IOS Software Documentation Set

The Cisco IOS software documentation set consists of the Cisco IOS configuration guides, Cisco IOS command references, and several other supporting documents, which are shipped with your order in electronic form on the Documentation CD-ROM—unless you specifically ordered the printed versions.

Documentation Modules

Each module in the Cisco IOS documentation set consists of two books: a configuration guide and a corresponding command reference. Chapters in a configuration guide describe protocols, configuration tasks, Cisco IOS software functionality, and contain comprehensive configuration examples. Chapters in a command reference provide complete command syntax information. Use each configuration guide with its corresponding command reference.

On CCO and the Documentation CD-ROM, two master hot-linked documents provide information for the Cisco IOS software documentation set.

You can reach these documents on CCO at:

Service & Support: Technical Documents: Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS Release 11.3 Configuration Guides, Command References: Configuration Guide Master Index or Command Reference Master Index

You can reach these documents on the Documentation CD-ROM at:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3: Cisco IOS Release 11.3 Configuration Guides, Command References: Configuration Guide Master Index or Command Reference Master Index

Release 11.3 Documentation Set

Table 3 describes the contents of the Cisco IOS Release 11.3 software documentation set, which is available in electronic form and also in printed form upon request.

Note You can find the most current Cisco IOS documentation on CCO and the Documentation CD-ROM. These electronic documents may contain updates and modifications made after the paper documents were printed.

You can reach the Cisco IOS documentation set from CCO at:

Service & Support: Technical Documents: Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3

You can reach the Cisco IOS documentation set on the Documentation CD-ROM at:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 11.3

Table 3 Cisco IOS Software Release 11.3 Documentation Set

Books	Chapter Topics
• *Configuration Fundamentals Configuration Guide* • *Configuration Fundamentals Command Reference*	Configuration Fundamentals Overview Cisco IOS User Interfaces File Management System Management
• *Network Protocols Configuration Guide, Part 1* • *Network Protocols Command Reference, Part 1*	IP Addressing IP Services IP Routing Protocols
• *Network Protocols Configuration Guide, Part 2* • *Network Protocols Command Reference, Part 2*	AppleTalk Novell IPX
• *Network Protocols Configuration Guide, Part 3* • *Network Protocols Command Reference, Part 3*	Apollo Domain Banyan VINES DECnet ISO CLNS XNS
• *Wide-Area Networking Configuration Guide* • *Wide-Area Networking Command Reference*	ATM Frame Relay SMDS X.25 and LAPB

Table 3 Cisco IOS Software Release 11.3 Documentation Set (continued)

Books	Chapter Topics
• *Security Configuration Guide* • *Security Command Reference*	AAA Security Services Security Server Protocols Traffic Filtering and Firewalls IP Security and Encryption Passwords and Privileges Neighbor Router Authentication IP Security Options
• *Cisco IOS Interface Configuration Guide*	Interface Configurations
• *Dial Solutions Configuration Guide* • *Dial Solutions Command Reference*	Dial-In Port Setup Dial-In Terminal Services Dial-on-Demand Routing (DDR) Dial Backup Dial-Out Modem Pooling Large-Scale Dial Solutions Cost-Control Solutions ISDN X.25 over ISDN VPDN Dial Business Solutions and Examples
• *Cisco IOS Switching Services Configuration Guide* • *Cisco IOS Switching Services Command Reference*	Switching Paths for IP Networks Virtual LAN (VLAN) Switching and Routing
• *Bridging and IBM Networking Configuration Guide* • *Bridging and IBM Networking Command Reference*	Transparent Bridging Source-Route Bridging Token Ring Inter-Switch Link Remote Source-Route Bridging DLSw+ STUN and BSTUN LLC2 and SDLC IBM Network Media Translation DSPU and SNA Service Point SNA Frame Relay Access Support APPN Cisco Database Connection NCIA Client/Server Topologies Cisco Mainframe Channel Connection Airline Product Set
• *Voice, Video, and Home Applications Configuration Guide* • *Voice, Video, and Home Applications Command Reference*	Voice over IP Voice over Frame Relay Voice over ATM Voice over HDLC Video Support Universal Broadband Features
• *Quality of Service Solutions Configuration Guide* • *Quality of Service Solutions Command Reference*	Classification Scheduling Packet Drop Traffic Shaping ATM QoS SNA QoS Line Protocols

Table 3 Cisco IOS Software Release 11.3 Documentation Set (continued)

Books	Chapter Topics
• *Cisco IOS Software Command Summary* • *Dial Solutions Quick Configuration Guide* • *System Error Messages* • *Debug Command Reference*	

Note The *Cisco Management Information Base (MIB) User Quick Reference* publication is no longer published. For the latest list of MIBs supported by Cisco, see *Cisco Network Management Toolkit* on Cisco Connection Online. From CCO, click on the following path: **Service & Support: Software Center: Network Mgmt Products: Cisco Network Management Toolkit: Cisco MIB**.

Service and Support

For service and support for a product purchased from a reseller, contact the reseller, who offers a wide variety of Cisco service and support programs described in "Service and Support" of *Cisco Information Packet* shipped with your product.

Note If you purchased your product from a reseller, you can access CCO as a guest. CCO is Cisco Systems' primary real-time support channel. Your reseller offers programs that include direct access to CCO services.

For service and support for a product purchased directly from Cisco, use CCO.

Software Configuration Tips on the Cisco Technical Assistance Center Home Page

If you have a CCO login account, you can access the following URL, which contains links and tips on configuring your Cisco products:

http://www.cisco.com/kobayashi/serv_tips.shtml

This URL is subject to change without notice. If it changes, point your Web browser to CCO and click on this path: **Products & Technologies: Products: Technical Tips.**

The following sections are provided from the Technical Tips page:

- Access Dial Cookbook—Contains common configurations or recipes for configuring various access routes and dial technologies.
- Field Notices—Notifies you of any critical issues regarding Cisco products and includes problem descriptions, safety or security issues, and hardware defects.
- Frequently Asked Questions—Describes the most frequently asked technical questions about Cisco hardware and software.
- Hardware—Provides technical tips related to specific hardware platforms.

- Hot Tips—Describes popular tips and hints gathered from the Cisco Technical Assistance Center (TAC). Most of these documents are available from the TAC Fax-on-demand service. To reach Fax-on-demand and receive documents at your fax machine from the United States, call 888-50-CISCO (888-502-4726). From other areas, call 650-596-4408.
- Internetworking Features—Lists tips on using and deploying Cisco IOS software features and services.
- Sample Configurations—Provides actual configuration examples that are complete with topology and annotations.
- Software Products—Contains Cisco IOS Software Bulletins, Cisco TCP/IP Suite 100, General Cisco IOS, Internet/Intranet Applications and Software, Network Management, Network Protection Software Tips, and WAN Switching Products and Software.
- Special Collections—Lists other helpful documents, including Case Studies, References & Request for Comments (RFCs), and Security Advisories.

Cisco Connection Online

Cisco Connection Online (CCO) is Cisco Systems' primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco's customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can reach CCO in the following ways:

- WWW: http://www.cisco.com
- WWW: http://www-europe.cisco.com
- WWW: http://www-china.cisco.com
- Telnet: cco.cisco.com
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

Note If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or tac@cisco.com. To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or cs-rep@cisco.com.

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which package that ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at http://www.cisco.com, http://www-china.cisco.com, or http://www-europe.cisco.com.

If you are reading Cisco product documentation on the World Wide Web, you can submit comments electronically. Click **Feedback** in the toolbar and select **Documentation**. After you complete the form, click **Submit** to send it to Cisco. We appreciate your comments.

This document is to be used in conjunction with the documents listed in the "Related Documentation" section on page 20.