Release Notes for Cisco ASR 901 Series Aggregation Services Router for Cisco IOS Release 15.6(1)S

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This release notes is for the Cisco ASR 901 Series Aggregation Services Router for Cisco IOS Release 15.6(1)S and contains the following sections:

Introduction

The Cisco ASR 901 Series Aggregation Services Router is a cell-site access platform specifically designed to aggregate and transport mixed-generation radio access network (RAN) traffic. The router is used at the cell site edge as a part of a 2G, 3G, or 4G RAN.

The Cisco ASR 901 router helps enable a variety of RAN solutions by extending IP connectivity to devices using Global System for Mobile Communications (GSM), General Packet Radio Service (GPRS), Node Bs using High Speed Packet Access (HSPA) or Long Term Evolution (LTE), base transceiver stations (BTSs) using Enhanced Data Rates for GSM Evolution (EDGE), Code Division Multiple Access (CDMA), CDMA-2000, EVDO, or WiMAX, and other cell-site equipment.

It transparently and efficiently transports cell-site voice, data, and signaling traffic over IP using traditional T1 and E1 circuits, as well as alternative backhaul networks such as Carrier Ethernet and DSL, Ethernet in the First Mile (EFM), and WiMAX. It also supports standards-based Internet

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Engineering Task Force (IETF) Internet protocols over the RAN transport network, including those standardized at the Third-Generation Partnership Project (3GPP) for IP RAN transport. Custom designed for the cell site, the Cisco ASR 901 router features a small form factor, extended operating temperature, and cell-site DC input voltages.

Table 1 lists the Cisco ASR 901 1G Router model versions.

Table 1   ***Cisco ASR 901 1G Router Models***

Power Source	TDM + Ethernet Version	Ethernet Version
DC Power	• A901-12C-FT-D • A901-4C-FT-D	• A901-12C-F-D • A901-4C-F-D
AC Power	• none	• none

Table 2 lists the Cisco ASR 901 10G Router model versions.

Table 2   ***Cisco ASR 901 10G Router Models***

Power Source	TDM + Ethernet Version	Ethernet Version
DC Power	• A901-6CZ-FT-D	• A901-6CZ-F-D • A901-6CZ-FS-D
AC Power	• A901-6CZ-FT-A	• A901-6CZ-F-A • A901-6CZ-FS-A

Note   Some of the Cisco ASR 901 models have port based licensing. For more details, see the Licensing chapter in Cisco ASR 901 Series Aggregation Services Router Software Configuration Guide.

System Specifications and Memory Details

Table 3 lists the supported system configurations and memory details for the Cisco ASR 901 router:

Table 3   ***Cisco IOS Release 15.6(1)S Memory Details***

Platform	Software Image	Flash Memory	DRAM Memory	Runs From
Cisco ASR 901 Series Aggregation Services Router TDM version	asr901-universalk9-mz	128 MB	512 MB	RAM
Cisco ASR 901 Series Aggregation Services Router, Ethernet version	asr901-universalk9-mz	128 MB	512 MB	RAM
Cisco ASR 901 Series Aggregation Services Router, IPsec enabled Ethernet version	asr901sec-universalk9.mz	256 MB	512 MB	RAM

Determining the Software Version

To determine the image and version of Cisco IOS software running on your Cisco ASR 901 router, log in to the router and enter the **show version** command in the EXEC mode:

The following example shows output from Cisco ASR 901 router that supports normal IOS software.

```
ASR901_1> show version
Cisco IOS Software, 901 Software (ASR901-UNIVERSALK9-M), Version 15.6(1)S, RELEASE
SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2015 by Cisco Systems, Inc.
Compiled Thu 19-Nov-15 06:03 by mcpre

ROM: System Bootstrap, Version 15.5(3r)S1, RELEASE SOFTWARE (fc1)

ASR901_1 uptime is 4 hours, 42 minutes
System returned to ROM by reload at 13:31:01 IST Sat Nov 21 2015
System restarted at 13:52:05 IST Sat Nov 21 2015
System image file is
"tftp://202.153.144.25//auto/tftp-blr-users4/abpujaha/images/317_CCO_Renumbered"
Last reload type: Normal Reload
Last reload reason: Reload Command
```

The following example shows output from Cisco ASR 901 Series Aggregation Services Router, IPsec enabled Ethernet version.

```
SANR1> show version
Cisco IOS Software, 901 Software (ASR901SEC-UNIVERSALK9-M), Version 15.6(1)S, RELEASE
SOFTWARE (fc3)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2015 by Cisco Systems, Inc.
Compiled Thu 19-Nov-15 05:31 by mcpre

ROM: System Bootstrap, Version 15.5(3r)S1, RELEASE SOFTWARE (fc1)

SANR3 uptime is 3 minutes
System returned to ROM by reload at 18:26:50 IST Sat Nov 21 2015
System restarted at 18:00:40 IST Sat Nov 21 2015
System image file is
"tftp://202.153.144.25//auto/tftp-blr-users4/abpujaha/images/317_CCO_RenumberedSantori"
Last reload type: Normal Reload
Last reload reason: Reload Command
```

New and Changed Information

New Hardware Features in Release 15.6(1)S

There are no new hardware features in this release.

New Software Features in Release 15.6(1)S

The following features are supported from this release.

DHCPAuthentication

The Cisco DHCP Client FORCERENEW Message feature provides entity authentication and all client-server exchange authentication, in accordance with RFC 3118.

For more information about this feature, see *Configuring Ethernet Virtual Connections* guide at the following URL:

http://www.cisco.com/c/en/us/td/docs/wireless/asr_901/Configuration/Guide/b_asr901-scg/b_asr901-scg_chapter_01000.html

Modified Software Features in Release 15.6(1)S

There are no modified features in this release.

Supported Hardware

Table 4 and Table 5 shows the SFP modules supported on the Cisco ASR 901 routers:

Important Notes

- 10G SFPs inserted into 1GE port provides 1GE speed.
- 10G SFPs inserted into 10GE port without a valid license provides only 1GE speed.
- 100M SFP works only with **no negotiation auto** command.
- If 1G SFP is used to connect a 10G port to a 1G port, you do not have to explicitly configure the **no negotiation auto** command to bring up the link.
- Effective with Cisco IOS Release 15.4(3)S, the auto-select feature is supported on 100M SFPs. However, this feature is not supported on combo ports.
- Remote Fault Indication feature is not applicable for 1G mode in 10GE ports. It applies only to 10G mode in 10GE ports.
- By default dual rate SFP works in 1G mode, to make it work in 100M mode, "no negotiation auto" should be configured.
- Dual rate SFP can be configured in 100M mode when inserted in 1G ports only.
- Dual rate SFP when inserted in 10G ports will work in 1G mode only.

Table 4   SFPs Supported on the Cisco ASR 901 1G and 10G Routers for 1G Mode

• CWDM-SFP-1470	• GLC-SX-MM-RGD
• CWDM-SFP-1490	• GLC-T
• CWDM-SFP-1510	• GLC-ZX-SM
• CWDM-SFP-1530	• GLC-ZX-SMD
• CWDM-SFP-1550	• GLC-ZX-SM-RGD
• CWDM-SFP-1570	• SFP-GE-L
• CWDM-SFP-1590	• SFP-GE-S
• CWDM-SFP-1610	• SFP-GE-T
• CWDM SFP+	• SFP-GE-Z
• DWDM-SFP-XXXX[1]	• GLC-BX40-D-I
• GLC-BX-U and GLC-BX-D[2]	• GLC-BX40-DA-I
• GLC-EX-SMD	• GLC-BX40-U-I
• GLC-LH-SMD	• GLC-BX80-D-I
• GLC-LX-SM-RGD	• GLC-BX80-U-I
• GLC-SX-MMD	• GLC-GE-DR-LX

1. 40 wavelengths

2. These SFPs (GLC-BX-U and GLC-BX-D) should be connected back to back to bring the interface link up.

Table 5   SFPs Supported on the Cisco ASR 901 10G Router for 10G Mode

• SFP-10G-ER	• SFP-10G-SR
• SFP-10G-LR	• SFP-10G-SR-X
• SFP-10G-LR-X	• SFP-10G-ZR
• DWDM-SFP+	• SFP-10G-LRM
• SFP-H10GB-CU1M	• SFP-H10GB-ACU7M
• SFP-H10GB-CU3M	• SFP-H10GB-ACU10M
• SFP-H10GB-CU5M	

Note   For information on how to configure SFPs, see the Cisco ASR 901 Series Aggregation Services Router Software Configuration Guide.

Supported MIBs

The Cisco ASR 901 router supports the following MIBs:

- BGP4-MIB
- BRIDGE-MIB
- CISCO-ACCESSENVMON-MIB
- CISCO-CAR-MIB
- CISCO-CDP-MIB
- CISCO-CEF-MIB
- CISCO-CLASS-BASED-QOS-MIB
- CISCO-CONFIG-COPY-MIB
- CISCO-CONFIG-MAN-MIB
- CISCO-DATA-COLLECTION-MIB
- CISCO-DOT3-OAM-MIB
- CISCO-EIGRP-MIB
- CISCO-ENHANCED-MEMPOOL-MIB
- CISCO-ENTITY-ALARM-MIB
- CISCO-ENTITY-ASSET-MIB
- CISCO-ENTITY-VENDORTYPE-OID-MIB
- CISCO-ENVMON-MIB
- CISCO-FLASH-MIB
- CISCO-IETF-PW-MIB
- CISCO-IETF-PW-TC-MIB
- CISCO-IF-EXTENSION-MIB
- CISCO-IMAGE-MIB
- CISCO-IPSLA-ETHERNETMIB
- CISCO-MEMORY-POOL-MIB

- CISCO-STP-EXTENSIONS-MIB
- CISCO-SYSLOG-MIB
- CISCO-TC
- ENTITY-MIB
- ETHERLIKE-MIB
- HCNUM-TC
- IANAifType-MIB
- IEEE8021-CFM-MIB
- IF-MIB
- IMA-MIB
- INT-SERVE-MIB
- IP-FORWARD-MIB
- IP-MIB
- MPLS-LDP-MIB
- MPLS-LSR-MIB
- MPLS-VPN-MIB
- NOTIFICATION-LOG-MIB
- OLD-CISCO-CHASSIS-MIB
- OLD-CISCO-FLASH-MIB
- OLD-CISCO-INTERFACES-MIB
- OLD-CISCO-IP-MIB
- OLD-CISCO-SYS-MIB
- OLD-CISCO-TS-MIB
- OSPF-MIB

- CISCO-NETSYNC-MIB
- CISCO-NTP-MIB
- CISCO-OSPF-MIB
- CISCO-PING-MIB
- CISCO-PROCESS-MIB
- CISCO-PRODUCTS-MIB
- CISCO-PTP-MIB
- CISCO-QUEUE-MIB
- CISCO-RESILIENT-ETHERNET-PROTOCOL-MIB
- CISCO-RTTMON-MIB
- CISCO-SENSOR-ENTITY-MIB
- CISCO-SMI-MIB
- CISCO-SNAPSHOT-MIB
- CISCO-SNMP-TARGET-EXT-MIB

- OSPFv3-MIB
- PerfHist-TC-MIB
- RFC1213-MIB
- RMON2-MIB
- RMON-MIB
- SNMP-FRAMEWORKMIB
- SNMP-TARGET-MIB
- SNMPv2-MIB
- SNMPv2-SMI
- SNMPV2-TC
- TCP-MIB
- UDP-MIB
- CISCO-IPSEC-FLOW-MONITOR-MIB
- CISCO-IPSEC-MIB

Caveats

Caveats describe unexpected behavior in Cisco IOS software releases. Severity 1 caveats are the most serious caveats, severity 2 caveats are less serious, and severity 3 caveats are the least serious of these three severity levels. Only select severity 3 caveats are listed.

This section contains the following topics:

- Bug Search Tool
- Open Caveats
- Resolved Caveats

Bug Search Tool

The Caveats section only includes the bug ID and a short description of the bug. For details on the symptoms, conditions, and workaround for a particular bug you must use the Bug Search Tool.

Use the following link to access the tool: https://tools.cisco.com/bugsearch/search

You will be prompted to log into Cisco.com. After successful login, the Bug Search Tool page opens. Use the Help link in the Bug Search Tool to obtain detailed help.

Open Caveats

This section provides information about the open caveats for the Cisco ASR 901 router running Cisco IOS Release 15.6(1)S.

Bug ID	Description
CSCuw05861	mac acl does not drop ospf packets
CSCux08903	ASR901: Y1731 DMM measurement does now work on Santorini Boxes
CSCuv77123	Garbage counters on TenGig Total O/P drops under fluctuations in registers
CSCuw83140	Port corruption while denatting in Linux Core ASF code in Santorini.
CSCuw57752	Vlan-priority is not preserved for non-rewrite xconnect interface

Resolved Caveats

This section provides information about the resolved caveats for the Cisco ASR 901 router running Cisco IOS Release 15.6(1)S.

Bug ID	Description
CSCuv11274	acl match counters showing junk value on adding a rule
CSCuu32863	Deny MAC ACL is not denying L2CP traffic
CSCuu94594	IPV4 acl counters are not incrementing
CSCuu22054	untagged EVC does not pass traffic
CSCut92739	Vlan-priority is not preserved for non-rewrite xconnect interface
CSCuv43536	Negative counters FFFFFFE0 with multicast data in Tengig interface
CSCuv31196	Random MPLS Packet Drops With IP Multicast Over L3 Ring on ASR901
CSCuw57768	901 Crashed while applying clearance commands for parity errors
CSCut65927	asr901 Hangs @Autoinstall Process Starting while the device is booting
CSCuu62478	Licensing infrastructure is NOT initialized during boot up
CSCuv09066	Incorrect P-bit for CPU originated packets once EoMPLS VC on
CSCuw14541	ENTITY- MIB SNMP polling gives incorrect number of Fan in ASR901 10G box
CSCuu28678	ASR901: AIS on TDM AC does not trigger L-bit to be set in SAToP CW
CSCuu28735	ASR901: incoming SAToP packets with L-bit are ignored after CEM flap
CSCuu17552	CASR901: Continuous Gig Flaps On Connected Router When ASR901 reloaded
CSCur70350	PTP flap b/w bridge/normal, ref 10M fail to recover from servo bad state

Troubleshooting

The following sections describe troubleshooting commands you can use with the router.

Collecting Data for Router Issues

To collect data for reporting router issues, issue the following command:

- **show tech-support**—Displays general information about the router if it reports a problem.

Collecting Data for ROMMON Issues

To collect data for ROMMON issues, issue the following command while in the EXEC mode:

- **show rom-monitor**—Displays currently selected ROM monitor.

Note If you contact Cisco support for assistance, we recommend that you provide any crashinfo files stored in flash memory. For more information about crashinfo files, see http://www.cisco.com/en/US/products/hw/routers/ps167/products_tech_note09186a00800a6743.shtml.

Related Documentation

Documents related to the Cisco ASR 901 Series Aggregation Services Router include the following:

- *Cisco ASR 901 Series Aggregation Services Router Hardware Installation Guide*
- *Cisco ASR 901 Series Aggregation Services Router Software Configuration Guide*
- *Regulatory Compliance and Safety Information for Cisco ASR 901 Series Aggregation Services Routers*
- *Cisco ASR 901 Series Aggregation Services Router Series MIB Specifications Guide*

To access the related documentation on Cisco.com, go to:

- Cisco ASR 901 1G Router home page: http://www.cisco.com/en/US/partner/products/ps12077/tsd_products_support_series_home.html
- Cisco ASR 901 10G Router home page: http://www.cisco.com/c/en/us/support/routers/asr-901-10g-series-aggregation-services-routers/tsd-products-support-series-home.html

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html.

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