



Release Notes for Cisco ASR 901 Series Aggregation Services Router for Cisco IOS Release 15.6(2)S2

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This release notes is for the Cisco ASR 901 Series Aggregation Services Router for Cisco IOS Release 15.6(2)S2 and contains the following sections:

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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



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	<ul style="list-style-type: none"> A901-12C-FT-D A901-4C-FT-D 	<ul style="list-style-type: none"> A901-12C-F-D A901-4C-F-D
AC Power	<ul style="list-style-type: none"> none 	<ul style="list-style-type: 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	<ul style="list-style-type: none"> A901-6CZ-FT-D 	<ul style="list-style-type: none"> A901-6CZ-F-D A901-6CZ-FS-D
AC Power	<ul style="list-style-type: none"> A901-6CZ-FT-A 	<ul style="list-style-type: none"> 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(2)S2 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(2)S2, RELEASE
SOFTWARE (fc1) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2016
by Cisco Systems, Inc.
Compiled Mon 24-Oct-16 00:12 by prod_rel_team
```

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

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(2)S2, RELEASE
SOFTWARE (fc1) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2016
by Cisco Systems, Inc.
Compiled Mon 24-Oct-16 00:30 by prod_rel_team
```

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

New and Changed Information

- [New Hardware Features in Release 15.6\(2\)S2, page 3](#)
- [New Software Features in Release 15.6\(2\)S2, page 3](#)
- [Modified Software Features in Release 15.6\(2\)S2, page 3](#)

New Hardware Features in Release 15.6(2)S2

There are no new hardware features in this release.

New Software Features in Release 15.6(2)S2

There are no new software features in this release.

Modified Software Features in Release 15.6(2)S2

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

<ul style="list-style-type: none"> • SFP-10G-ER • SFP-10G-LR • SFP-10G-LR-X • DWDM-SFP+ • SFP-H10GB-CU1M • SFP-H10GB-CU3M • SFP-H10GB-CU5M • SFP-10G-SR • SFP-10G-SR-X 	<ul style="list-style-type: none"> • SFP-10G-ZR • SFP-10G-LRM • SFP-H10GB-ACU7M • SFP-H10GB-ACU10M • SFP-10G-BX-D-I • SFP-10G-BX-U-I • SFP-10G-BX40-D-I • SFP-10G-BX40-U-I
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**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-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

- 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-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
- 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
- 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(2)S2.

Caveat ID Number	Description
CSCuz19614	ASR 901, interrupt mem_alloc failed
CSCux31403	complete fp show group command output is not logged
CSCuv77123	Garbage counters on TenGig Total O/P drops under fluctuations in regstrs
CSCuz24419	CPU Queue changes with policy-map applied for source IP 0.0.0.0 pkts
CSCuw83140	Port corruption while denatting in Linux Core ASF code in Santorini.
CSCuz88145	ASR901: OOR not clearing automatically on clock sources other than synce

Resolved Caveats

This section provides information about the resolved caveats for the Cisco ASR 901 router running Cisco IOS Release 15.6(2)S2.

Caveat ID Number	Description
CSCva50139	ASR901:PTP over ethernet does not work on interface where span enabled
CSCuy59767	Junk ACL counters seen after clearing route-map counters
CSCuy09127	AN : AN ZTB on ASR901 fails in some scenarios
CSCuy14603	ASR901 SVI in a bridge-domain duplicates packet and rewrites MAC
CSCux60673	ASR901: POE not working on IPsec image on Agora
CSCuy02437	ifHCInBroadcastPkts and ifHCOutBroadcastPkts shows incorrect counters
CSCva43334	Increase fan duty cycle from 40% to 50% for Nidec fan failure
CSCuy40640	Table x:max table maps in useNo free Table Maps found for thispolicy-map
CSCuz88112	Unwanted IP-Prec to VLAN CoS map (copy) on GRE tunnel terminator
CSCux97402	Vlan-priority is not preserved for non-rewrite xconnect interface
CSCuz20125	CEMoUDP state being in established/AC down on reload when AC is down
CSCuz31027	Synce is not selected after recovery.

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*.

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the [What's New in Cisco Product Documentation RSS feed](#). The RSS feeds are a free service.

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