Release Notes for Cisco ASR 901 Series Aggregation Services Router for Cisco IOS Release 15.4(1)S2

June 2014

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This release notes is for the Cisco ASR 901 Series Aggregation Services Router for Cisco IOS Release 15.4(1)S2 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.

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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 router model versions.

Table 1 Cisco ASR 901 Router Models

TDM + Ethernet Version	Ethernet Version
• A901-12C-FT-D[1]	• A901-12C-F-D[1]
• A901-4C-FT-D[1]	• A901-4C-F-D[1]
• A901-6CZ-FT-D[1]	• A901-6CZ-F-D[1]
• A901-6CZ-FT-A[2]	• A901-6CZ-F-A[2]

1. DC power
2. AC power

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

Table 2 lists the supported system configurations for the Cisco ASR 901 router:

Memory Details

Table 2 lists the memory available for Cisco ASR 901 router.

Table 2 Cisco IOS Release 15.4(1)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

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:

```
Router> show version
Cisco IOS Software, 901 Software (ASR901-UNIVERSALK9-M), Version 15.4(1)S2, RELEASE
SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2014 by Cisco Systems, Inc.
Compiled Tue 27-May-14 10:46 by prod_rel_team

ROM: System Bootstrap, Version 15.4(2r)S2, RELEASE SOFTWARE (fc1)
```

New and Changed Information

New Hardware Features in Release 15.4(1)S2

There are no new hardware features in Cisco IOS Release 15.4(1)S2.

New Software Features in Release 15.4(1)S2

There are no new software features in Cisco IOS Release 15.4(1)S2.

Modified Software Features in Release 15.4(1)S2

The following feature is modified in this release:

Configuring Resilient Ethernet Protocol

Effective with this release, the **rep platform fast-lsl enable** command is introduced to support the Resilient Ethernet Protocol (REP) sessions with Link Status Layer (LSL) timers that are less than one second long.

For configuration information, see the Configuring Resilient Ethernet Protocol at: http://www.cisco.com/c/en/us/td/docs/wireless/asr_901/Configuration/Guide/b_asr901-scg/b_asr901-scg_chapter_01100.html

For information on the **rep platform fast-lsl enable** command, see the Cisco ASR 901 Series Aggregation Services Router Command Reference at: http://www.cisco.com/c/en/us/td/docs/wireless/asr_901/Command/Reference/asr901_cmdref/Cmdref_asr901.html#pgfId-2656177

Supported Hardware

Table 3 and Table 4 shows the SFP modules supported on the Cisco ASR 901 routers:

Note Effective with Cisco IOS release 15.4.(01)S, the following changes are available on the Cisco ASR 901 series routers.

- 10G SFPs inserted into 1GE port provides 1GE speed.
- 10G SFPs inserted into 10GE port without a valid license provides 1GE speed.
- 100M SFP works only with no negotiation auto command.
- Effective with Cisco IOS Release 15.4(1)S, 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.

Table 3 SFPs Supported on the Cisco ASR 901 1G and 10G Routers for 1G Mode

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

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 4 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-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-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

- 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
- 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

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

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 15.4(1)S2.

Bug ID	Description
CSCtn18900	Service policy classification based on inner Virtual LAN p-bits is not working.
CSCtn71094	The **no interface vlan 1** command deletes VLAN 1.
CSCtn79746	The **show ethernet service instance statistics** command is not displaying any statistics.
CSCto96840	A command restriction is required for Dual Rate Three Color (2R3C) on parent class in Hierarchical Quality of Service (HQoS).
CSCtq26793	Some ports are not getting bundled with the port channel because of attribute mismatch, such as flow-control.
CSCtr05566	The Multiprotocol Label Switching (MPLS) traffic fails when port channel encapsulation is not equal to the bridge domain on the core.
CSCtr70228	High CPU utilization is observed while performing save or copy operation.
CSCts66081	Ingress VLAN translation failure occurs when entries exceed 3000.
CSCts80090	The reserved VLANs are not blocked on the router.
CSCts84679	The circuit emulation (CEM) interface displays wrong configuration in the **show running-configuration** command output, when pw-class is configured.
CSCts85484	Traceback occurs after executing **rep preempt segment segid** command.
CSCts92808	Weighted Random Early Detection (WRED) counters are not working for discard class 0.
CSCtw52497	The interface drops all ingress packets when you reload the router with write, erase, and copy the saved configuration to the running configuration.
CSCtw69021	Maximum bandwidth guarantee for Multilink Point-to-Point Protocol (MLPPP) interface is not working for 64-byte size frames in Low Latency Queuing (LLQ).
CSCtx12366	The servo is accepting more than 64PPS Sync in static unicast.
CSCtx22010	SyncE is not supported for the Copper SFPs: GLC-T and SFP-GE-T

Bug ID	Description
CSCtx54735	High CPU utilization and traceback is observed while doing copy and paste of 16 E1 controllers unconfigurations.
CSCtx77374	Input errors are increasing when serial interface flaps. This issue is observed on a serial interface that is part of a multilink interface, when keepalive is disabled.
CSCty04070	Traffic fails and continuous traceback is observed, when xconnect is configured on an untagged EVC in a port-channel.
CSCty95886	The file copy function is not detecting errors properly.
CSCtz38207	Router is rebooting continuously due to failed fans.
CSCtz48755	The write operation triggers the flaps for Hot Standby Router Protocol (HSRP). We recommend the use of minimum 1 sec (or above) hello timer for HSRP and Virtual Redundancy Router Protocol (VRRP). With this configuration, we support a maximum of 50 sessions.
CSCtz69403	IPv6 traffic is not getting dropped with link-local as source address.
CSCtz81384	The Layer 2 ATM/IMA interface and its permanent virtual circuits (PVCs) are not coming up when operations, administration and maintenance (OAM) is configured.
CSCua19178	Packet drops are seen with IPv6 fragmentation.
CSCua34320	The OSPFv3 keeps old router-id even after changing the loopback address.

CSCua34389	Manual tunnel having MPLS configuration with dynamic option in the following sequence does not set up targeted ldp session resulting in tunnel staying down. shut/no shut of the tunnel brings back the targeted Label Distribution Protocol (LDP) session up.
	`interface Tunnel108`
	`ip unnumbered Loopback0`
	`mpls label protocol ldp`
	`mpls ip`
	`tunnel source Loopback0`
	`tunnel destination 36.36.36.36`
	`tunnel mode mpls traffic-eng`
	`tunnel mpls traffic-eng path-option 1 dynamic`
	The issue is not observed when tunnel mode is configured ahead of tunnel destination,

CSCua40707	The commands related to MPLS and MPLS-TE/FRR are applicable only to SVI interfaces though they can be enabled globally. Thus configuring the MPLS commands on the GigabitEthernet interface or port-channel is not supported.
CSCua49491	The MPLS traffic engineering counters are not supported.
CSCua51628	The OSPFv3 bidirectional forwarding detection (BFD) flaps after an interface is shut in a port-channel bundle.
CSCua81678	The following error message is displayed for /128 prefix: “Reached Maximum Number of IPv6 Hosts”.
CSCua82917	In remote LFA FRR, the recovery takes more than 80 ms.

Bug ID	Description
CSCua84571	Load balancing is not working with different streams having symmetrical addresses.
CSCua88693	The **verify** command is not supported for the USB flash in the Cisco ASR 901 10G router.
CSCua98165	The IPv6 BFD packets should be mapped to Queue 6 on egress interface.
CSCua99910	MAC address table (MAC learning) failures can be seen with more than 31000 MAC Addresses in certain conditions. So it is safe to assume the platform supports 31000 MAC addresses.
CSCub12715	The “pura_cef_ipv6_route_create_update:Reached Maximum Number of Prefixes supported by platform.Additional Prefixes will not be programmed” message is displayed when the primary path is shut/unshut in a redundant convergent setup.
CSCub71746	Alarm Indication Signal (AIS) is visible momentarily at T1 controller of CE1 while reverting back to primary.
CSCuc15639	Connectivity Fault Management (CFM) is not supported with 100 ms interval.
CSCuc22630	The router fails to recognize USB when its removed immediately after insertion.
CSCuc25878	The UBR transmits at a lower rate when all five class of service (CoS) Private Virtual Circuits (PVCs) are configured.
CSCuc39560	IPv6 traffic drop occurs globally when IPv4 VRF is configured on the same SVI with **ip vrf definition**.
CSCuc85033	The untagged Ethernet Virtual Circuit (EVC) port is not supported for spanning tree.
CSCuc95900	Traffic is receiving two VLAN tags, instead of three for QinQ with pop 2.
CSCud04703	In Zero Touch Provisioning, the Cisco ASR 901 series router is not able to connect to the CE server using option-43 template, when source interface is passed as a parameter.
CSCud05125	In traffic generator, the receiver (Rx) counter is incrementing even after the EVC mismatch.
CSCud14278	Border Gateway Protocol (BGP) flap is observed between PEs when traffic from CE side is oversubscribed towards PE.
CSCud16558	High convergence time is observed when “shut” operation is performed on fast re-route (FRR) configured with port channels. This issue can be resolved with BFD.
CSCud20997	The Ethernet Over MPLS (EoMPLS) pseudowire redundancy fails when backup pseudowire is active in TE-FRR backup path.
CSCud24655	CPU hog is observed when primary path is “shut” in an LFA FRR set up with 1000 prefixes.
CSCud29184	The **show version** command is not giving the image name when the boot system variable is set as: **boot system flash** *image-name*.
CSCud32961	Error occurs when any label entry is crossing the 3500 range.

Bug ID	Description
CSCud33913	In Zero Touch Provisioning, the VLAN discovery is not supported for encapsulation dot1ad.
CSCud37655	The xconnect MTU is not used for traffic filtering.
CSCud71334	The mac-address flap control is putting all ports into “err-disabled” state, in some cases.
CSCud75293	The **show rom-monitor** command is not showing upgraded ROMMON version in IOS mode.
CSCud79202	The **show inventory** command is displaying the PID of SFP-SX-MM as GLC-SX-MM.
CSCud89083	The router displays “soc_counter_sync: counter thread not responding” error, under heavy CPU usage.
CSCue11410	The incremental-SPF configuration is causing micro loops during convergence, in IGP IS-IS.
CSCue11688	The VRF routes are leaked from the adjacent VRF with a particular IP:nn pattern.
CSCue45003	ASR901 strom control filter does not support current counters value in **show storm** output.
CSCue54634	Traffic outage and pstorm errors are observed when port channel is configured and unconfigured multiple times.
CSCue94536	The port channel interface flaps when lacp max-bundle is configured and unconfigured.
CSCuf21682	High reconvergence is observed for global traffic in Remote Loop Free Alternate (RLFA).
CSCuf48503	Higher latency is observed for middle priority queue.
CSCuf49860	Configuration of backup peer on primary xconnect, after bringing up remote peer backup results in flap.
CSCug61006	Auto-select is not working on the Gigabit Ethernet (0/4) port. For combo ports, shutdown or no shutdown on the interface is mandatory while changing the media type from RJ45 to auto-select and auto-select to RJ45 respectively.
CSCug91477	Strom control filter for the port channel does not show the discarded counters.
CSCug92777	On Layer 3, multicast traffic are punted to CPU even when storm control drops all the packets.
CSCuh37393	100M SFP support is not available for auto-select medium feature.
CSCuh46724	Sometimes, port-channel with 10G interfaces have high convergence numbers for REP.
CSCuh54827	Layer 2 control protocol forwarding and tunneling is not following the Spanning Tree Group (STG) states updated by Resilient Ethernet Protocol (REP)/Multiple Spanning Tree Protocol (MSTP).
CSCuh69916	The ASR 901 router does not support Multicast Route entry based counters.

Bug ID	Description
CSCuh81074	The ASR 901 router does not support Multicast Route entry based rate counters.
CSCuh81074	The output of **show ip mroute active** and **show ip mfib active** commands are showing incorrect traffic rate.
CSCuh84139	The ASR 901 router is experiencing very high Fast Reroute (FRR) cutover downtime when port-channel core-facing interface is down.
CSCuh86459	Detection of Avago type GigabitEthernet SFP may sometimes fail. To recover, remove and re-insert the SFP.
CSCuh91973	After reload, incorrect error message is displayed for unsupported SFPs.
CSCui28984	If the accept interface and forward interface are in the same BD, multicast traffic is not forwarded.
CSCui34892	Multicast packet counters are not showing proper count on receiving interface, when the size is above 1500.
CSCui35642	Multicast traffic in the ASR 901 router is getting forwarded based on physical interface MTU instead of SVI MTU.
CSCui85659	Layer 2 control packets (Tx) cannot be spanned.
CSCui88126	“ReachedMaximumNumberIPv6 Hosts” error message and traceback is observed on core link flap. The ASR901 router allows lesser than MAX Multicast Routes due to HASH COLLISION LIMITATION in certain Source and Group Combination.
CSCuj49502	Multiprotocol Label Switching (MPLS) EXP classification is not working in P router for plain IP, L2VPN and L3VPN traffic flowing from one Ingress MLPPP to another Egress MLPPP/Egress GigabitEthernet.
CSCuj53627	Sometimes, high convergence numbers are observed on Layer 2 VPN traffic over REP.
CSCuj65823	Router console session or telnet session hangs after deleting IMA group.
CSCuj65984	FRR egress objects for L2VPN pseudowires may get leaked on flapping all IP routes multiple times.
CSCuj99184	Router fails to trigger Protocol-Independent Multicast (PIM) assert resulting in duplicate traffic for 2-3mins.
CSCul06056	All config-reg values are accepting “break”.
CSCul09417	Confreg 0x2142 is allowed after disabling password recovery.
CSCul12225	On a 10G router, when 10G interface is used in 1G mode, traffic switching from one member of port-channel to another takes more time.
CSCul22030	Duplicate traffic is received for sometime on the receiver which is directly connected on RP after RPF shut/no-shut operation.

Resolved Caveats

This section provides information about the resolved caveats for the Cisco ASR 901 router running Cisco IOS Release 15.4(1)S2.

Bug ID	Description
CSCtz16522	The Two-Way Active Measurement Protocol (TWAMP) session-reflector packet truncation fails.
CSCui59984	REP flap is observed on scale configurations (bridge-domain scaled up to 250 or MAC address learnt is about 10K) with low link status layer (LSL) timers.
CSCuj64713	Router is not generating field replacable unit (FRU) traps after the insertion and removal of SFPs.
CSCuj68180	Transceiver traps are not sent for digital optical monitoring (DOM) threshold violations.
CSCuj98996	After installing AdvancedMetroIPAccess license, router is setting it for next reboot level even though no license is set at boot level.
CSCuo85100	The Cisco ASR 901 1G router automatically reloads when working at temperature less than minus 20 degree Centigrade (minus 4 degree Fahrenheit).

Troubleshooting

The following sections describe troubleshooting commands you can use with the Cisco ASR 901 Series Aggregation Services 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

Services and Support

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New* in Cisco Product Documentation, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

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