



## **Release Notes for Cisco ASR 901S Series Aggregation Services Router for Cisco IOS Release 15.4(1)S**

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

This release notes is for the Cisco ASR 901S Series Aggregation Services Router for Cisco IOS Release 15.4(1)S and contains the following sections:

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## Introduction

The Cisco ASR 901S Series Aggregation Services Routers are a family of small cell routers designed to support backhaul in deployment of small cell radios. The ASR 901S routers are small-form-factor, environmentally hardened (IP65 rated), low power, and cost effective. They complement the Cisco ASR 901 as part of the Cisco end-to-end mobile backhaul solution and transparently integrate into existing operational environments. A Cisco ASR 901S router prioritizes and processes small cell-site voice, data, and signaling traffic as part of the Cisco Unified RAN Backhaul solution for reliable transport across any available backhaul networks.

The ASR 901S routers can be installed in the outside plant (OSP) without an enclosure. These routers can be easily deployed in challenging locations such as on lamp posts, telephone poles, and sides of walls. By using the Cisco ASR 901S, operators can reduce backhaul operating costs, simplify deployment and provisioning, and enhance their profit opportunities with premium mobile and Ethernet services.

## System Specifications

**Table 1: Cisco IOS Release 15.4(1)S System Configuration and Memory Details**

Platform	Software Image	Flash Memory	DRAM Memory	Runs From
A901S-4SG-F-D	asr901-universalk9-mz	128 MB	512 MB	RAM
A901S-3SG-F-D				
A901S-2SG-F-D				

## Determining the Software Version

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

```
Agora#P4-FD-1#sh version
Cisco IOS Software, 901 Software (ASR901-UNIVERSALK9-M), Version 15.4(0.19)S0.11, EARLY DEPLOYMENT ENGINEERING
WEEKLY BUILD, synced to BASE_FOR_V154_1_S_XE311_THROTTLE
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2013 by Cisco Systems, Inc.
Compiled Wed 06-Nov-13 13:54 by alnguyen
```

```
ROM: System Bootstrap, Version 15.4(1r)S2, RELEASE SOFTWARE (fc1)
```

```
Agora#P4-FD-1 uptime is 2 days, 22 hours, 2 minutes
System returned to ROM by power-on
System restarted at 10:22:22 UTC Mon Nov 18 2013
System image file is "tftp://10.105.33.136//auto/tftp-blr-users1/anoopkum/asr901-universalk9-mz.154-0.19.S"
Last reload reason: Reload Command
```

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:  
<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to [export@cisco.com](mailto:export@cisco.com).

```
License Level: AdvancedMetroIPAccess
License Type: Permanent
Next reload license Level: AdvancedMetroIPAccess
```

```
Cisco A901S-4SG-F-D (P2020) processor (revision 1.0) with 393216K/131072K bytes of memory.
Processor board ID FOC1738N74L
P2020 CPU at 800MHz, E500v2 core, 512KB L2 Cache
1 FastEthernet interface
6 Gigabit Ethernet interfaces
1 terminal line
256K bytes of non-volatile configuration memory.
98304K bytes of processor board System flash (Read/Write)
```

```
Configuration register is 0x0
```

```
Agora#P4-FD-1#
```

## New and Changed Information

The following sections list the hardware and software features supported by the Cisco ASR 901S router, see:

### New Hardware Features in Release 15.4(1)S

The ASR 901S Series Aggregation Services Routers provide the following hardware features:

- Four optical GE ports

- Two Cu 10/100/1000BASE-T ports
- One management Ethernet port
- One console port
- One alarm port with four dry-alarm inputs
- Three LEDs (System, Management, and Network status)




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**Note** The LEDs may be turned off using the Cisco IOS CLI.

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- Wi-Fi interface
- Zero Touch Provisioning (ZTP) reset button
- Fan-less passively-cooled design
- DC and AC input options




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**Note** The AC input option is not supported in this release.

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- IP-65 compliant, sealed enclosure designed for outdoor deployment
- Mechanical mounting options to enable mounting on side walls, lamp posts, and telephone poles

For information about these feature, see the [Cisco ASR 901S Series Aggregation Services Router Hardware Installation Guide](#).

## Supported Hardware

The Cisco ASR 901S router supports the following SFP modules:

- GLC-LH-SM
- GLC-LH-SMD
- GLC-EX-SMD
- GLC-ZX-SMD
- GLC-LX-SM-RGD
- GLC-SX-MM
- GLC-SX-MMD
- GLC-SX-MM-RGD
- GLC-ZX-SM
- GLC-ZX-SM-RGD
- GLC-BX-U
- GLC-BX-D
- SFP-GE-L

- SFP-GE-S
- SFP-GE-Z
- GLC-FE-100FX-RGD
- CWDM-SFP-1470
- CWDM-SFP-1490
- CWDM-SFP-1510
- CWDM-SFP-1530
- CWDM-SFP-1550
- CWDM-SFP-1570
- CWDM-SFP-1590
- CWDM-SFP-1610
- ranging from DWDM-SFP-3033 to DWDM-SFP-6141 (40 wavelengths)

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

## New Software Features in Release 15.4(1)S

Starting with Cisco IOS Release 15.4(1)S, the Cisco ASR 901S router supports a majority of the software features supported on the Cisco ASR 901 routers. For information about the new Cisco ASR 901 features for Cisco IOS Release 15.4(1), see [Release Notes for Cisco ASR 901 Series Aggregation Services Router for Cisco IOS Release 15.4\(1\)S](#).

The following new features are supported on ASR 901S routers:

### Alarm Port Monitoring

The Cisco ASR 901S router supports one alarm port (RJ45 connector) that serves four external alarm inputs.

Effective with Cisco IOS Release 15.4(1)S, the Cisco IOS monitors the alarm state and sets a trigger when the alarm state changes from high to low or vice versa.

For more information about this feature, see the *Configuring Alarm Port Monitoring* section in the Managing and Monitoring Network Management Feature guide at the following URL:

[http://www.cisco.com/en/US/docs/wireless/asr\\_901s/scg/managingandmonitoring.html](http://www.cisco.com/en/US/docs/wireless/asr_901s/scg/managingandmonitoring.html)

### Multicolor LEDs

Effective with Cisco IOS Release 15.4(1)S, support was provided for multicolor LEDs (System, Management, and Network) on the Cisco ASR 901S router. These LEDs can be enabled or disabled using the Cisco IOS CLIs.

For more information about this feature, see the *Configuring LEDs* section in the Managing and Monitoring Network Management Feature guide at the following URL:

[http://www.cisco.com/en/US/docs/wireless/asr\\_901s/scg/managingandmonitoring.html](http://www.cisco.com/en/US/docs/wireless/asr_901s/scg/managingandmonitoring.html)

## Zero Touch Provisioning

Zero Touch Provisioning (ZTP) can be implemented using the hardware reset button or software.

For more information about this feature, see the *Zero-Touch Deployment* section in the Managing and Monitoring Network Management Feature guide at the following URL:

[http://www.cisco.com/en/US/docs/wireless/asr\\_901s/scg/managingandmonitoring.html](http://www.cisco.com/en/US/docs/wireless/asr_901s/scg/managingandmonitoring.html)

## Limitations and Restrictions

Cisco IOS Release 15.4(1)S for the Cisco ASR 901S Series Aggregation Services Router has the following limitations and restrictions:

- 1 pps interface, 10 MHz, ToD, and T1/E1 timing are not supported .
- ACL-based QoS is limited to source and destination IP addresses. Extended ACLs with extended options like DSCP, fragments, option, precedence, time-range, ToS, and TTL are not supported.
- Time-division multiplexing (TDM) psuedowire over TE-FRR is not supported.
- Ethertype tag is not supported in Cisco QinQ tunnel and with service provider VLAN (S-VLAN).
- For ITU-T Y.1731 Performance Monitoring, Loss Measurement Message (LMM) is not supported.
- IEEE 1588-2008 Peer-to-Peer Transparent clock and IEEE 1588-2008 End-to-End transparent clock are not supported.
- Wi-Fi interface is not supported.

## 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](#), on page 6
- [Open Caveats](#), on page 6

## 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 [www.cisco.com](http://www.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 901S router running Cisco IOS Release 15.4(1)S.

Bug ID	Description
<a href="#">CSCul17465</a>	No functionality impacted error messages displayed on console after insertion or removal of SFPs.
<a href="#">CSCuh91973</a>	After software reload, error messages are displayed for unsupported SFPs.
<a href="#">CSCul09417</a>	Confreg 0x2142 is allowed after disabling password recovery.
<a href="#">CSCuj38398</a>	show version CLI displays reload reason as 'power on' when the ASR 901S router is reset by pressing the ZTP button.
<a href="#">CSCuj47472</a>	Network LED is switching OFF after reload though fa0/0 port is UP.
<a href="#">CSCuj60138</a>	Network LED is switched OFF with line protocol down at fa0/0 port.
<a href="#">CSCuj66009</a>	After erasing NVRAM, no functionality impacted syslog during reload.
<a href="#">CSCul17423</a>	'sh logging onboard voltage summary/detail/continuous' CLI shows 9.8 V for 3.3 V voltage rail.
<a href="#">CSCul37862</a>	Network LED is switching ON (green) without management connectivity after reload.
<a href="#">CSCuj98996</a>	Without setting boot level, AdvancedMetroIPAccess license is taking 'In Use' by default after reload.
<a href="#">CSCul12609</a>	No functionality impacted syslog during reload.
<a href="#">CSCul42634</a>	Change in color of Management and Network LEDs observed while performing shut and no-shut at GIGE ports.
<a href="#">CSCul45000</a>	The status of all three LEDs shows GREEN in Cisco IOS when the LED module is disabled.
<a href="#">CSCuh86459</a>	Detection of Avago type, Gigabit Ethernet SFP may fail on the router.



**Note** For feature-specific caveats, see the "Open Caveats" section in the [Cisco ASR 901 Series Aggregation Services Router for Cisco IOS Release 15.4\(1\)S](#).

## Troubleshooting

The following sections describe troubleshooting commands you can use with the Cisco ASR 901S 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

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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](http://www.cisco.com/en/US/products/hw/routers/ps167/products_tech_note09186a00800a6743.shtml).

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## Related Documentation

- *Cisco ASR 901S Series Aggregation Services Router Hardware Installation Guide*
- *Cisco ASR 901S Series Aggregation Services Router Software Configuration Guide*
- *Regulatory Compliance and Safety Information for Cisco ASR 901S Series Aggregation Services Routers*
- *Release Notes for Cisco ASR 901S Series Aggregation Services Router for Cisco IOS Release 15.4(1)S*

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

[http://www.cisco.com/en/US/products/ps12890/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/ps12890/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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