



# Release Notes for Cisco ASR 901 Series Aggregation Services Router for Cisco IOS Release 15.3(1)S

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This release notes document for the Cisco ASR 901 Series Aggregation Services Router for Cisco IOS Release 15.3(1)S and contain the following sections:

- [Introduction, page 1](#)
- [System Specifications, page 2](#)
- [New and Changed Information, page 2](#)
- [Limitations and Restrictions, page 3](#)
- [Caveats, page 5](#)
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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.

Cisco IOS Release 15.3(1)S supports the Network Virtualization (nV) feature, which uses the Cisco ASR 901 Series Aggregation Services Router as a satellite to the Cisco ASR 9000 Series Aggregation Services Router. The nV mode of operation is separate from the standard mode of operation of the Cisco ASR 901 router. The features available in the standalone mode are not supported on the nV mode and the features available on the nV mode are not supported on the standalone mode.



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**Americas Headquarters:**

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

[Table 1](#) lists the Cisco ASR 901 router model versions supported in the Cisco IOS Release 15.3(1)S.

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

TDM + Ethernet Version	Ethernet Version
<ul style="list-style-type: none"> <li>A901-12C-FT-D</li> </ul>	<ul style="list-style-type: none"> <li>A901-12C-F-D</li> </ul>



**Note**

The TDM ports are disabled on the FT version of the Cisco ASR 901 router.

## System Specifications

### Memory Details

[Table 2](#) lists the memory available for the Cisco ASR 901 router.

**Table 2** *Cisco IOS Release 15.3(1)S Memory Details*

Platform	Software Image	Flash Memory	DRAM Memory	Runs From
Cisco ASR 901 Series Aggregation Services Router as a Satellite, for TDM version	asr901_sat-advipservices k9-mz	128 MB	512 MB	RAM
Cisco ASR 901 Series Aggregation Services Router as a Satellite, Ethernet version	asr901_sat-advipservices k9-mz	128 MB	512 MB	RAM

### Determining the Software Version

To determine the image version of the 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-ADVIPSERVICESK9-M), Experimental Version
15.3(20121122:120428) [xe38_throttle_sat-uakash-image 107]
Copyright (c) 1986-2012 by Cisco Systems, Inc.
Compiled Mon 26-Nov-12 18:01 by uakash
```

## New and Changed Information

The Cisco IOS Release 15.3(1)S supports only the nV feature. Other standard features of Cisco ASR 901 are not part of this release.

- [New Hardware Features in Release 15.3\(1\)S, page 3](#)

- [New Software Features in Release 15.3\(1\)S, page 3](#)
- [Modified Software Features in Release 15.3\(1\)S, page 3](#)

## New Hardware Features in Release 15.3(1)S

None

## New Software Features in Release 15.3(1)S

The following feature is supported in the Cisco IOS Release 15.3(1)S:

### Network Virtualization

Network Virtualization (nV) is a service that enables you to configure a topology in which one or more Cisco ASR 901 Series Aggregation Services Routers act as satellites to complement one or more Cisco ASR 9000 Series Aggregation Services Routers, to collectively realize a single virtual switching system. In this system, the satellites act under the management control of the Cisco ASR 9000 Series Aggregation Services Router. The complete configuration and management of the satellite chassis and features is performed by the Cisco ASR 9000 router. For more information on Network Virtualization Using Cisco ASR 901 Series Aggregation Services Router as a Satellite guide, go to this URL: [http://www.cisco.com/en/US/docs/wireless/asr\\_901/Reference/guide/nv.html](http://www.cisco.com/en/US/docs/wireless/asr_901/Reference/guide/nv.html).

## Modified Software Features in Release 15.3(1)S

None

## Limitations and Restrictions

The Cisco IOS Release 15.3(1)S for the Cisco ASR 901 Series Aggregation Services Router has the following general limitations and restrictions:



### Note

These restrictions are applicable only for the Cisco IOS Release 15.3(1)S and they may change in future releases. We recommend you to check the release notes of your particular release to see the exact restrictions applicable for the release.

- Local switching on the satellite is not supported. The packets are always sent to the host for layer 2 and layer 3 switching.
- The IC link redundancy is supported only through static EtherChannel. It is not supported through the LACP based link bundles.
- In redundant IC links mode, you cannot configure link bundles of any form (with or without LACP) on the access ports of the same satellite.
- In redundant IC links mode, Ethernet link level features are not supported on the access ports of that satellite. These include LACP and Ethernet OAM (802.3ah).

- In IC link bundle, Link Aggregation Control Protocol (LACP) dependent features such as 1:1 hot standby or min-max links are not supported.
- In-Service Software Upgrade (ISSU) or Minimal Disruptive Restart (MDR) is not supported.
- Only qualified pluggables and SFPs are supported.
- Retrieving inventory or environmental state from a satellite may take a second longer than when retrieved locally on the host.
- You cannot have a link bundle in which some bundle members are satellite Ethernet access ports and other members are local Ethernet ports on the same Cisco ASR 9000 router line card that aggregates the satellite Ethernet bundle members.
- Half-duplex is not supported. You have to configure the speed manually.

## Supported Hardware

Table 3 shows the SFP modules supported on the Cisco IOS Release 15.3(1)S:

**Table 3 SFPs Supported on the Cisco IOS Release 15.3(1)S Release**

<ul style="list-style-type: none"> <li>• CWDM-SFP-1470</li> <li>• CWDM-SFP-1490</li> <li>• CWDM-SFP-1510</li> <li>• CWDM-SFP-1530</li> <li>• CWDM-SFP-1550</li> <li>• CWDM-SFP-1570</li> <li>• CWDM-SFP-1590</li> <li>• CWDM-SFP-1610</li> <li>• DWDM-SFP-XXXX<sup>1</sup></li> <li>• GLC-BX-U and GLC-BX-D<sup>2</sup></li> <li>• GLC-EX-SMD</li> <li>• GLC-LH-SMD</li> <li>• GLC-LX-SM-RGD</li> <li>• GLC-SX-MMD</li> </ul>	<ul style="list-style-type: none"> <li>• GLC-SX-MM-RGD</li> <li>• GLC-ZX-SM</li> <li>• GLC-ZX-SMD</li> <li>• GLC-ZX-SM-RGD</li> <li>• SFP-10G-ER</li> <li>• SFP-10G-LR</li> <li>• SFP-10G-LR-X</li> <li>• SFP-10G-SR</li> <li>• SFP-10G-SR-X</li> <li>• SFP-10G-ZR</li> <li>• SFP-GE-L</li> <li>• SFP-GE-S</li> <li>• SFP-GE-T</li> <li>• SFP-GE-Z</li> </ul>
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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.



### Note

For information on how to configure SFPs, see the [Cisco ASR 901 Series Aggregation Services Router Software Configuration Guide](#).

# 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.

In this section, the following information is provided for each caveat:

- **Symptom**—A description of what is observed when the caveat occurs.
- **Conditions**—The conditions under which the caveat has been known to occur.
- **Workaround**—Solutions, if available, to counteract the caveat.

The Dictionary of Internetworking Terms and Acronyms contains definitions of acronyms that are not defined in this document:

[http://docwiki.cisco.com/wiki/Category:Internetworking\\_Terms\\_and\\_Acronyms\\_\(ITA\)](http://docwiki.cisco.com/wiki/Category:Internetworking_Terms_and_Acronyms_(ITA))

This section contains the following topics:

- [Using Bug Toolkit](#)
- [Caveats in Cisco ASR 901 Series Aggregation Services Routers Release 15.3\(1\)S](#)
- [Troubleshooting](#)

## Using Bug Toolkit

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 ToolKit. This section explains how to use the bug toolkit and has the following topics:

- [Search Bugs](#)
- [Save Bugs](#)
- [Save Search](#)
- [Retrieve Saved Search or Bugs](#)
- [Export to Spreadsheet](#)

## Search Bugs

This section explains how to use the Bug ToolKit to search for a specific bug.

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- Step 1** Go to [http://www.cisco.com/cgi-bin/Support/Bugtool/launch\\_bugtool.pl](http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl).  
You are prompted to log into Cisco.com. After successful login, the Bug Toolkit page opens.
- Step 2** Click **Launch Bug Toolkit**.
- Step 3** To search for a specific bug, enter the bug ID in the **Search for Bug ID** field and click **Go** in the **Search Bugs** tab.
- To search for bugs in a specific release, enter the following search criteria:
- **Select Product Category**—Select **Routers**.
  - **Select Products**—Select the required product from the list. For example, to view bugs for Cisco ASR 901, choose **Cisco ASR 901 Series Aggregation Services Router** from the list.

- **Software Version**—Choose the required Cisco IOS version from the drop-down lists. For example, to view the list of outstanding and resolved bugs in Cisco IOS Release 15.3(1)S, choose **15.3** from the first drop-down list, **1** from the second drop-down list, and **S** from the third drop-down list.
- **Search for Keyword(s)**—Separate search phrases with boolean expressions (AND, NOT, OR) to search within the bug title and details.
- **Advanced Options**—You can either perform a search using the default search criteria or define custom criteria for an advanced search. To customize the advanced search, select **Use custom settings for severity, status, and others** and provide the following information:
  - **Severity**—Select the severity level.
  - **Status**—Select **Open**, **Fixed**, or **Terminated**.  
 Select **Open** to view all the open bugs. To filter the open bugs, clear the Open check box and select the appropriate sub-options that appear below the Open check box. The sub-options are New, Held, More, Open, Waiting, Assigned, Forwarded, Postponed, Submitted, and Information Required. For example, if you want to view only new bugs in Cisco IOS Release 15.3(1)S, select **New**.  
 Select **Fixed** to view fixed bugs. To filter fixed bugs, clear the Fixed check box and select the appropriate sub-options that appear below the Fixed check box. The sub-options are **Resolved** or **Verified**.  
 Select **Terminated** to view terminated bugs. To filter terminated bugs, clear the Terminated check box and select the appropriate sub-options that appear below the terminated check box. The sub-options are **Closed**, **Junked**, and **Unreproducible**. Select multiple options as required.
  - **Advanced**—Select the **Show only bugs containing bug details** check box to view only those bugs that contain detailed information, such as symptoms and workarounds.
  - **Modified Date**—Select this option if you want to filter bugs based on the date on which the bugs were last modified.
  - **Results Displayed Per Page**—Select the appropriate option from the list to restrict the number of results that appear per page.

**Step 4** Click **Search**. The Bug Toolkit displays the list of bugs based on the specified search criteria.

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## Save Bugs

This section explains how to use Bug ToolKit to save the bugs retrieved by your search in a specific release.

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- Step 1** Perform a search.  
 Repeat [Step 1](#) through [Step 3](#) in the “Search Bugs” section on page 5.
- Step 2** Select the check boxes next to the bug you want to save in the Search Results page and click **Save Checked**.  
 The Save Bug Settings area appears under the Search Bugs tab.
- Step 3** Specify group settings in the **Place in Group** field.
- **Existing Group**—Select an existing group.
  - **Create New Group**—Enter a group name to create a new group.

Existing groups have their group notification options already set. If you select an existing group, go to [Step 5](#).

- Step 4** Specify the following email update (group notification) options.
- No email updates—Select if you do not want to receive email updates.
  - Yes, email updates to—Enter your email address.
    - On a schedule—Specify the frequency of email delivery.

- Step 5** Click **Save Bug**.

The Bug ToolKit saves the selected bugs in the specified group.

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## Save Search

This section explains how to use Bug ToolKit to save your search after searching for the bugs in a specific release.

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- Step 1** Perform a search.

Repeat [Step 1](#) through [Step 3](#) in the “Search Bugs” section on [page 5](#).

- Step 2** Click **Save Search** in the Search Results page to save your search with the specified criteria.

The Save Search Settings area appears under the My Notifications tab.

- Step 3** Enter a name for your search in the **Search Name** field.

- Step 4** Specify group settings in the **Place in Group** field.

- Existing Group—Select an existing group.
- Create New Group—Enter a group name to create a new group.

Existing groups have their group notification options already set. If you select an existing group, go to [Step 6](#).

- Step 5** Specify the following email update (group notification) options.

- No email updates—Select if you do not want to receive email updates.
- Yes, email updates to—Enter your email address.
  - On a schedule—Specify the frequency of email delivery.

- Step 6** Click **Save Search**.

The Bug ToolKit saves your search in the specified group.

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## Retrieve Saved Search or Bugs

This section explains how to use Bug ToolKit to retrieve a saved search or bugs.

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- Step 1** Go to [http://www.cisco.com/cgi-bin/Support/Bugtool/launch\\_bugtool.pl](http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl) and click **Launch Bug Toolkit**.

You are prompted to log into Cisco.com.

**Step 2** Click **My Notifications** tab.

My Notifications tab displays the Group Name, Summary, and Actions.

**Step 3** Click the group in the Group Name column. The group contains saved search and bugs.

**Step 4** Retrieve saved search or bugs.

- Click the saved search name to display the Search Results page.
- Click the saved bug to display details or hover your mouse pointer over the Info link.

The My Notifications tab also provides options to delete a bug, delete a search result, delete a group, edit group notifications (in the Actions column), move a selected saved search or bug to a different group, and to export saved bugs in all the groups to a spreadsheet.

## Export to Spreadsheet

The Bug ToolKit provides the following options to export bugs to a spreadsheet:

- Click **Export All to Spreadsheet** link in the Search Results page under the Search Bugs tab. Specify file name and folder name to save the spreadsheet. All the bugs retrieved by the search are exported.
- Click **Export All to Spreadsheet** link in the My Notifications tab. Specify file name and folder name to save the spreadsheet. All the saved bugs in all the groups are exported.

If you are unable to export the spreadsheet, log in to the Technical Support Website at <http://www.cisco.com/cisco/web/support/index.html> for more information or call Cisco TAC (1-800-553-2447).

## Caveats in Cisco ASR 901 Series Aggregation Services Routers Release 15.3(1)S

This section contains the following topics:

- [Open Caveats](#)
- [Resolved Caveats](#)

### Open Caveats

This section provides information about the open caveats for the Cisco ASR 901 router running Cisco IOS Release 15.3(1)S.

Bug ID	Description
<a href="#">CSCuc19093</a>	While reloading SAT or changing the speed of the ports, the flow control is deactivated on the Cisco ASR 901 SAT ports.
<a href="#">CSCuc36205</a>	The SAT interfaces receive duplicate or multiple traps for interface down events.
<a href="#">CSCuc65858</a>	In rare conditions like multiple redundant or non-redundant link configuration changes, the outgoing multicast traffic is dropped for satellites with layer 2 configurations.
<a href="#">CSCuc85675</a>	The input or output byte counters on the satellite interfaces are not displayed properly.
<a href="#">CSCuc99459</a>	The loopback line and loopback internal features do not work.



Bug ID	Description
<a href="#">CSCud04506</a>	While loading the satellite, tracebacks are observed in the satellite console.
<a href="#">CSCud13208</a>	Alarm or error message does not appear when there is a serial number mismatch.
<a href="#">CSCud13251</a>	Forceful re-installation initiated message appears but the actual process does not start when the version is the same.
<a href="#">CSCud21673</a>	Power module failure messages appear and they are cleared once in every two minutes.
<a href="#">CSCud21867</a>	Though we support <b>show satellite environment</b> and <b>show satellite alarms</b> , output messages are not displayed when these commands are executed.
<a href="#">CSCua59729</a>	Protected and un-protected ICL configuration cannot co-exist.
<a href="#">CSCuc62155</a>	High CPU usage occurs when two satellite ethernet cross-link ports with propagate status are enabled.

## Resolved Caveats

There are no resolved caveats.

# Troubleshooting

The following sections describe the troubleshooting commands.

### Collecting Data for Router Issues

To collect data for reporting router issues, use 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, use the following command 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](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*

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

[http://www.cisco.com/en/US/partner/products/ps12077/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/partner/products/ps12077/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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