

# **AOS-CX 10.13.1050 Release Notes**

## **9300 Switch Series**



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### Products Supported

This release applies to the 9300 Switch series. The following table lists any applicable minimum software versions required for that model of switch.



If your product is not listed in the following table, no minimum software version is required.

Product number	Product name	Minimum software version
R9A29A	Aruba 9300-32D 32p 100/200/400G QSFP-DD 2p 10G SFP+ Front-to-Back 6 Fans 2 AC PSU Bundle	10.10.1000
R9A30A	Aruba 9300-32D 32p 100/200/400G QSFP-DD 2p 10G SFP+ Back-to-Front 6 Fans 2 AC PSU Bundle	10.10.1000
R8Z96A	Aruba 9300-32D 32-port 100/200/400G QSFP-DD 2-port 10G Switch	10.10.1000
S0F81A	HPE Aruba Networking 9300S 32p QSFP28 100G 8p QSFP-DD 400G Front-to-Back 6xFan 2xAC TAA Bundle	10.14.0005
S0F82A	HPE Aruba Networking 9300S 32p QSFP28 100G 8p QSFP-DD 400G Front-to-Back 6xFan 2xAC Bundle	10.14.0005
S0F83A	HPE Aruba Networking 9300S 32p QSFP28 100G 8p QSFP-DD 400G Back-to-Front 6xFan 2xAC TAA Bundle	10.14.0005
S0F84A	HPE Aruba Networking 9300S 32p QSFP28 100G 8p QSFP-DD 400G Back-to-Front 6xFan 2xAC Bundle	10.14.0005
S0F85A	HPE Aruba Networking 9300S 32p QSFP28 100G 8p QSFP-DD 400G Front-to-Back 6xFan 2xDC TAA Bundle	10.14.0005
S0F86A	HPE Aruba Networking 9300S 32p QSFP28 100G 8p QSFP-DD 400G Front-to-Back 6xFan 2xDC Bundle	10.14.0005
S0F87A	HPE Aruba Networking 9300S 32p QSFP28 100G 8p QSFP-DD 400G Back-to-Front 6xFan 2xDC TAA Bundle	10.14.0005
S0F88A	HPE Aruba Networking 9300S 32p QSFP28 100G 8p QSFP-DD 400G Back-to-Front 6xFan 2xDC Bundle	10.14.0005

Product number	Product name	Minimum software version
S0F95A	HPE Aruba Networking 9300S 32p QSFP28 100G 8p QSFP-DD 400G TAA Switch	10.14.0005
S0F96A	HPE Aruba Networking 9300S 32p QSFP28 100G 8p QSFP-DD 400G Switch	10.14.0005

## Important information for 9300 Switches



Starting with AOS-CX 10.12.0001, the Administrative Distance (AD) for EBGP learned EVPN address family routes has been corrected to 20. This change in behavior could affect the best path selected. After upgrading the switches to AOS-CX 10.12.0001 or later versions, configurations that effect route selection for route-maps and route redistribution might require modifications.



Aruba switches covered by this release note use eMMC or SSD storage. This is non-volatile memory for persistent storage of configuration, files, databases, scripts, and so forth.

To avoid damage to your equipment, do not interrupt power to the switch during a software update.



If using the WebUI, you should clear the browser cache after upgrading to this version of software before logging in to the switch using a WebUI session. This will ensure the WebUI session downloads the latest changes. Do not upgrade to 10.13 using REST API or WebUI unless your switch is running 10.09.1060, 10.10.1020 or later versions of these releases

To restore a previous configuration when downgrading to a previous version of software, follow these steps:

1. Use the `show checkpoint` command to see the saved checkpoints and ensure that you have a checkpoint that is an exact match of the target software version (see the `Image Version` column in the output of the command, for example `CL.10.0x.yyyy`).



This checkpoint can be the startup-config-backup automatically created during the initial upgrade or any other manually created checkpoint for the target software version.

2. Copy the backup checkpoint into the startup-config.
3. Boot the switch to the target version (lower version), making sure to select `no` when prompted to save the current configuration.

AOS-CX 10.13 is a Long Supported Release (LSR).

- LSRs are long lived releases where Aruba will introduce new features and new hardware, and park hardware (that is, this may be the last major release supported) as needed.
- LSRs are maintained and supported for 5 years (i.e., Initial Release + 5 years)
- Initial Release to End of Maintenance (EOM\*): Bug and vulnerability patching with releases reducing in frequency over time.

- EOM to End of Support (EOS): Vulnerability patching on an as needed basis for High or Critical Common Vulnerability Scoring System (CVSS) issues.

For information about Short Supported Releases (SSRs) and Long Supported Releases (LSRs), see <https://www.arubanetworks.com/support-services/end-of-life/arubaos-software-release/>.

To upgrade to:	Your switch must be running this version or later:
AOS-CX 10.13.xxxx	AOS-CX 10.10.0002
AOS-CX 10.12.xxxx	AOS-CX 10.09.0002
AOS-CX 10.11.xxxx Note: 10.11 is an SSR, recommended release is 10.11.0001	AOS-CX 10.08.0001

Refer to the Approved Product Lists sites for the Common Criteria, FIPS 140-2 and DoDIN APL to obtain the product certification details. Products should be used as evaluated and defined in the respective configuration guides.

- Common Criteria: <https://www.niap-ccevs.org/Product/>
- FIPS 140-2: <https://csrc.nist.gov/Projects/Cryptographic-Module-Validation-Program/Validated-Modules/Search>
- DoDIN APL: <https://aplits.disa.mil/processAPList.action>

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Please specify the product and version for which you are requesting source code. You may also request a copy of this source code free of charge at: <https://hpe.com/software/opensource>

## Version history

All released versions are fully supported by Aruba, unless noted in the table.

Version number	Release date	Remarks
10.13.1050	19/09/2024	Released, fully supported, and posted on the Web.
10.13.1040	01/08/2024	Released, fully supported, and posted on the Web.
10.13.1030	27/06/2024	Released, fully supported, and posted on the Web.
10.13.1020	20/05/2024	Released, fully supported, and posted on the Web.
10.13.1010	09/04/2024	Released, fully supported, and posted on the Web.
10.13.1000	31/01/2024	Released, fully supported, and posted on the Web.
10.13.0005	14/11/2023	Released, fully supported, and posted on the Web.

## Compatibility/interoperability

The switch web agent supports the following web browsers:

Browser	Minimum supported versions
Edge (Windows)	41
Chrome (Ubuntu)	76 (desktop)
Firefox (Ubuntu)	113
Safari (MacOS)	12
Safari (iOS)	10 (Version 12 is not supported)




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Internet Explorer is not supported.

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Recommended versions of network management software for switches found in this release note:

Management software	Recommended version(s)
NetEdit	Refer to the <a href="#">AOS-CX and NetEdit Compatibility Matrix</a> .
Aruba Central	2.5.8
AirWave	8.3.0.2
Central On-Premises	2.5.7.3
Aruba Fabric Composer	7.1.0
Aruba CX Mobile App	Support coming in future release.




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For more information, see the respective software manuals.

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To upgrade software using NetEdit, make sure to upgrade to the above version of NetEdit first and then execute the switch software upgrade on devices discovered by this version of NetEdit.

## Enhancements

This section describes the enhancements introduced in this release.

Category	Description
MAC Tables	A new CLI command, <b>show mac-address interface &lt;name&gt;</b> detail has been introduced to check denied MAC entry details.

## Resolved Issues

This section describes the issues resolved in this release.

Category	Bug ID	Description
BGP	323251	<b>Symptom:</b> The vtysh and hpe-routing module crashed unexpectedly <b>Scenario:</b> This issue occurs due to prefix-list configuration.
REST	323105	<b>Symptom:</b> The switch logs the message, <b>user 'UNKNOWN'</b> from address 'UNKNOWN' through REST session every time when the switch is logged in via REST interface. <b>Scenario:</b> This issue is observed when the switch is managed through AFC/REST and the syslog "auditable-events" is configured with the severity level, INFO.
Activate	317632	<b>Symptom:</b> Some switches reach out to the Google Public DNS server: 8.8.8.8. <b>Scenario:</b> This issue is observed when there is no DNS server or DNS hosts configuration and when the aruba-central feature is enabled. <b>Workaround:</b> Disable the Aruba Central functionality.
IGMP	295438	<b>Symptom:</b> IGMP/MLD control packets were not processed and the querier information was not learnt. <b>Scenario:</b> This issue is observed in a VXLAN setup without IGMP/MLD configurations where multicast control packets arrive continuously through the VLAN which does not have IGMP/MLD configuration. <b>Workaround:</b> Enable IGMP/MLD snooping on all the VLANs where multicast clients send IGMP/MLD control packets.
QoS	324135	<b>Symptom:</b> QoS rate-limit configuration applied via dry-run/shadowDB was not applied to the switch. An exclamation mark is shown in the CLI which causes the Dry-run to ignore the configuration. <b>Scenario:</b> This issue is observed only while applying the configuration via Aruba Central dry-run/shadowDB mode.

## Feature Caveats

The following are feature caveats that should be taken into consideration when using this version of the software.

Feature	Description
Central	When a switch is able to connect to Aruba Central but is not registered in the Aruba Central inventory or does not have a proper license, the switch will get disconnected. If the Aruba Central feature is enabled using this command, the switch will then reconnect back to Aruba Central and will get disconnected again. This connect/disconnect process will continue until the switch is properly registered in Aruba Central. To avoid this unnecessary reconnection cycle, best practices is to disable Aruba Central until the switch is registered in Aruba Central, or a license is obtained for that device.
Hot Patch	When a hot-patch file download is triggered using the switch WebUI, log messages can incorrectly state that the file is added to the database with a <b>missing</b> status. This is a temporary state, and will correctly change to <b>Not applied</b> once the download is completed.
PIM-SM	Pim Active-Active is not supported on overlay VXLAN SVIs.
SNMP	When SNMP is enabled via the switch CLI, it can take between 1-2 minutes for the SNMP daemon to be ready to respond to requests. If a local or external SNMP MIB walk is performed in the interval between when SNMP is first enabled and the SNMP daemon is ready, the MIB walk action will return an error.
Certificates	When a switch uses a certificate with a legacy certificate name that is not supported in 10.12 because it contains disallowed characters, the information will migrate properly in the upgrade, but that certificate can no longer be edited. For new certificate names, only alphanumeric characters, dots, dashes, and underscores are allowed.
Classifiers	For Classifier policy modifications to be secure, Aruba strongly encourages modifications be done as a three-step process: Bring down the port, modify, and bring the port back up.
Classifiers	Policies containing both MAC and IPv6 classes are not allowed.
CMF	No other checkpoint besides "startup-configuration" gets migrated during the upgrade process.
DHCP Server, DHCP Relay, and DHCP Snooping	DHCP Relay and DHCP Snooping can co-exist on the same switch. DHCP Snooping and DHCP Server cannot co-exist on the same switch. DHCP Snooping, DHCP Relay, and DHCP Server together cannot co-exist on the same switch.
IP-SLA	Reserved ports or ports used by other applications/services with in the system are not recommended to be used for other services. When two services use the same port there is chance of unexpected behaviors from these services. Best practices is to use unique port for each service across system.
IGMP/PIM on 6-in-6, Loopback and GRE interfaces	IGMP cannot be enabled on either Loopback or GRE interfaces. IGMP and PIM is not supported on a 6-in-6 Tunnel.
Multicast and VXLAN	<ul style="list-style-type: none"> <li>▪ VXLAN must be configured prior to configuring VSX.</li> <li>▪ IPv6 multicast is not supported for VXLAN overlay.</li> <li>▪ Multicast support for static VXLAN in the overlay has limited support. Contact Aruba Support for details.</li> </ul>



Feature	Description
PFC	Priority-based flow control (PFC) is not supported on a split port.
REST	REST supports the 'admin' and 'operator' roles but does not work with TACACS+ command authorization.
Traceroute	Issuing the <b>traceroute</b> command with the <b>ip-option loosesourceroute</b> parameter fails in an overlay EVPN-VxLAN deployment.
Traceroute	Traceroute v4/v6 over VXLAN fails to find intermediate next-hop IP information from a source VTEP in Virtual Active Gateway environment (the SVI is the same as the Active Gateway IP).

## Known Issues

The following are known open issues with this branch of the software. The **Symptom** statement describes what a user might experience if this is seen on the network. The **Scenario** statement provides additional environment details and trigger summaries. When available, the **Workaround** statement provides a workaround to the issue.

Category	Bug ID	Description
GRE Tunnels	279874	<b>Symptom:</b> BGP sessions go down. <b>Scenario:</b> This issue occurs after traffic is sent over two tunnels. However, BGP session does not go down if there's no traffic.

## Upgrade information

AOS-CX 10.13.1050 uses ServiceOS CL.01.12.0002.




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Each VSX switch in a pair must run the same version of AOS-CX. If a primary VSX switch is upgraded to 10.10.xxxx, the secondary VSX switch must be immediately upgraded to that same version. If the ISL link is disabled and enabled on VSX switches that are running different versions of AOS-CX, a VSX secondary switch running an older version of AOS-CX may be unable to synch information from the VSX primary, which can cause the port state to become blocked and lead to traffic loss.

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Do not interrupt power to the switch during this important update.

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## Manual configuration restore for software downgrade

To restore a previous configuration when downgrading to a previous version of software, follow these steps:

1. Use the **show checkpoint** command to see the saved checkpoints and ensure that you have a checkpoint that is an exact match of the target software version (see the **Image Version** column in the output of the command, for example, CL.10.xx.yyyy).

This checkpoint can be the startup-config-backup automatically created during the initial upgrade or any other manually created checkpoint for the target software version.

2. Copy the backup checkpoint into the startup-config.
3. Boot the switch to the target version (lower version), making sure to select `no` when prompted to save the current configuration.

## Performing the software upgrade

For additional upgrade and downgrade scenarios, including limitations of automatic upgrade and downgrade scenarios provided by the Configuration Migration Framework (CMF), refer to the [AOS-CX 10.13 Fundamentals Guide](#).



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This version may contain a change of BootROM from the current running version. A BootROM update is a non-failsafe update. Do not interrupt power to the switch during the update process or the update could permanently damage the device.

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1. Copy the new image into the non-current boot bank on the switch using your preferred method.
2. Depending on the version being updated, there may be device component updates needed. Preview any devices updates needed using the `boot system <BOOT-BANK>` command and entering `n` when asked to continue.

For example, if you copied the new image to the secondary boot bank and no device component updates are needed, you will see this:

```
switch# boot system secondary
Default boot image set to secondary.
Checking if the configuration needs to be saved...

Checking for updates needed to programmable devices...
Done checking for updates.

This will reboot the entire switch and render it unavailable
until the process is complete.
Continue (y/n)? n
```

In this example, three device updates will be made upon reboot, one of which is a non-failsafe device:

```
switch# boot system secondary
Default boot image set to secondary.
Checking if the configuration needs to be saved...

Checking for updates needed to programmable devices...
Done checking for updates.

2 device(s) need to be updated during the boot process.
The estimated update time is between 2 and 3 minute(s).
There may be multiple reboots during the update process.

1 non-failsafe device(s) also need to be updated.
Please run the 'allow-unsafe-updates' command to enable these updates.
```

```
This will reboot the entire switch and render it unavailable
until the process is complete.
Continue (y/n)? n
```

3. When ready to update the system, if a non-failsafe device update is needed, make sure the system will not have any power interruption during the process. Invoke the `allow unsafe updates` command to allow updates to proceed after a switch reboot. Proceed to step 4 within the configured time.

```
switch# config
switch(config)# allow-unsafe-updates 30

This command will enable non-failsafe updates of programmable devices for
the next 30 minutes. You will first need to wait for all line and fabric
modules to reach the ready state, and then reboot the switch to begin
applying any needed updates. Ensure that the switch will not lose power,
be rebooted again, or have any modules removed until all updates have
finished and all line and fabric modules have returned to the ready state.

WARNING: Interrupting these updates may make the product unusable!

Continue (y/n)? y

    Unsafe updates      : allowed (less than 30 minute(s) remaining)
```

4. Use the `boot system <BOOT-BANK>` command to initiate the upgrade. On the switch console port an output similar to the following will be displayed as various components are being updated:

```
switch# boot system secondary
Default boot image set to secondary.
Checking if the configuration needs to be saved...

Checking for updates needed to programmable devices...
Done checking for updates.

3 device(s) need to be updated during the boot process.
The estimated update time is between 2 and 3 minute(s).
There may be multiple reboots during the update process.

This will reboot the entire switch and render it unavailable
until the process is complete.
Continue (y/n)? y
The system is going down for reboot.

Looking for SVOS.

Primary SVOS:  Checking...Loading...Finding...Verifying...Booting...

ServiceOS Information:
  Version:      <serviceOS_number>
  Build Date:   yyyy-mm-dd hh:mm:ss PDT
  Build ID:     ServiceOS:<serviceOS_number>;6303a2a501ba:202006171659
  SHA:         6303a2a501bad91100d9e71780813c59f19c12fe
```

```

Boot Profiles:

0. Service OS Console
1. Primary Software Image [xx.10.12.1000]
2. Secondary Software Image [xx.10.13.0001]

Select profile(secondary):

ISP configuration:
  Auto updates           : enabled
  Version comparisons    : match (upgrade or downgrade)
  Unsafe updates         : allowed (less than 29 minute(s) remaining)

Advanced:
  Config path            : /fs/nos/isp/config [DEFAULT]
  Log-file path          : /fs/logs/isp [DEFAULT]
  Write-protection       : disabled [DEFAULT]
  Package selection      : 0 [DEFAULT]

3 device(s) need to be updated by the ServiceOS during the boot process.
The estimated update time by the ServiceOS is 2 minute(s).
There may be multiple reboots during the update process.

MODULE 'mc' DEVICE 'svos_primary' :
  Current version       : '<serviceOS_number>'
  Write-protected       : NO
  Packaged version      : '<version>'
  Package name          : '<svos_package_name>'
  Image filename        : '<filename>.svos'
  Image timestamp       : 'Day Mon dd hh:mm:ss yyyy'
  Image size            : 22248723
  Version upgrade needed

Starting update...

Writing... Done.
Erasing... Done.
Reading... Done.
Verifying... Done.
Reading... Done.
Verifying... Done.

Update successful (0.5 seconds).

reboot: Restarting system

```

Multiple components may be updated and several reboots will be triggered during these updates. When all component updates are completed, the switch console port will arrive at the login prompt with a display similar to following:

```
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```

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switch login:



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Aruba recommends waiting until all upgrades have completed before making any configuration changes.

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Aruba is committed to ensuring you have the resources you need to be successful. Check out these learning and documentation resources:

- AOS-CX switch software documentation portal: [https://www.arubanetworks.com/techdocs/AOS-CX/help\\_portal/Content/home.htm](https://www.arubanetworks.com/techdocs/AOS-CX/help_portal/Content/home.htm)
- AOS-CX technical training videos on YouTube: [https://www.youtube.com/playlist?list=PLsYGHuNuBZcbWPEjjHuVMqP-Q\\_UL3CskS](https://www.youtube.com/playlist?list=PLsYGHuNuBZcbWPEjjHuVMqP-Q_UL3CskS)

A Security Bulletin is the first published notification of security vulnerabilities and is the only communication vehicle for security vulnerabilities.

- Fixes for security vulnerabilities are not documented in manuals, release notes, or other forms of product documentation.
- A Security Bulletin is released when all vulnerable products still in support life have publicly available images that contain the fix for the security vulnerability.

The Aruba security policy can be found at <https://www.arubanetworks.com/en-au/support-services/sirt/>. Security bulletins can be found at <https://www.arubanetworks.com/en-au/support-services/security-bulletins/>. You can sign up at [https://sirt.arubanetworks.com/mailman/listinfo/security-alerts\\_sirt.arubanetworks.com](https://sirt.arubanetworks.com/mailman/listinfo/security-alerts_sirt.arubanetworks.com) to initiate a subscription to receive future Aruba Security Bulletin alerts via email.