

AOS-CX 10.12.1030 Release Notes

9300 Switch Series



a Hewlett Packard
Enterprise company

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Products Supported

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



If your product is not listed in the below 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

Important information for 9300 Switches



Aruba switches covered by this release note use eMMC or SSD storage. This is non-volatile memory for persistent storage of config, files, databases, scripts, and so forth. Aruba recommends updating to version 10.06.0100 or later (including this release) to implement significant improvements to memory usage and prolong the life of the switch.



Starting from AOS-CX 10.12.1010, switches will only support TLSv1.2 ciphers and curves approved by the NIAP on all supported applications such as Secure RADIUS (RadSec), Captive Portal, and EAP-TLS clients. It is advised to upgrade your Secure RADIUS server to a version that supports the NIAP approved ciphers and curves and disable the unsupported ciphers from your EAP-TLS clients. NIAP approved ciphers and curves are DHE-RSA-AES128-GCM-SHA256, DHE-RSA-AES256-GCM-SHA384, ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES256-GCM-SHA384, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-RSA-AES256-GCM-SHA384, secp521r1, secp384r1, and prime256v1.

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



Clear the browser cache after upgrading to this version of software before logging into the switch using a Web UI session. This will ensure the Web UI session downloads the latest changes.

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.yyy`).

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.
-



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 10.12.xxxx Note: 10.12 is an SSR, recommended release is 10.12.0006	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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```
Hewlett Packard Enterprise Company
Attn: General Counsel
6280 America Center Drive
San Jose, CA 95002
U.S.A.
```

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
10.12.1030	22-02-2024	Released, fully supported, and posted on the Web.
10.12.1020	12-12-2023	Released, fully supported, and posted on the Web.
10.12.1010	05-10-2023	Released, fully supported, and posted on the Web.
10.12.1000	02-08-2023	Released, fully supported, and posted on the Web.
10.12.0006	31-05-2023	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)	56
Safari (MacOS)	12
Safari (iOS)	10 (Version 12 is not supported)



Internet Explorer is not supported.

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

Management software	Recommended version(s)
NetEdit	2.10.0
Aruba Central	2.5.7
Central On-Premises	2.5.6.4
Aruba Fabric Composer	6.5.2
Aruba CX Mobile App	Support for version 2.9.3 or later.



For more information, see the respective software manuals.



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

There are no new enhancements introduced in this release.

Resolved Issues

This section lists fixes found in this branch of the software. The **Symptom** statement describes what a user might experience if this issue 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 for customers who chooses not to update to this version of software.

For a list of issues resolved in the previous releases of 9300 switches, refer to the [AOS-CX Release Notes Portal](#).



The Bug ID is used for tracking purposes.

Resolved issues

This section describes the issues resolved in this release.

Category	Bug ID	Description
Mirroring	291874	<p>Symptom: The mirroring feature crashes when the administrative state of the mirror has been changed.</p> <p>Scenario: This issue only occurs after an HA event.</p> <p>Workaround: Rebuild the mirrors manually after any HA event or checkpoint restoration to avoid any crash.</p>
IGMP	215677	<p>Symptom: IGMP/MLD configuration changes do not take effect when the hpe-mgmdd process is flooded with the IGMP/MLD control packets.</p> <p>Scenario: This issue occurs in circumstances where the IGMP or MLD control packets, that join or leave, are part of a loop, or when some clients send continuous streams of IGMP/MLD control packets. As a result, the hpe-mgmdd daemon's packet queue can become continuously full.</p> <p>Workaround: Restart the MGMD daemon using <code>systemctl restart hpe-mgmdd</code>.</p>
RADsec	290318	<p>Symptom: The connection status of</p>

Category	Bug ID	Description
		<p>RADIUS TLS is displayed as tls_connection_established even though the RADIUS server displays an unreachable reachability status.</p> <p>Scenario: This issue can be seen when the connection between the RADsec server and the switch is physically removed or when the server is made unreachable by a misconfiguration, like adding a null route on the server for the switch.</p>
Logging	292311	<p>Symptom: A switch experienced high levels of CPU usage for the log-proxyd daemon.</p> <p>Scenario: This issue occurs when the log-mgmt process opens the files to check if the log file size has reached its maximum size. If the log file has reached the maximum file size, it generates the trap message to the server, buffer overwritten or almost full.</p> <p>Workaround: Restart the log-proxyd daemon.</p>
VRF	295703	<p>Symptom: The vtysh session logs out when the show bgp vrf info command is issued.</p> <p>Scenario: This issue occurs after a reboot of the switch.</p> <p>Workaround: Issue the show running-config vrf command instead of the show bgp vrf info command.</p>
DHCP Relay	292116	<p>Symptom: Some DHCP clients did not accept the DHCP offer via IP helper.</p> <p>Scenario: This issue occurs when the source IP field in L3 header of the OFFER packet does not match with the Relay Agent IP address, but with option 54 DHCP Server IP address.</p>
sFlow	287172	<p>Symptom:The sFlow counter samples will be observed more often than the configured interval and the interface statistics for the physical ports will be 0 in those additional samples.</p> <p>Scenario: When sFlow is enabled on several LAG ports the issue will be seen on the counter samples of the physical ports.</p> <p>Workaround: Disable and then re-enable sFlow on the LAG interfaces.</p>
BGP	290778	<p>Symptom: A peer gets detached from its peer-group and a peer reset occurs.</p> <p>Scenario: This issue occurs when a peer-group and the peer to which it is attached are both configured with a remote-as using the neighbor {<IP-ADDR> <PEER-GROUP-NAME>} remote-as command. If you delete the peer-group remote-as setting, it</p>

Category	Bug ID	Description
		detaches the peer which has remote-as configured from the peer group, and also resets all the peers. Workaround: Do not remove the peer-group remote-as setting even if it is not used.
CDP	291730	Symptom: The neighbor address information was not available in the output of show cdp neighbor-info command. Scenario: While learning neighbor information, the daemon process cdpd crashes, and the core dump files are observed in the output of the show core-dump command.
DHCP Relay	291742	Symptom: DHCP relay does not change the source IP address of the DHCP discover frame if the DHCP client does not use 0.0.0.0 as the source IP address. Scenario: This issue occurs when the DHCP packet is generated by the client with a valid private IP address as the source IP address. Workaround: Use source interface configuration.
PVST	289568	Symptom: The root switch initiates STP re-convergence and causes causing MAC flush and traffic loss. Scenario: This issue occurs during an upgrade process in VSX pair (which acts as non-root switch in RPVST topology). When the primary switch is down, this issue is encountered in a non-root access switch connected to this VSX-pair. Workaround: Install BPDU filter on the root-port of access switch during the software upgrade and remove the filter after the upgrade.
RADIUS	293780	(For 6100 Switch series only) Symptom: Management accounting data is not updated in the RADIUS server intermittently. Scenario: This issue occurs when RADIUS server is configured for management accounting.

Feature Caveats

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

Feature	Description
IP-SLA	Reserved ports or ports used by other applications/services within the system are not recommended to be used for other services. When two services use the same port, users might observe some unexpected behaviors from these services. The best practice is to use unique port for each service across the system.
REST	The REST v1 API that was deprecated in previous release of AOS-CX is completely deactivated and no longer available in AOS-CX 10.12. For more information on migrating your deployment from the RESTv1API to the RESTv10.xx API, refer to the REST API Migration Quick Start Guide .
REST	<p>When a user configures a RADIUS server via REST with AOS-CX 10.11 or lower, the REST operation fails. A schema change introduced in the RADIUS_Server table in 10.12 is not backward compatible with REST versions 10.11 and lower. A checkpoint restore operation will fail on a switch running 10.12 firmware if the checkpoint is created on a 10.11 or lower release and includes RADIUS server configurations.</p> <p>Use REST version 10.12 to configure RADIUS servers on a switch running AOS-CX 10.12.xxxx. When using checkpoints with RADIUS server configurations, do not restore the checkpoint directly on a switch running 10.12 firmware. Instead,</p> <ol style="list-style-type: none"> 1. Copy the running-config from the switch running the 10.11 or lower release firmware to a remote server as CLI commands (and not as a JSON file). 2. Erase the startup-config on the switch. 3. Upgrade without saving the configuration to 10.12.xxxx. 4. Copy the running-config from the remote server, <i>or</i> apply the entire configuration from scratch on the switch running the 10.12 firmware.
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.
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.

Feature	Description
Multicast and VXLAN	<ul style="list-style-type: none"> VXLAN must be configured prior to configuring VSX. IPv6 multicast is not supported for VXLAN overlay. Multicast support for static VXLAN in the overlay has limited support. Contact Aruba Support for details.
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	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 theActive 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
Internal srvc: pspo	267398	<p>Symptom: VXLAN tunnels go down after removing interfaces with IPv6 address that are the same as the VXLAN VTEP IP addresses.</p> <p>Scenario: In an EVPN-VXLAN deployment with an IPv6 tunnel, if any interface (irrespective of the VRF) that has same IP address as the tunnel source IP, it goes down, and then the tunnel interface is brought down</p> <p>Workaround: Unconfigure loopback and VXLAN and re-configure them.</p>

Upgrade information

AOS-CX 10.12.1030 uses ServiceOS CL.01.12.0002.



CAUTION

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.



NOTE

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

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 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 10.12 Fundamentals Guide](#).



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.

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.10.11.1010]
2. Secondary Software Image [xx.10.12.1000]

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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```

```
RESTRICTED RIGHTS LEGEND
```

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switch login:



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

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
- AOS-CX 10.11 playlist of technical training videos on YouTube: 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.

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