Aruba Instant 8.9.0.3

Release Notes

a Hewlett Packard
Enterprise company

Open Source Code

This product includes code licensed under the GNU General Public License, the GNU Lesser General Public License, and/or certain other open source licenses. A complete machine-readable copy of the source code corresponding to such code is available upon request. This offer is valid to anyone in receipt of this information and shall expire three years following the date of the final distribution of this product version by Hewlett Packard Enterprise Company. To obtain such source code, send a check or money order in the amount of US $10.00 to:

Hewlett Packard Enterprise Company
6280 America Center Drive
San Jose, CA 95002
USA

Contents

Contents 3
Revision History 4
Release Overview 5
Related Documents 5
Supported Browsers 5
Terminology Change 6
Contacting Support 6
New Features and Enhancements 7
Supported Hardware Platforms 8
Regulatory Updates 9
Resolved Issues 10
Known Issues and Limitations 13
- Limitations 13
- Known Issues 13

Upgrading an Instant AP 17
- Upgrading an Instant AP and Image Server 17
- Upgrading an Instant AP Using the Automatic Image Check 19
- Upgrading to a New Version Manually Using the WebUI 19
- Upgrading an Instant AP Image Using CLI 21
- Upgrade from Instant 6.4.x.x-4.2.x.x to Instant 8.9.0.x 21

The following table provides the revision history of this document.

Table 1: *Revision History*

Revision	Change Description
Revision 01	Initial release.

Chapter 1
Release Overview

This Aruba Instant release notes includes the following topics:

- New Features and Enhancements on page 7
- Supported Hardware Platforms on page 8
- Regulatory Updates on page 9
- Resolved Issues on page 10
- Known Issues and Limitations on page 13
- Upgrading an Instant AP on page 17

For the list of terms, refer to the Glossary.

Related Documents

The following guides are part of the complete documentation for the Aruba user-centric network:

- *Aruba AP Software Quick Start Guide*
- *Aruba Instant User Guide*
- *Aruba Instant CLI Reference Guide*
- *Aruba Instant REST API Guide*
- *Aruba Instant Syslog Messages Reference Guide*
- *Aruba Instant AP Troubleshooting Guide*

Supported Browsers

The following browsers are officially supported for use with the Instant WebUI:

- Microsoft Internet Explorer 11 on Windows 7 and Windows 8
- Microsoft Edge (Microsoft Edge 38.14393.0.0 and Microsoft EdgeHTML 14.14393) on Windows 10
- Mozilla Firefox 48 or later on Windows 7, Windows 8, Windows 10, and macOS
- Apple Safari 8.0 or later on macOS
- Google Chrome 67 or later on Windows 7, Windows 8, Windows 10, and macOS

Terminology Change

As part of advancing HPE's commitment to racial justice, we are taking a much-needed step in overhauling HPE engineering terminology to reflect our belief system of diversity and inclusion. Some legacy products and publications may continue to include terminology that seemingly evokes bias against specific groups of people. Such content is not representative of our HPE culture and moving forward, Aruba will replace racially insensitive terms and instead use the following new language:

Usage	Old Language	New Language
Campus Access Points + Controllers	Master-Slave	Conductor-Member
Instant Access Points	Master-Slave	Conductor-Member
Switch Stack	Master-Slave	Conductor-Member
Wireless LAN Controller	Mobility Master	Mobility Conductor
Firewall Configuration	Blacklist, Whitelist	Denylist, Allowlist
Types of Hackers	Black Hat, White Hat	Unethical, Ethical

Contacting Support

Table 2: *Contact Information*

Main Site	arubanetworks.com
Support Site	https://asp.arubanetworks.com/
Airheads Social Forums and Knowledge Base	community.arubanetworks.com
North American Telephone	1-800-943-4526 (Toll Free) 1-408-754-1200
International Telephone	arubanetworks.com/support-services/contact-support/
Software Licensing Site	lms.arubanetworks.com
End-of-life Information	arubanetworks.com/support-services/end-of-life/
Security Incident Response Team	Site: arubanetworks.com/support-services/security-bulletins/ Email: aruba-sirt@hpe.com

Chapter 2
New Features and Enhancements

There are no new features or enhancements introduced in this release.

Chapter 3
Supported Hardware Platforms

The following table displays the Instant AP platforms supported in Aruba Instant 8.9.0.x release.

Table 3: *Supported Instant AP Platforms*

Instant AP Platform	Minimum Required Instant Software Version
630 Series — AP-635	Instant 8.9.0.0 or later
500H Series — AP-503H 560 Series — AP-565 and AP-567	Instant 8.7.1.0 or later
500H Series — AP-505H AP-518 — AP-518 570 Series — AP-574, AP-575, and AP-577 570EX Series — AP-575EX and AP-577EX	Instant 8.7.0.0 or later
500 Series — AP-504 and AP-505	Instant 8.6.0.0 or later
530 Series — AP-534 and AP-535 550 Series — AP-555	Instant 8.5.0.0 or later
303 Series — AP-303P 387 Series — AP-387 510 Series — AP-514 and AP-515	Instant 8.4.0.0 or later
303 Series — AP-303 318 Series — AP-318 340 Series — AP-344 and AP-345 370 Series — AP-374, AP-375, and AP-377 370EX Series — AP-375EX and AP-375EX	Instant 8.3.0.0 or later
203H Series — AP-203H	Instant 6.5.3.0 or later
203R Series — AP-203R and AP-203RP 303H Series — AP-303H and AP-303HR 360 Series — AP-365 and AP-367	Instant 6.5.2.0 or later
207 Series — IAP-207 300 Series — IAP-304 and IAP-305	Instant 6.5.1.0-4.3.1.0 or later
310 Series — IAP-314 and IAP-315 330 Series — IAP-334 and IAP-335	Instant 6.5.0.0-4.3.0.0 or later
320 Series — IAP-324 and IAP-325	Instant 6.4.4.3-4.2.2.0 or later

Chapter 4
Regulatory Updates

This chapter contains the Downloadable Regulatory Table (DRT) file version introduced in this release.

Periodic regulatory changes may require modifications to the list of channels supported by an AP. For a complete list of channels supported by an AP using a specific country domain, access the controller Command Line Interface (CLI) and execute the **show ap allowed-channels country-code <country-code> ap-type <ap-model>** command.

For a complete list of countries and the regulatory domains in which the APs are certified for operation, refer to the Downloadable Regulatory Table or the DRT Release Notes at asp.arubanetworks.com.

The following DRT file version is part of this release:

- DRT-1.0_83211

Chapter 5
Resolved Issues

This chapter describes the issues resolved in this release.

Table 4: *Resolved Issues in Aruba Instant 8.9.0.3*

Bug ID	Description	Reported Version
AOS-218919	The Instant WebUI allowed a VLAN to be configured as both the Virtual Controller VLAN and the Centralized,L2 VLAN. This issue occured when the Centralized,L2 VLAN was configured first and the same VLAN was configured as the Virtual Controller VLAN. The fix ensures that a VLAN cannot be configured as both the Virtual Controller and the Centralized,L2 VLAN. This issue was observed in APs running Aruba Instant 8.6.0.4 or later versions.	Aruba Instant 8.6.0.4
AOS-221085 AOS-227062	The Eth2 port of an AP-505H access point failed to supply PoE to downlink devices after a reboot. This issue occurred under the following scenarios: ▪ When the AP rebooted. ▪ When IPM was enabled. The fix ensures that the AP supplies PoE at the Eth2 port after a reboot when IPM is enabled. This issue was observed in AP-505H access points running Aruba Instant 8.9.0.0 or later versions.	Aruba Instant 8.9.0.0
AOS-222157 AOS-222841	Some AP-345 access points were unresponsive and reported high memory utilization. The fix ensures that the AP works as expected. This issue was observed in AP-345 access points running Aruba Instant 8.6.0.7 or later versions.	Aruba Instant 8.6.0.7
AOS-222756	An Instant AP used the IP address of the Virtual Controller as the source IP for outgoing client traffic in guest SSIDs configured with NAT. The fix ensures that the AP uses the AP IP for outgoing client traffic in guest SSIDs configured with NAT. This issue was observed in APs running Aruba Instant 8.7.1.5 or later versions.	Aruba Instant 8.7.1.5
AOS-222813 AOS-224555 AOS-225297 AOS-226103 AOS-226107 AOS-226108	Some 500 Series access points crashed and rebooted unexpectedly. The log file listed one of the following reasons for reboot: ▪ **Reboot Time and Cause: AP Reboot reason: BadAddr:e7c0ceffffffc038 PC:wlc_ratesel_upd_ rxstats+0x214/0x340 [wl_v6] Warm-reset** ▪ **Reboot Time and Cause: AP Reboot reason: BadAddr:390632004016de PC:wlc_pkt_get_txh_hdr+0x0/0x18 [wl_ v6] Warm-reset** ▪ **Reboot Time and Cause: AP Reboot reason: InternalError: : 96000021 [#1] SMP PC:_raw_spin_lock_irqsave+0xc/0x40 Warm-reset** ▪ **Reboot Time and Cause: AP Reboot reason: BadAddr:ffffffc000210595 PC:wlc_mutx_txfifo_**	Aruba Instant 8.7.0.0

Table 4: *Resolved Issues in Aruba Instant 8.9.0.3*

Bug ID	Description	Reported Version
	complete+0xaec/0xe40 [wl_v6] Warm-reset ▪ **Reboot Time and Cause:** **BUGFailureAt:net/core/skbuff.c:281/skb_panic()! Warm-reset** The fix ensures that the AP does not reboot randomly and works as expected. This issue was observed in 500 Series access points running Aruba Instant 8.6.0.9 or later versions.	
AOS-223149 AOS-223754	An Instant AP crashed and rebooted unexpectedly. The log file listed the reason for reboot as: **SomeCrash Warm-reset / PC is at wlc_wnm_is_wnmsleeping+0x40/0xd8 [wl_v6]**. The fix ensures that the AP works as expected. This issue was observed in APs running Aruba Instant 8.7.0.0 or later versions.	Aruba Instant 8.7.1.4
AOS-225736 AOS-226429	An Instant AP sent wrong DNS IP addresses to clients connected to an SSID configured with Virtual Controller IP assignment. The fix ensures that the AP sends the correct DNS IP address to clients in SSIDs configured with Virtual Controller IP assignment. This issue was observed in APs running Aruba Instant 8.9.0.0 or later versions.	Aruba Instant 8.9.0.0
AOS-225776 AOS-225817	An Instant AP crashed and rebooted unexpectedly. The log file listed the reason for reboot as: **Reboot caused by kernel panic: softlockup: hung tasks**. This issue was observed in APs running Aruba Instant 8.5.0.13 or later versions.	Aruba Instant 8.5.0.13
AOS-225860	Wireless clients were randomly disconnected from the AP. When this occurs, new clients and existing clients were unable to join the SSID. The fix ensures that the AP works as expected and clients remain connected to the network. This issue was observed in APs running Aruba Instant 8.6.0.9 or later versions.	Aruba Instant 8.6.0.9
AOS-226071	Clients connected to an Instant network encountered a DNS error and lost internet connectivity. The debug log of the Instant AP listed the reason for error as: **Drop the pkt as we don't know the vlan device on which to send the ARP request**. The fix ensures that clients do not encounter DNS errors and remain connected to the Internet. This issue was observed in APs running Aruba Instant 8.7.1.4 or later versions.	Aruba Instant 8.7.1.4
AOS-226248	The output of the **show datapath user** table did not include the information of some clients configured with a static IP address. The fix ensures that the output of **show datapath user** displays the information of all clients connected to the AP. This issue was observed in APs running Aruba Instant 8.6.0.7 or later versions.	Aruba Instant 8.6.0.7
AOS-226651 AOS-227505	An AP-575 access point crashed and rebooted unexpectedly. The log file listed the reason for reboot as: **AP Reboot reason: SomeCrash Warm-reset**. The fix ensures that the AP works as expected and does not reboot randomly. This issue was observed in AP-575 access points running Aruba Instant 8.8.0.1 or later versions.	Aruba Instant 8.8.0.1
AOS-226665	Some Instant APs failed to send the LLDP information of neighboring devices to Aruba Central when LLDP was enabled. The fix ensures that the AP sends the information of neighboring devices to Aruba Central as expected. This issue was observed in Aruba Central-managed APs running Aruba Instant 8.7.0.0 or later versions.	Aruba Instant 8.7.0.0

Table 4: *Resolved Issues in Aruba Instant 8.9.0.3*

Bug ID	Description	Reported Version
AOS-226870 AOS-226947	Member APs were disconnected from the Instant cluster when DTLS was enabled in the Virtual Controller. As a result, clients experienced poor network performance when this issue occurred. The fix ensures that member APs remain connected to the Virtual Controller when DTLS is enabled and works as expected. This issue was observed in APs running Aruba Instant 8.6.0.0 or later versions.	Aruba Instant 8.7.1.4
AOS-226893 AOS-228067	Some clients connected to an Instant AP were unable to access the Internet. This issue occurred when: ▪ the CLI or STM process of the member AP crashed. ▪ the conductor AP failover occurred. This caused the member AP to cache the old conductor AP's IP address as the DNS IP address in the datapath and forwarded the DNS request from clients to the old conductor AP instead of the DNS server. The fix ensures that the correct IP routes are reinstalled after a process restart. This issue was observed in APs running Aruba Instant 8.6.0.0 or later versions.	Aruba Instant 8.6.0.11
AOS-227024 AOS-228564	An Instant AP crashed and rebooted unexpectedly. The log file listed the reason for reboot as: **Critical process /aruba/bin/stm [pid 26739] DIED, process marked as RESTART**. This issue occurred when the Instant AP had SSIDs enabled with **Download roles** option. The fix ensures that the APs work as expected and do not reboot unexpectedly. This issue was observed in APs running Aruba Instant 8.6.0.12 or later versions.	Aruba Instant 8.6.0.12
AOS-227275 AOS-229375 AOS-229922	The list of denylisted clients were not displayed in the Instant webUI. The fix ensures that the list of denylisted clients is displayed in the Instant webUI. This issue was observed in APs running Aruba Instant 8.9.0.0 or later versions.	Aruba Instant 8.9.0.0
AOS-227362	Some Instant APs crashed and rebooted unexpectedly. The log file listed the reason for reboot as: **Critical process /aruba/bin/stm [pid 9782] DIED, process marked as RESTART**. The fix ensures that the APs work as expected and do not reboot unexpectedly. This issue was observed in Aruba Central-managed APs running Aruba Instant 8.8.0.0 or later versions.	Aruba Instant 8.8.0.0

Chapter 6
Known Issues and Limitations

This chapter describes the known issues and limitations observed in this release.

Limitations

This section describes the limitations in Aruba Instant 8.9.0.3.

AP-635 Access Points

AP-635 access points do not support Wi-Fi uplink.

AP Hostname Character Limit Extension

The number of ASCII characters allowed in the Instant AP hostname is increased from 32 to 128 characters. The following configuration settings do not support the new limit of 128 ASCII characters in Instant 8.9.0.3:

- The AP Name field in Role Derivation or VLAN Derivation.
- The AP Name field in beacon and probe response frames.
- The AP Name field in the **show ap mesh link** and **ap mesh neighbor** commands.

Dynamic Multicast Optimization Unsupported with VLAN Derivation

Aruba Instant does not support Dynamic Multicast Optimization when the SSID is configured with VLAN derivation.

Inbound Firewall

The **apip-all** configuration is not supported by the **inbound-firewall** command in Instant AP cluster deployments. It is only supported in standalone or single-AP modes of deployment.

Uplink Failover Limitation

Uplink failover or pre-emption between eth0 and Wi-Fi uplink is currently not supported.

Unified Communications Manager

UCM does not prioritize NAT traffic.

Known Issues

Following are the known issues observed in this release.

Table 5: *Known Issues in Instant 8.9.0.3*

Bug ID	Description	Reported Version
AOS-204171	Clients intermittently experience high latency when the AP is connected to the backup controller after a failover event. This issue occurs in the following scenarios: ■ The AP attempts to re-connect to the primary controller. ■ Fast failover is enabled on the AP. This issue is observed in 203R Series access points running Aruba Instant 8.3.0.0 or later versions.	Aruba Instant 8.3.0.0
AOS-218436 AOS-219302	Zebra scanners are unable to connect to some 510 Series access points. This issue is observed in 510 Series access points running Aruba Instant 8.5.0.7 or later versions.	Aruba Instant 8.5.0.7
AOS-218704 AOS-220857	Some VoIP calls are not sent to the server to be recorded. This issue occurs when: ■ The server recording the calls is behind the controller. ■ Some APs in the cluster are rebooted. This issue is observed in APs running Aruba Instant 8.6.0.4 or later versions.	Aruba Instant 8.6.0.4
AOS-219998	The NTP module of an Instant AP is stuck in the **INIT** state. This issue occurs when the NTP server returns an IPv6 address. This issue is observed in APs running Aruba Instant 8.7.1.2 or later versions.	Aruba Instant 8.7.1.2
AOS-220585	The Instant webUI does not display the **MPSK-Local** key management option in SSID settings. This issue is observed in APs running Aruba Instant 8.7.1.3 or later versions. **Workaround:** Configure MPSK-Local option for SSIDs using the CLI.	Aruba Instant 8.7.1.3
AOS-220815 AOS-225844	The output of the **show ip route** command in the conductor AP displays duplicate default routes. This issue is observed in APs running Aruba Instant 8.8.0.0 or later versions.	Aruba Instant 8.8.0.0
AOS-220896	An Instant AP generates internal system error messages. The output of the **show log system** command displays: **An internal system error has occurred at file rc_acct_instant.c function clear_client_stats_ by_mac line 238**. This issue is observed in APs running Aruba Instant 8.6.0.7 or later versions.	Aruba Instant 8.6.0.7
AOS-222562	An Instant AP generates station management errors when operating in standalone mode. This issue is observed in APs running Aruba Instant 8.8.0.0 or later versions.	Aruba Instant 8.8.0.0
AOS-222843	The Captive Portal page for some Linux clients display an **Authentication failed** message after a user enters the login credentials. This issue occurs when the AP does not relay the DNS response to the controller. This issue is observed in APs running Aruba Instant 8.7.1.2 or later versions.	Aruba Instant 8.7.1.2
AOS-222909	The **show usb-enet** command fails to display the list of all USB devices connected to an Instant AP cluster. This issue is observed in Instant AP clusters running Aruba Instant 8.6.0.6 or later versions.	Aruba Instant 8.6.0.6

Table 5: *Known Issues in Instant 8.9.0.3*

Bug ID	Description	Reported Version
AOS-222917 AOS-224979	Clients connected to the Instant AP in post authentication role are able to access the Instant webUI of the AP using the gateway IP address. This issue occurs when the ACL rules for internal network is defined below ACL rules for web category or AppRF. This issue is observed in APs running Aruba Instant 8.8.0.1 or later versions.	Aruba Instant 8.8.0.1
AOS-223256	The Virtual Controller loses connectivity with the member APs. This issue occurs when the Virtual Controller is configured when the Virtual Controller and the Instant AP are in the same subnet. This issue is observed in APs running Aruba Instant 8.7.1.3 or later versions. **Workaround:** Remove the Virtual Controller configuration in the cluster.	Aruba Instant 8.7.1.3
AOS-223701	An Instant AP crashes and reboots unexpectedly. The log file lists the reason for reboot as: **WARNING: CPU: 3 PID: 0 at mm/slab.h:308 kfree+0x128/0x148()**. This issue is observed in APs running Aruba Instant 8.7.1.4 or later versions.	Aruba Instant 8.7.1.4
AOS-225341	Clients connecting to an Instant AP are unable to pass internal and internet traffic. This issues occurs with Instant APs terminating at a standalone 7240XM controller that does not have a PEFNG license. This issue is observed in APs running Aruba Instant 8.7.1.2 or later versions.	Aruba Instant 8.7.1.2
AOS-225528 AOS-227751 AOS-229738	The **DPI Mgr** process of the Virtual Controller AP crashes unexpectedly. This issue is observed in Instant AP clusters running Aruba Instant 8.6.0.11 or later versions.	Aruba Instant 8.6.0.11
AOS-225757	An Instant AP displays the AirWave URL in the **Aruba Central server** field in the output of **show debug cloud-server** command despite being managed by Aruba Central. This issue occurs when the AP management is changed to Aruba Central from AirWave. This issue is observed in APs running Aruba Instant 8.6.0.11 or later versions.	Aruba Instant 8.6.0.11
AOS-225972	An Instant AP randomly reboots with the reason: **Reboot Time and Cause:Current uplink down, no useable uplink**. This issue is observed in APs running 8.8.0.1 or later versions.	Aruba Instant 8.8.0.1
AOS-226584	Wi-Fi 6 clients connected to a 500 Series access point experience slow download speeds. This issue occurs when 802.11r option is enabled on the SSID. This issue is observed in 500 Series APs running Aruba Instant 8.6.0.9 or later versions.	Aruba Instant 8.6.0.9
AOS-226695	Clients connecting to an AP-203R access point do not receive IP address from the DHCP server. This issue is observed in Aruba Central-managed Instant AP deployments running Aruba Instant 8.9.0.0 or later versions.	Aruba Instant 8.9.0.0
AOS-227142	Clients fail to receive an IP address from the AP. This issue occurs in Distributed, L3 networks when DHCP Relay is enabled. This issue is observed in APs running Aruba Instant 8.9.0.0 or later versions.	Aruba Instant 8.9.0.0
AOS-227313	An Instant AP reboots unexpectedly. The log file lists one of the following reasons for reboot: ▪ **BadAddr:6c7275f2 PC:memcmp+0x10/0x58 Warm-reset** ▪ **BadPtr:00000085 PC:memcmp+0x10/0x58 Warm-reset**	Aruba Instant 8.7.1.4

Table 5: *Known Issues in Instant 8.9.0.3*

Bug ID	Description	Reported Version
	This issue is observed in APs running Aruba Instant 8.5.0.0 or later versions.	
AOS-228421 AOS-228599	Campus APs converted into Instant APs fail to synchronize with Aruba Central and display the following error message: **Execution error message: Error: "XX" is not a valid country code for this AP**. This issue occurs when Instant APs converted from Campus APs are connected to Central. This issue is observed in APs running Aruba Instant 8.6.0.7 or later versions.	Aruba Instant 8.6.0.15
AOS-228572	An Instant AP crashes and reboots unexpectedly. The log file lists the reason for reboot as: **InternalError: Oops - BUG: 0 1 SMP ARM PC:netdev_run_todo+0x260/0x2b4 Warm-reset**. This issue is observed in APs running Aruba Instant 8.7.1.4 or later versions.	Aruba Instant 8.7.1.4
AOS-228704 AOS-229598	An Instant AP crashes and reboots unexpectedly. The log file lists the reason for reboot as: **Reboot Time and Cause: Reboot caused by kernel panic: Take care of the TARGET ASSERT first**. This issue is observed in APs running Aruba Instant 8.6.0.15 or later versions.	Aruba Instant 8.6.0.15
AOS-229148	An Instant AP fails to apply the VSA role on clients when **Download roles** is enabled in the SSID. This issue is observed in Aruba Central-managed APs running Aruba Instant 8.6.0.14 or later versions.	Aruba Instant 8.6.0.14
AOS-229572	An AP-504 access point disconnects itself from the network. This issue is observed in AP-504 access points running Aruba Instant 8.7.1.6 or later versions.	Aruba Instant 8.7.1.6
AOS-229588	Some Instant APs randomly fail to include the class attribute in RADIUS accounting requests sent to the RADIUS server. This issue is observed in APs running Aruba Instant 8.3.0.0 or later versions.	Aruba Instant 8.7.1.6
AOS-230637	The Instant AP does not allow the change of port numbers for SES Imagotag dongles. This issue is observed in APs running Aruba Instant 8.7.1.0 or later versions.	Aruba Instant 8.7.1.0

Chapter 7
Upgrading an Instant AP

This chapter describes the Instant software upgrade procedures and the different methods for upgrading the image on the Instant AP.

While upgrading anInstant AP, you can use the image check feature to allow the Instant AP to find new software image versions available on a cloud-based image server hosted and maintained by Aruba. The location of the image server is fixed and cannot be changed by the user. The image server is loaded with the latest versions of the Instant software.

Topics in this chapter include:

- Upgrading an Instant AP and Image Server on page 17
- Upgrading an Instant AP Using the Automatic Image Check on page 19
- Upgrading to a New Version Manually Using the WebUI
- Upgrading an Instant AP Image Using CLI on page 21
- Upgrade from Instant 6.4.x.x-4.2.x.x to Instant 8.9.0.x on page 21

Upgrading an Instant AP and Image Server

Instant supports mixed Instant AP class Instant deployment with all Instant APs as part of the same virtual controller cluster.

Image Management Using AirWave

If the multi-class Instant AP network is managed by AirWave, image upgrades can only be done through the AirWave WebUI. The Instant AP images for different classes must be uploaded on the AMP server. If new Instant APs joining the network need to synchronize their software with the version running on the virtual controller, and if the new Instant AP belongs to a different class, the image file for the new Instant AP is provided by AirWave. If AirWave does not have the appropriate image file, the new Instant AP will not be able to join the network.

The virtual controller communicates with the AirWave server if AirWave is configured. If AirWave is not configured on the Instant AP, the image is requested from the Image server.

Image Management Using Cloud Server

If the multi-class Instant AP network is not managed by AirWave, image upgrades can be done through the Cloud-Based Image Check feature. If a new Instant AP joining the network needs to synchronize its software version with the version on the virtual controller and if the new Instant AP belongs to a different class, the image file for the new Instant AP is provided by the cloud server.

Configuring HTTP Proxy on an Instant AP

If your network requires a proxy server for Internet access, ensure that you configure the HTTP proxy on the Instant AP to download the image from the cloud server. The **Username** and **Password**

configuration is supported only for cloud services. After setting up the HTTP proxy settings, the Instant AP connects to the Activate server, AMP, Central, OpenDNS, or web content classification server through a secure HTTP connection. The proxy server can also be configured and used for cloud services. You can also exempt certain applications from using the HTTP proxy (configured on an Instant AP) by providing their host name or IP address under exceptions.

The following procedure describes how to configure the HTTP proxy settings using the webUI:

1. Navigate to **Configuration** > **System** > **Proxy**.
2. Enter the HTTP proxy server IP address in the **Auth Server** text box.
3. Enter the port number in the **Port** text box.
4. If you want to set an authentication username and password for the proxy server, enable the **Proxy requires authentication** toggle switch.
5. Enter a username in the **Username** text box.
6. Enter a password in the **Password** text box.
7. If you do not want the HTTP proxy to be applied for a particular host, click **+** to enter that IP address or domain name of that host in the **Exceptions** section.
8. Click **Save**.

The following procedure describes how to configure the HTTP proxy settings using the CLI:

```
(Instant AP)(config)# proxy server 192.0.2.1 8080 example1 user123
(Instant AP)(config)# proxy exception 192.0.2.2
(Instant AP)(config)# end
(Instant AP)# commit apply
```

HTTP Proxy Support through Zero Touch Provisioning

Instant APs experience issues when connecting to AirWave, Central, or Activate through the HTTP proxy server which requires a user name and password. The ideal way to provide seamless connectivity for these cloud platforms is to supply the proxy information to the Instant AP through a DHCP server.

Starting with Aruba Instant 8.4.0.0, besides being able to authenticate to the HTTP proxy server, the factory default Instant APs can also communicate with the server through a HTTP proxy server DHCP which does not require authentication.

In order for the factory default Instant AP to automatically discover the proxy server, you need to configure the HTTP proxy information in the DHCP server option. The Instant AP will receive the proxy information and store it in a temporary file.

To retrieve the port and the proxy server information, you need to first configure the DHCP **option 60** to **ArubaInstantAP** as shown below:

```
(Instant AP)(config)# ip dhcp <profile_name>
(Instant AP)("IP DHCP profile-name")# option 60 ArubaInstantAP
```

Secondly, use the following command to configure the proxy server:

```
(Instant AP)(config)# proxy server <host> <port> [<username> <password>]
```

Use the text string **option 148 text server=host_ip,port=PORT,username=USERNAME,password=PASSWORD** to retrieve the details of the proxy server.

Rolling Upgrade on Instant APs with AirWave

Starting from Aruba Instant 8.4.0.0, Rolling Upgrade for Instant APs in standalone mode is supported with AirWave. The upgrade is orchestrated through NMS and allows the Instant APs deployed in standalone mode to be sequentially upgraded such that the APs upgrade and reboot one at a time. With Rolling Upgrade, the impact of upgrading a site is reduced to a single AP at any given point in time. This enhances the overall availability of the wireless network. For more information, see *AirWave 8.2.8.2 Instant Deployment Guide* and *AirWave 8.2.8.2 Release Notes*.

Upgrading an Instant AP Using the Automatic Image Check

You can upgrade an Instant AP by using the Automatic Image Check feature. The automatic image checks are performed once, as soon as the Instant AP boots up and every week thereafter.

If the image check locates a new version of the Instant software on the image server, the New version available link is displayed on the Instant main window.

If AirWave is configured, the automatic image check is disabled.

The following procedure describes how to check for a new version on the image server in the cloud using the webUI:

1. Go to **Maintenance** > **Firmware**.
2. In the **Automatic** section, click **Check for New Version**. After the image check is completed, one of the following messages is displayed:
   - No new version available—If there is no new version available.
   - Image server timed out—Connection or session between the image server and the Instant AP is timed out.
   - Image server failure—If the image server does not respond.
   - A new image version found—If a new image version is found.
3. If a new version is found, the **Upgrade Now** button becomes available and the version number is displayed.
4. Click **Upgrade Now**.

The Instant AP downloads the image from the server, saves it to flash, and reboots. Depending on the progress and success of the upgrade, one of the following messages is displayed:

- Upgrading—While image upgrading is in progress.
- Upgrade successful—When the upgrade is successful.
- Upgrade failed—When the upgrade fails.

If the upgrade fails and an error message is displayed, retry upgrading the Instant AP.

Upgrading to a New Version Manually Using the WebUI

If the Automatic Image Check feature is disabled, you can manually obtain an image file from a local file system or from a remote server accessed using a TFTP, FTP or HTTP URL.

The following procedure describes how to manually check for a new firmware image version and obtain an image file using the webUI:

1. Navigate to **Maintenance** > **Firmware**.
2. Expand **Manual** section.
3. The firmware can be upgraded using a downloaded image file or a URL of an image file.
   a. To update firmware using a downloaded image file:
      i. Select the **Image file** option. This method is only available for single-class Instant APs.
      ii. Click on **Browse** and select the image file from your local system. The following table describes the supported image file format for different Instant AP models:

Access Points	Image File Format
AP-635	ArubaInstant_Norma_8.9.0.x_xxxx
AP-344, AP-345, AP-514, AP-515, AP-518, AP-574, AP-575, AP-575EX, AP-577, and AP-577EX	ArubaInstant_Draco_8.9.0.x_xxxx
AP-503H, AP-504, AP-505, AP-505H, AP-565, and AP-567.	ArubaInstant_Gemini_8.9.0.x_xxxx
IAP-314, IAP-315, IAP-324, IAP-325, AP-374, AP-375, AP-377, AP-318, and AP-387	ArubaInstant_Hercules_8.9.0.x_xxxx
IAP-334 and IAP-335	ArubaInstant_Lupus_8.9.0.x_xxxx
AP-534, AP-535, and AP-555	ArubaInstant_Scorpio_8.9.0.x_xxxx
AP-303, AP-303H, 303P Series, IAP-304, IAP-305, AP-365, and AP-367	ArubaInstant_Ursa_8.9.0.x_xxxx
AP-203H, AP-203R, AP-203RP, and IAP-207	ArubaInstant_Vela_8.9.0.x_xxxx

   b. To upgrade firmware using the URL of an image file:
      i. Select the **Image URL** option to obtain an image file from a HTTP, TFTP, or FTP URL.
      ii. Enter the image URL in the **URL** text field. The syntax to enter the URL is as follows:
         - HTTP - http://<IP-address>/<image-file>. For example, http://<IP-address>/ArubaInstant_Hercules_8.9.0.x_xxxx
         - TFTP - tftp://<IP-address>/<image-file>. For example, tftp://<IP-address>/ArubaInstant_Hercules_8.9.0.x_xxxx
         - FTP - ftp://<IP-address>/<image-file>. For example, ftp://<IP-address>/ArubaInstant_Hercules_8.9.0.x_xxxx
         - FTP - ftp://<user name:password>@<IP-address>/<image-file>. For example, ftp://<aruba:123456>@<IP-address>/ArubaInstant_Hercules_8.9.0.x_xxxx

The FTP server supports both **anonymous** and **username:password** login methods.

Multiclass Instant APs can be upgraded only in the URL format, not in the local image file format.

4. Disable the **Reboot all APs after upgrade** toggle switch if required. This option is enabled by default to allow the Instant APs to reboot automatically after a successful upgrade. To reboot the Instant AP at a later time, clear the **Reboot all APs after upgrade** check box.
5. Click **Upgrade Now** to upgrade the Instant AP to the newer version.
6. Click **Save**.

Upgrading an Instant AP Image Using CLI

The following procedure describes how to upgrade an image using a HTTP, TFTP, or FTP URL:

```
(Instant AP)# upgrade-image <ftp/tftp/http-URL>
```

The following is an example to upgrade an image by using the FTP URL :

```
(Instant AP)# upgrade-image ftp://192.0.2.7/ArubaInstant_Hercules_8.9.0.x_xxxx
```

The following procedure describes how to upgrade an image without rebooting the Instant AP:

```
(Instant AP)# upgrade-image2-no-reboot <ftp/tftp/http-URL>
```

The following is an example to upgrade an image without rebooting the Instant AP:

```
(Instant AP)# upgrade-image2-no-reboot ftp://192.0.2.7/ArubaInstant_Hercules_
8.9.0.x_xxxx
```

The following command describes how to view the upgrade information:

```
(Instant AP)# show upgrade info
Image Upgrade Progress
----------------------
Mac IP Address AP Class Status Image Info Error Detail
--- --------- -------- ------ ---------- ------------
d8:c7:c8:c4:42:98 10.17.101.1 Hercules image-ok image file none
Auto reboot :enable
Use external URL :disable
```

Upgrade from Instant 6.4.x.x-4.2.x.x to Instant 8.9.0.x

Before you upgrade an Instant AP running Instant 6.5.4.0 or earlier versions to Instant 8.9.0.x, follow the procedures mentioned below:

1. Upgrade from Instant 6.4.x.x-4.2.x.x or any version prior to Instant 6.5.4.0 to Instant 6.5.4.0.
2. Refer to the *Field Bulletin AP1804-1* at asp.arubanetworks.com.
3. Verify the affected serial numbers of the Instant AP units.