Aruba Instant 6.5.4.20

a Hewlett Packard
Enterprise company

Release Notes

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Contents 3
Revision History 4
Release Overview 5
Supported Browsers 5
Important Updates 6
Contacting Support 6
New Features 8
Regulatory Updates 9
Resolved Issues 10
Known Issues 11
Upgrading an Instant AP 17
Upgrading an Instant AP and Image Server 17
Upgrading an Instant AP Using Automatic Image Check 19
Upgrading an Instant AP Image Using CLI 20

Revision History

The following table provides the revision history of this document.

Table 1: *Revision History*

Revision	Change Description
Revision 01	Initial release.

This Aruba Instant release notes includes the following topics:

- New Features on page 8
- Regulatory Updates on page 9
- Resolved Issues on page 10
- Known Issues on page 11
- Upgrading an Instant AP on page 17

For list of terms, refer to the Glossary.

For information regarding prior releases, refer to the corresponding Release Notes on asp.arubanetworks.com.

Supported Browsers

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

- Microsoft Internet Explorer 10.x and 11 on Windows 7 and Windows 8
- Mozilla Firefox 23 or later on Windows Vista, Windows 7, and macOS
- Apple Safari 5.1.7 or later on macOS
- Google Chrome 51.0.2704.103 m (64-bit)
- Microsoft Edge 25.10586.0.0 and Microsoft Edge HTML 13.10586

Important Updates

DPI

Starting from Instant 6.5.0.0-4.3.0.0 onwards, DPI is not supported on IAP-103, RAP-108, and RAP-109 due to the existing memory limitations. The last release with full feature support for these platforms is Instant 6.4.x.x-4.2.x.x.

If you have deployed IAP-103, RAP-108, or RAP-109 and require DPI functionality, ensure that you remain on Instant 6.4.x.x-4.2.x.x or earlier versions. However, if you are willing to disable DPI functionality, upgrade to Instant 6.5.0.0-4.3.0.0 or later releases.

IP-Mode

The IP-mode default value changes to **v4 only** in the Instant 6.5.4.0 release version. This change in value causes a mismatch warning for AirWave and Central customers that use a template file for configuration. We recommend you to change the template file in AirWave and Central to fix this mismatch. AirWave and Central UI users, please upgrade your respective versions.

The mismatch occurs only if the release versions used before the upgrade are from Instant 6.5.2.0 to Instant 6.5.3.1. There will be no mismatch if the release version used before the upgrade is earlier than Instant 6.5.2.0 or later than Instant 6.5.3.1.

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

No new features are introduced in this release.

Chapter 3
Regulatory Updates

This chapter describes the regulatory updates in Aruba Instant 6.5.x.

Contact your local Aruba sales representative about device availability and support for your country.

Periodic regulatory changes may require modifications to the list of channels supported by an Instant AP. For a complete list of channels supported by an Instant AP using a specific country domain, access the Instant AP CLI and execute the **show ap allowed-channels** command.

The following DRT file version is part of this release:

- DRT-1.0_TBU

For a complete list of countries certified with different AP models, refer to the DRT Release Notes at asp.arubanetworks.com.

The FCC has changed the rules for operation in all of the 5 GHz bands. For more information, refer to the *FCC DFS Regulatory Change Impact and Resolution Plan - Support Advisory* available in Support Advisories.

The following issues are resolved in this release.

Table 3: *Resolved Issues in Instant 6.5.4.20*

Bug ID	Description	Component	Platform	Reported Version
AOS-209199	**Symptom**: An AP-303H access point crashed and rebooted unexpectedly. The log file listed the reason for the reboot as: kernel panic: Fatal exception. The fix ensures that the AP does not crash and reboot unexpectedly. **Scenario**: This issue occurred when 32 routes were added to the routing profile. This issue was observed in AP-303H access points running Aruba Instant 6.5.4.15 or later versions.	Datapath	AP-303H access points	Aruba Instant 6.5.4.15
AOS-216814 AOS-220079	**Symptom**: Clients connecting to a guest SSID were redirected again to the captive portal login page on completing the login process. The clients were authenticated into the network only after completing the login process for the second time. The fix ensures that the clients are able to login after successfully authenticating in the first attempt. **Scenario**: This issue was observed in Aruba Central-managed APs running Aruba Instant 6.5.4.0 or later versions.	Authentication	All platforms	Aruba Instant 6.5.4.0
AOS-217185	**Symptom**: Clients connected to a slave AP were unable to pass IP traffic and new clients connecting to the same AP were unable to receive IP addresses. The fix ensures that the clients are able to receive IP addresses from the AP and pass traffic. **Scenario**: This issue occurred in slave APs in an IAP-VPN cluster when the per-AP GRE tunnel connection between the AP and the controller failed. This issue was observed in APs running Aruba Instant 6.5.4.18 or later versions.	GRE	All platforms	Aruba Instant 6.5.4.18

This chapter describes the known and outstanding issues identified in this release.

We have migrated to a new defect tracking tool. Some bugs are listed with the new bug ID, which is prefixed by AOS.

Table 4: *Known Issues in Instant 6.5.4.20*

New Bug ID	Old Bug ID	Description	Component	Platform	Reported Version
AOS-140975 AOS-175951 AOS-180447	171577 168254 189776	**Symptom:** An Instant AP reboots unexpectedly. The log file lists the reason for the event as: **Reboot caused by kernel panic: Take care of the HOST ASSERT first**. **Scenario:** This issue occurs when the messaging between the WLAN firmware and UMAC goes out of sync. This issue is observed in slave APs in an Instant cluster running Aruba Instant 6.5.1.0-4.3.1.2 or later versions.	Wi-Fi Driver	All platforms	Instant 6.5.1.0-4.3.1.2
AOS-140296 AOS-143139 AOS-143162 AOS-143164 AOS-144977 AOS-148856 AOS-172741 AOS-172788 AOS-173084 AOS-173085 AOS-173704 AOS-174078	170643 174326 174359 174361 140296 151748 151871 152748 152749 155683 156758 157826	**Symptom:** An Instant AP reboots unexpectedly. The log file lists the reason for the event as: **Reboot caused by kernel panic: softlockup: hung tasks**. **Scenario:** This issue occurs when DMO is enabled. This issue is observed in APs running in Aruba Instant 6.4.4.8-4.2.4.3 or later versions.	Datapath	All platforms	Instant 6.4.4.8-4.2.4.3
AOS-145183 AOS-175730	167198 177034	**Symptom:** An Instant AP crashes unexpectedly. The log file lists the reason for the event as: **Kernel panic - not syncing: softlockup: hung tasks**. **Scenario:** This issue is observed in IAP-303H access points running Aruba Instant 6.5.3.4 or later versions.	Datapath	IAP-303H access points	Instant 6.5.3.4

Table 4: *Known Issues in Instant 6.5.4.20*

New Bug ID	Old Bug ID	Description	Component	Platform	Reported Version
AOS-174756 AOS-175463 AOS-175467	161239 165458 165474	**Symptom:** An Instant AP is unable to reach the Central server. **Scenario:** This issue occurs when the Instant software is downgraded from Instant 6.5.3.0 to Instant 6.5.1.0-4.3.1.3 because of the default value of the **ip-mode** parameter. This issue is observed in APs running Aruba Instant 6.5.1.0-4.3.1.3 or later versions.	IPv6	All platforms	Instant 6.5.1.0-4.3.1.3
AOS-175268 AOS-177107 AOS-177289	164251 173503 174358	**Symptom:** An Instant AP displays incorrect web category and web reputation values for some clients in the WebUI. **Scenario:** This issue occurs when a DPI-enabled Instant AP fails to establish a websocket connection with the cloud server and is unable to reach the web content classification server. This issue is observed in IAP-305 access points running Aruba Instant 6.5.3.3 or later versions.	AppRF	IAP-305 access points	Instant 6.5.3.3
AOS-176463	170478	**Symptom:** An Instant AP delays the ICMP response from the wired server to a wireless client connected to the AP on the 2.4 GHz radio. **Scenario:** This issue is observed in APs running Aruba Instant 6.5.3.0 or later versions.	Wi-Fi Driver	All platforms	Instant 6.5.3.0
AOS-176815	171948	**Symptom:** An Instant AP sends DLNA responses with the IP address of the DLNA server as the source IP address, causing a network outage. **Scenario:** This issue occurs when the DLNA response packets reach the DLNA server with its IP address as the source IP address and the DLNA server falsely detects a network loop. This issue is observed in APs running Aruba Instant 6.5.4.3 or later versions.	AirGroup	All platforms	Instant 6.5.4.3
AOS-176934	172460	**Symptom:** An Instant AP logs multiple checksum-mismatch alerts. **Scenario:** This issue occurs because of a mismatch in the authentication server configuration in the Instant AP. This issue is observed in APs running Aruba Instant 6.5.4.2 or later versions.	VC Management	All platforms	Instant 6.5.4.2

Table 4: *Known Issues in Instant 6.5.4.20*

New Bug ID	Old Bug ID	Description	Component	Platform	Reported Version
AOS-176946	172554	**Symptom:** The Instant APs in a cluster are displaying huge volumes of the error message: **KERNEL(AWAP-AM-US-Mil-3-1-F36_Shipping@10.249.1.192): [8081.995439] protocol 0000 is buggy, dev br0 nh=d92120d8 d=d9212070 =d92120cb**. **Scenario:** This issue is observed in APs running Aruba Instant 6.5.3.3 or later versions.	Platform	All platforms	Instant 6.5.3.3
AOS-177621	175913	**Symptom:** An Instant AP crashes and reboots unexpectedly. The log file lists the reason for the event as: **Reboot Time and Cause: Reboot caused by kernel panic: Fatal exception in interrupt** and **Reboot caused by kernel panic: softlockup: hung task.** **Scenario:** This issue is observed in IAP-315 access points running Aruba Instant 6.5.4.3 or later versions.	Wi-Fi Driver	IAP-315 access points	Instant 6.5.4.3
AOS-177624	175958	**Symptom:** An Instant AP does not receive an IP address when the uplink fails over to LTE. **Scenario:** This issue occurs when the datapath route cache entry is set to 3G/4G fails. This issue is observed in APs running Aruba Instant 6.5.3.3 or later versions.	3G/4G Management	All platforms	Instant 6.5.3.3
AOS-177963	177761	**Symptom:** Users are unable to delete the clients that are dynamically blacklisted after an authentication failure. **Scenario:** This issue is observed in APs running Aruba Instant 6.5.4.0 or later versions.	Authentication	All platforms	Instant 6.5.4.0
AOS-178111	178761	**Symptom:** An Instant AP displays an error message: **domain name has reach the max number** when a user tries to add a new rule. **Scenario:** This issue is observed in APs running Aruba Instant 6.5.4.6 or later versions.	Datapath	All platforms	Instant 6.5.4.6
AOS-178134	178915	**Symptom:** DNS and HTTP traffic are not categorized by the Instant AP. **Scenario:** This issue is observed in APs running Aruba Instant 6.5.4.3 or later versions.	AppRF	All platforms	Instant 6.5.4.3

Table 4: *Known Issues in Instant 6.5.4.20*

New Bug ID	Old Bug ID	Description	Component	Platform	Reported Version
AOS-178233	179493	**Symptom:** A slave Instant AP stops communicating to Central, continues to communicate with the master Instant AP, and switches to local management. **Scenario:** This issue occurs when PAPI fails between a slave Instant AP and the master Instant AP. This issue is observed in APs running Aruba Instant 6.5.4.4 or later versions.	Central	All platforms	Instant 6.5.4.4
AOS-178688	180846	**Symptom:** An Instant AP performs source NATing of traffic with its inner IP address and a client is assigned an IP address from the distributed L3 scope. **Scenario:** This issue is observed in APs running Aruba Instant 6.5.4.7 or later versions.	AppRF	All platforms	Instant 6.5.4.7
AOS-179683	185975	**Symptom:** Some characters in the running configuration are missing when the entire running configuration is copied and pasted into the CLI access. **Scenario:** This issue occurs only when the AP console is used and not SSH. This issue is observed in APs running Aruba Instant 6.5.4.5 or later versions.	Configuration	All platforms	Instant 6.5.4.5
AOS-180288	188738	**Symptom:** An Instant AP crashes and reboots unexpectedly. The log file lists the reason for the event as: **Reboot caused by kernel panic: Fatal exception in interrupt.** **Scenario:** This issue is observed in IAP-315 and IAP-325 access points running Aruba Instant 6.5.4.7 or later versions.	Platform	IAP-315 and IAP-325 access points	Instant 6.5.4.7
AOS-180904	191443	**Symptom:** Users are unable to hear audio in a VoIP call after 10 minutes. **Scenario:** This issue occurs if the SIP server is outside the client's network and the Instant AP performs NAT on the SIP control session packets. This issue is observed in APs running Aruba Instant 6.5.4.7 or later versions. **Workaround:** Place the SIP server in the same network as the SIP clients. This ensures that NAT is not performed on the SIP control session packets.	VC Management	All platforms	Instant 6.5.4.7

Table 4: *Known Issues in Instant 6.5.4.20*

New Bug ID	Old Bug ID	Description	Component	Platform	Reported Version
AOS-181453	193816	**Symptom:** An Instant AP reboots unexpectedly. The log file lists the reason as: **Reboot caused by kernel panic: Fatal exception.** **Scenario:** This issue occurs due to a memory access issue in the Instant AP. This issue is observed in APs running Aruba Instant 6.5.4.9 or later versions.	Datapath	All platforms	Instant 6.5.4.9
AOS-181829	195194	**Symptom:** Downstream traffic for a wireless client from the old VLAN is still sent to the old VLAN after the client changes over to a different VLAN and SSID on the same AP. **Scenario:** This issue is observed in APs running Aruba Instant 6.5.4.9 or later versions.	Datapath	All platforms	Instant 6.5.4.9
AOS-182578	—	**Symptom:** Certificates with an encrypted private key fail to upload and return the following error message: **rsa_key_validation_error.** **Scenario:** This issue occurs when the encryption type is **aes-128-cbc, aes-192-cbc, or aes-256-cbc**. This issue is observed in APs running Aruba Instant 6.5.4.8 or later versions. **Workaround:** Upload the certificate using a decrypted private key.	Captive Portal	All platforms	Instant 6.5.4.8
AOS-187350	—	**Symptom:** An Instant AP does not update the client's username received from the ClearPass server. **Scenario:** This issue occurs when captive portal authentication is used. This issue is observed in APs running Aruba Instant 6.5.4.0 or later versions.	Authentication	All platforms	Instant 6.5.4.0
AOS-199907 AOS-212671	—	**Symptom:** An Instant AP assigns incorrect IP addresses to domain names in the datapath dns-id-map. **Scenario:** This issue is observed in APs running Aruba Instant 6.5.4.15 or later versions.	Datapath	All platforms	Instant 6.5.4.15
AOS-209199	—	**Symptom:** An Instant AP crashes and reboots unexpectedly. The log lists the reason for reboot as: **Reboot caused by kernel panic: Fatal exception**. **Scenario:** This issue is observed in APs running Aruba Instant 6.5.4.15 or later versions.	Datapath	All platforms	Instant 6.5.4.15

Table 4: *Known Issues in Instant 6.5.4.20*

New Bug ID	Old Bug ID	Description	Component	Platform	Reported Version
AOS-209870	—	**Symptom:** An IAP-205 fails to add new client entries to the Analytics and Location Engine. **Scenario:** This issue occurs when the potential station list of the AP reaches the maximum threshold. This issue is observed in IAP-205 access points running Aruba Instant 6.5.4.17 or later versions.	IDS	IAP-205 access points	Instant 6.5.4.17
AOS-209889 AOS-209944	—	**Symptom:** An Instant AP fails to establish SSL connection with BrightCloud server and clients are able to access websites blocked using WebCC. **Scenario:** This issue is observed in APs running Aruba Instant 6.5.4.15 or later versions.	AppRF	All platforms	Instant 6.5.4.15
AOS-217185	—	**Symptom:** Clients connected to a slave AP are unable to pass IP traffic and new clients connecting to the same AP are unable to receive IP addresses. **Scenario:** This issue occurs in slave APs in an IAP-VPN cluster when the per AP GRE tunnel connection between the AP and the controller fails. This issue is observed in APs running Aruba Instant 6.5.4.18 or later versions.	GRE	All platforms	Instant 6.5.4.18

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

While upgrading an Instant 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, a Hewlett Packard Enterprise company. 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 Automatic Image Check on page 19
- Upgrading an Instant AP Image Using CLI on page 20

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 multiclass Instant AP network is managed by AirWave, image upgrades can only be done through the AirWave UI. The Instant AP images for different classes must be uploaded on the AMP server. When 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 multiclass Instant AP network is not managed by AirWave, image upgrades can be done through the Cloud-Based Image Check feature. When a new Instant AP joining the network needs to synchronize its software version with the version on the VC 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

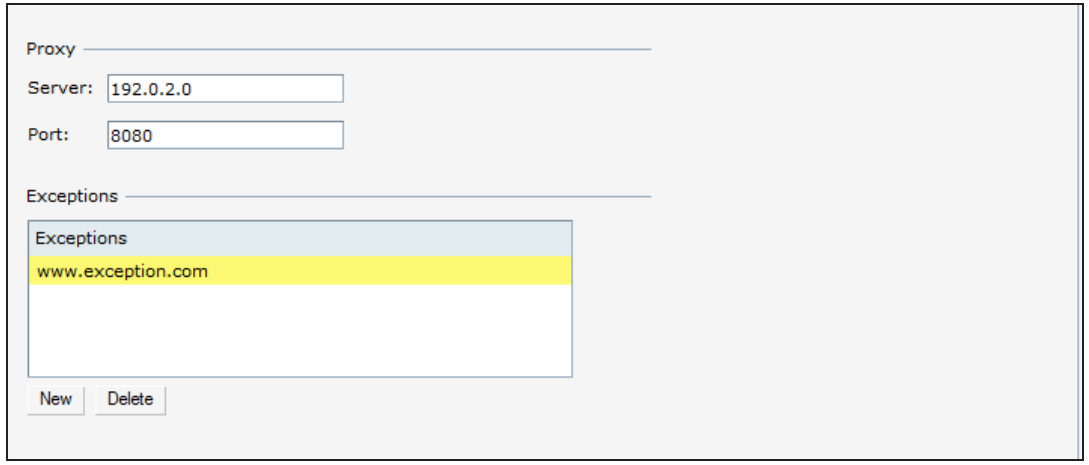
If your network requires a proxy server for Internet access, ensure that you configure the HTTP proxy on the Instant AP to download the image from the cloud server. After setting up the HTTP proxy settings, the Instant AP connects to the Activate server, AMP, Central, or OpenDNS server through a secure HTTP connection. 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.

In the WebUI

To configure the HTTP proxy settings:

1. Navigate to **System** > **Proxy**. The Proxy configuration window is displayed.

Figure 1 *Proxy Configuration Window*



2. Enter the HTTP proxy server IP address in the **Server** text box.
3. Enter the port number in the **Port** text box.
4. If you do not want the HTTP proxy to be applied for a particular host, click **New** to enter that IP address or domain name of that host in the **Exceptions** section.

In the CLI

To configure the HTTP proxy settings:

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

Upgrading an Instant AP Using 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.

To check for a new version on the image server in the cloud:

1. Go to **Maintenance** > **Automatic** > **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.
2. If a new version is found, the Upgrade Now button becomes available and the version number is displayed.
3. 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

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

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

1. Navigate to **Maintenance** > **Firmware**.
2. Under Manual section, perform the following steps:

- Select the Image file option. This method is only available for single-class Instant APs.

  The following examples describe the image file format for different Instant AP models:

  - For AP-203H—ArubaInstant_Vela_6.5.4.x_xxxx

- For IAP-334/335—ArubaInstant_Lupus_6.5.4.x_xxxx
- For IAP-314/315 and IAP-324/325—ArubaInstant_Hercules_6.5.4.x_xxxx
- For IAP-224/225, IAP-228, IAP-214/215, IAP-274/275, IAP-277—ArubaInstant_Centaurus_6.5.4.x_xxxx
- For IAP-204/205 and IAP-205H—ArubaInstant_Taurus_6.5.4.x_xxxx
- For RAP-155/155P—ArubaInstant_Aries_6.5.4.x_xxxx
- For RAP-108/109, IAP-103, and IAP-114/115—ArubaInstant_Pegasus_6.5.4.x_xxxx

- Select the **Image URL** option. Select this option to obtain an image file from a HTTP, TFTP, or FTP URL.
  - HTTP - http://<IP-address>/<image-file>. For example, http://<IP-address>/ArubaInstant_Hercules_6.5.4.x_xxxx
  - TFTP - tftp://<IP-address>/<image-file>. For example, tftp://<IP-address>/ArubaInstant_Hercules_6.5.4.x_xxxx
  - FTP - ftp://<IP-address>/<image-file>. For example, ftp://<IP-address>/ArubaInstant_Hercules_6.5.4.x_xxxx
  - FTP - ftp://<user name:password>@<IP-address>/<image-file>. For example, ftp://<aruba:123456>@<IP-address>/ArubaInstant_Hercules_6.5.4.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.

3. Clear the **Reboot all APs after upgrade** check box if required. The **Reboot all APs after upgrade** check box is selected 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 Instant APs after upgrade** check box.
4. Click **Upgrade Now** to upgrade the Instant AP to the newer version.

Upgrading an Instant AP Image Using CLI

To upgrade an image using a HTTP, TFTP, or FTP URL:

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

To upgrade an image by using the username and password in the FTP URL :

```
(Instant AP)# upgrade-image ftp://Aruba:123456@192.0.2.7/ArubaInstant_Hercules_6.5.4.x_xxxx
```

To upgrade an image without rebooting the Instant AP:

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

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
```