

Aruba Instant 6.4.2.6-4.1.1.7



Release Notes

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Aruba Instant 6.4.2.6-4.1.1.7 is a patch release that includes fixes to the issues found in the previous releases. For more information on upgrading IAPs to the new release version, see the *Upgrading an IAP* topic in *Aruba Instant 6.4.2.0-4.1.1 User Guide*.

Contents

- [What's New in this Release on page 9](#) describes the enhancements and fixed issues in this release.
- [Issues Resolved in Previous Releases on page 23](#) describes the issues fixed in the previous 6.4.x.x-4.1.1.x releases.
- [Features Added in Previous Releases on page 13](#) describes the features and enhancements in previous releases.
- [Known Issues and Limitations on page 11](#) lists the known issues and limitations identified in 6.4.x.x-4.1.1.x releases.

Contacting Support

Main Site	arubanetworks.com
Support Site	support.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 Telephones	http://www.arubanetworks.com/support-services/support-program/contact-support
Software Licensing Site	licensing.arubanetworks.com/login.php
End of Support Information	http://www.arubanetworks.com/support-services/end-of-life-products/end-of-life-policy/
Security Incident Response Team (SIRT)	http://www.arubanetworks.com/support-services/security-bulletins/
Support Email Addresses	
Americas, EMEA, and APAC	support.arubanetworks.com
SIRT Email Please email details of any security problem found in an Aruba product.	sirt@arubanetworks.com

This chapter lists the enhancements and the issues fixed in this release of Aruba Instant.

Regulatory Domain Updates

The following table lists the Downloadable Regulatory Table (DRT) file versions supported in the 6.4.2.x-4.1.1.x releases:

Table 1: DRT Versions

Instant Release Version	Applicable DRT Version
6.4.2.6-4.1.1.7	1.0_49986
6.4.2.6-4.1.1.6	1.0_49810
6.4.2.3-4.1.1.5	1.0_49422
6.4.2.3-4.1.1.4	1.0_49142
6.4.2.3-4.1.1.3	1.0_48902
6.4.2.3-4.1.1.2	1.0_48019
6.4.2.0-4.1.1.1	1.0_46705
6.4.2.0-4.1.1.0	1.0_45907

For a complete list of countries certified with different AP models, refer to the respective DRT release notes on support.arubanetworks.com.

Resolved Issues in This Release

The following issues are fixed in the 6.4.2.6-4.1.1.7 release.

AppRF

Table 2: AppRF Fixed Issues

Bug ID	Description
113996	<p>Symptom: Clients could not access the allowed web application. A change in the live session classification state of the DPI engines has resolved this issue.</p> <p>Scenario: This issue occurred due to an error in application classification and was found in IAPs running 6.4.0.x-4.1.0.x or later releases.</p>
115295	<p>Symptom: The IAP clients were redirected to the HTTP 503 error page, although user access to the website was denied due to a network rule. The fix ensures that the HTTP 503 error page is displayed only when access to a specific website is denied due to an AppRF deny rule.</p> <p>Scenario: This issue occurred when AppRF rules and a deny network ACL were configured for a user role. Although the HTTP error message is intended only for AppRF deny service ACLs, the IAPs displayed this error message when the HTTP traffic was denied by a network rule. This issue was found in IAPs running 6.4.0.2-4.1.0.0 or later releases.</p>

Datapath/Firewall

Table 3: *Datapath/Firewall Fixed Issues*

Bug ID	Description
117036	<p>Symptom: When bandwidth contract was applied, the UDP traffic was dropped instead of being queued. To resolve this issue, the TCP traffic is deprioritized to allow bandwidth to the UDP traffic.</p> <p>Scenario: This issue occurred when the TCP traffic took precedence and consumed the allocated bandwidth. As a result, the UDP traffic was dropped instead of being queued. This issue was found in IAPs running 6.4.0.x-4.1.x.x or later releases.</p>

This chapter describes the known issues identified in 6.4.x.x-4.1.1.x releases of Aruba Instant.

Known Issues

3G/4G Uplink Management

Table 4: 3G/4G Uplink Management Known Issues

Bug ID	Description
98775	<p>Symptom: Sometimes, the USB modem connected to RAP-108 and RAP-3WN is not functional as the 3G and 4G interfaces fail to come up.</p> <p>Scenario: This issue is observed in RAP-108 and RAP-3WN running Instant 6.2.0.0-3.3 or later.</p> <p>Workaround: Disconnect and reconnect the USB modem.</p>
102807	<p>Symptom: Users are currently unable to provision the Netgear 340U USB modem on the IAP.</p> <p>Scenario: This issue is observed in all IAPs running Instant 6.4.2.0-4.1.1 release.</p> <p>Workaround: As a workaround, run the Netgear Linux patch to enable the Netgear 340U modem to work with IAP.</p>
105159	<p>Symptom: Huawei 3276-150 version of USB modem works with all AP types except RAP-108, RAP-109, and RAP-3WN.</p> <p>Scenario: This issue is not limited to a specific IAP model or software version.</p> <p>Workaround: The Huawei 3276-150 modem will not be detected on RAP-108 and RAP-109, and so as a workaround, connect to the modem using an external hub. For RAP-3WN, use Instant 6.4.0.3-4.1.0.1 as the firmware with the USB power hub to connect to the modem.</p>
104803	<p>Symptom: Changing the priorities of Ethernet uplink and Cellular uplink having default values of 0 and 7 to 7 and 4 or any other number does not work, whereas changing the Ethernet uplink value to anything other than 7 would work.</p> <p>Scenario: This issue is observed when the priorities are changed for the Ethernet and cellular uplinks. This issue is not limited to a specific IAP model or software release.</p> <p>Workaround: None.</p>

Wired Network Profiles

Table 5: Wired Network Profiles Known Issue

Bug ID	Description
98455	<p>Symptom: The Speed or Duplex configuration change of Ethernet Port does not take effect on Instant APs.</p> <p>Scenario: This issue is observed in IAPs running Instant 6.2.0.0-3.3 or later releases.</p> <p>Workaround: Reboot the IAP.</p>

Wi-Fi Driver

Table 6: *Wi-Fi Driver Known Issue*

Bug ID	Description
116632	<p>Symptom: Deauthentication requests from Windows7 fail when clients roam from one IAP to another in a cluster.</p> <p>Scenario: This issue occurs due to wpa2-key1 authentication failure. This issue is found in IAPs running Instant 6.4.2.3-4.1.1.4 or later releases.</p> <p>Workaround: Upgrade the NIC driver.</p>

Limitations

No Support for Mesh on IAP-2xx Access Points

Mesh IAP configuration is not supported on 802.11ac AP platforms (IAP-2xx access points).

Application Classification

The following table lists the popular applications and describes the expected classification behavior associated with these applications:

Table 7: *Application Classification*

Bug ID	Description
Lync	Due to the adaptive nature of Lync, a few sessions might occasionally be wrongly classified.
Skype	If user has already logged into Skype or has the previous login session cached, classification might fail, enabling the user to login to Skype even when there is an application rule to deny Skype. Due to the adaptive nature of Skype, voice and video calls might not be wrongly classified at times, affecting bandwidth throttling and enforcement.
Speedtest.net	In certain geographical locations, speedtest.net uses an alternate port (TCP 8080) for the actual data test which can lead to classification failures.
Tor Browser	Proxying through Tor using proxy configuration or using the packaged Tor Browser does not get classified.
Carbonite	Carbonite application classification does not function as expected.
Google Drive	Google Drive application is part of the Google Docs application suite. This needs to be enabled to classify google drive.

This chapter provides information on the features and enhancements introduced in 6.4.2.0-4.1 and 6.4.x.x-4.1.x.x releases of Aruba Instant.

Features and Enhancements

The following features and enhancements were introduced in Instant 6.4.2.6-4.1.1.7 and later 6.4.x.x-4.1.x.x releases.

Support for New Access Points

Instant 6.4.2.0-4.1.1.0 introduces support for new IAP-200 Series and IAP-210 Series devices.

- The IAP-200 Series (IAP-204 and IAP-205) access points support the IEEE 802.11 ac and 802.11n standards for high-performance WLAN. It is a dual radio, 2x2:2 802.11 ac access point. These access points use MIMO (Multiple-Input, Multiple-Output) technology and other high-throughput mode techniques to deliver high-performance, 802.11n 2.4 GHz and 802.11 ac 5 GHz functionality while simultaneously supporting legacy 802.11 a/b/g wireless services. For more information about this product, visit arubanetworks.com.
- The IAP-210 Series (IAP-214 and IAP-215) access points support the IEEE 802.11 ac standard for high-performance WLAN. It is a 3x3 802.11 ac access point that uses MIMO (Multiple-Input, Multiple-Output) technology and other high-throughput mode techniques to deliver high-performance, 802.11 ac 2.4 GHz and 802.11 ac 5 GHz functionality while simultaneously supporting existing 802.11 a/b/g wireless services. For more information about this product, visit arubanetworks.com.

Enhancement for the AppRF Feed to AirWave

In this release, each IAP (Master or Slave) would post the AppRF key data it has collected over the 15 last minutes to the configured AirWave server. The data is posted only if DPI visibility and AirWave are configured.

Support for Separate RADIUS and Accounting Servers on IAPs

Starting with 6.4.2.0-4.1.1.0, Instant enables its users to configure RADIUS authentication servers and accounting servers separately on the IAP in the SSID profile.

Support for MAC Address Delimiter and Uppercase Characters for All Authentication Types

Starting with 6.4.2.0-4.1.1.0, Instant allows its users to configure the MAC address delimiter or use uppercase letters in a MAC address string for all authentication types. This configuration was previously available only for MAC authentication types.

Improved Troubleshooting Capabilities for IAP Clustering Issues

Under the following scenarios, Instant versions prior to 6.4.2.0-4.1.1.0 prevented the users from logging into the CLI and User Interface, making troubleshooting difficult.

- When the IAP cannot be a Master IAP due to the unavailability of an IP Address and also does not have an uplink connection.
- When the IAP is unable to join the cluster because of the missing country code, image, or SKU.
- If the user changes the authentication type from Local to a RADIUS Server when the RADIUS server is not ready.

- In the case of IAP-9x platforms, when the slave IAP may not be able to join the master IAP due to certain restrictions.
- If the IAP is not allowed to join the **allowed-ap-list** when **auto-join** has been disabled.
- In a mixed class network, when the slave IAPs join the master IAP with a different Instant version causing the image sync from the cloud and the AirWave to fail.
- When the user connects the E1 port of the IAP to a switch, and the IAP is running Instant 6.3.1.4-4.0.0.7 or earlier version.

Starting with 6.4.2.0-4.1.1.0 Instant will allow the user to login to the CLI and execute troubleshooting commands, however the following warning message would be displayed under the above mentioned scenarios:

Warning: CLI module is running in a degraded state. Some commands will not function.

AppRF

Starting with 6.4.2.6-4.1.1.7, Instant supports two AppRF feature sets: On-board Deep Packet Inspection (DPI) and cloud-based Web Policy Enforcement (WPE).

1. **Deep packet inspection:** IAPs with DPI capability analyze data packets to identify the applications in use, and allow you to create ACL rules to determine client access. The on-board firewall of the IAP performs the DPI function.
 - **Access control based on application and application category:** You can create firewall policies based application type and application categories. You can also define traffic shaping policies such as bandwidth controls and QoS per application. For example, you can block bandwidth-monopolizing applications on a guest role within an enterprise.
2. **Web Policy Enforcement:** When WPE is enabled, the IAP performs lookups against cloud-hosted services. This feature requires an annual per IAP subscription. Please contact the Aruba Instant sales team.
 - **Access control based on web-category and web-reputation:** You can create a firewall policy to allow or deny access based on a predefined list of website categories and reputation scores. For example, if you block the **web-based-email** category, clients who are assigned this policy will not be able to visit email-based websites such as mail.yahoo.com.

Application visibility: When **AppRF visibility** is enabled in the **System** window in the UI or through the **dpi** command in the CLI, the **AppRF** link appears in the UI when selecting an IAP from the main window. When clicked, the **AppRF** link displays the application traffic summary for IAPs and client devices. The AppRF dashboard presents four different graphs with a traffic mix based on **application**, **application category**, **web-category**, and **web-reputation**. Clicking on each category displays client traffic data in real-time or the usage trend in the last 15 minutes.

Based on the AppRF classification of an application, the IAP can enforce multiple actions, including blocking, QoS enforcement, and throttling.



The AppRF features are not supported on the IAP-92/93 platform. Access rule configuration and charts for applications and application categories are not supported on IAP-104/105, IAP-134/135, and RAP-3WN/3WNP platforms. Only the web category charts are displayed for these IAP models.

For more information on DPI and AppRF, see:

- *Deep Packet Inspection and Application Visibility* in the *Aruba Instant 6.4.0.2-4.1 User Guide*
- The **dpi**, **show dpi**, **show dpi-stats**, and **wlan access-rule** commands in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*

AirGroup Enhancements

Starting with 6.4.0.2-4.1, Instant supports Universal Plug and Play (UPnP) and Digital Living Network Alliance (DLNA) enabled devices. DLNA is a network standard derived from UPnP, which enables devices to discover the services available in a network. DLNA also provides the ability to share data between the Windows or Android based multimedia devices. All the features and policies applicable to mDNS are extended to DLNA to ensure full interoperability between compliant devices.

With DLNA support, the following services are available for the IAP clients:

- DLNA Media—Applications such as Windows Media Player use this service to browse and play media content on a remote device.
- DLNA Print—This service is used by printers that support DLNA.

For more information on DLNA and how to enable DLNA services, see:

- *Configuring AirGroup and AirGroup Services on an IAP* in the *Aruba Instant 6.4.0.2-4.1 User Guide*
- The **airgroup**, **airgroupservice**, and **show airtgroup** commands in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*

Support for New Access Points

This release adds Instant support for IAP-270 series and IAP-103 devices.

- The IAP-270 series (IAP-274 and IAP-275) are environmentally hardened, outdoor rated, dual-radio IEEE 802.11 ac wireless access points. These access points use MIMO (Multiple-Input, Multiple-Output) technology and other high-throughput mode techniques to deliver high-performance, 802.11 ac 2.4 GHz and 5 GHz functionality while simultaneously supporting existing 802.11 a/b/g/n wireless services.
- The IAP-103 wireless access point supports the IEEE 802.11 n standard for high-performance WLAN. This access point uses MIMO (Multiple-Input, Multiple-Output) technology and other high-throughput mode techniques to deliver high performance, 802.11 n 2.4 GHz or 5 GHz functionality while simultaneously supporting existing 802.11 a/b/g wireless services.

For more information about these products, visit www.arubanetworks.com.

Configurable DSCP Mapping Values for WMM Access Categories

Starting with 6.4.0.2-4.1, Instant supports customized mapping between Wi-Fi Multimedia and DSCP tags for upstream (client to IAP) and downstream (IAP to client) traffic.

DSCP classifies packets based on network policies and rules. You can customize the mapping values between WMM ACs and DSCP tags to prioritize various traffic types and apply these changes to a WMM-enabled SSID profile. When WMM AC mappings values are configured, all packets received are matched against the entries in the mapping table and prioritized accordingly.

The following table shows the default WMM AC to DSCP decimal mappings and the recommended WMM AC to DSCP mappings.

Table 8: *Default WMM-DSCP Mapping*

DSCP Decimal Value	WMM Access Category
8	Background
16	
0	Best effort
24	
32	Video
40	
48	Voice
56	

For more information on configuring DSCP mapping values, see:

- *Wi-Fi Multimedia Traffic Management* in the *Aruba Instant 6.4.0.2-4.1 User Guide*
- The **wlan ssid-profile** command in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*

Console Access to IAP

You can use the UI or CLI to allow or restrict access to an IAP console through the serial port. By default, the console access to an IAP is enabled.

To disable console access to an IAP:

- In the UI, navigate to **System > General > Show advanced options** and select **Disabled** from the **Console** access drop-down.
- In the CLI, run the following commands:

```
(Instant AP) (config)# console
(Instant AP) (console)#
```

Instant UI Changes

Starting with Instant 6.4.0.2-4.1, the **DHCP** tab for configuring a default DHCP scope for Virtual-Controller managed networks is no longer available in the **System** window of the Instant UI. The default DHCP scope configuration options are now available in the **DHCP Server** window. To open the **DHCP Server** window, navigate to **More > DHCP Server**.

The **VLAN** tab of the WLAN SSID configuration wizard allows you create a customized DHCP scope to configure a Virtual Controller managed IP and VLAN assignment mode. On selecting the **Virtual Controller managed** option for **Client IP assignment**, the following client VLAN assignment options are displayed:

- **Default:** When selected, the default VLAN as determined by the Virtual Controller is assigned for clients.
- **Custom:** On selecting this, you can either select an existing DHCP scope or create a new DHCP scope by clicking **New**.

For more information, see the following in the *Aruba Instant 6.4.0.2-4.1 User Guide*:

- *Configuring VLAN Settings for a WLAN SSID Profile*

- *DHCP Configuration*

Full Tunnel-Mode VPN Configuration

Starting with Instant 6.4.0.2-4.1, you can disable split-tunnel configuration for the centralized, L2 subnets. When split-tunnel is enabled, a VPN user can access a public network and a local LAN or WAN network at the same time through the same physical network connection. By default, the split-tunnel function is enabled for all centralized, L2 DHCP profiles.

When split-tunnel is disabled, all the traffic including the corporate and Internet traffic is tunneled irrespective of the routing profile specifications. If the GRE tunnel is down and when the corporate network is not reachable, the client traffic is dropped.

For more information on disabling split-tunnel, see:

- *Configuring Centralized DHCP Scope* in the *Aruba Instant 6.4.0.2-4.1 User Guide*
- The **ip dhcp** command in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*

Inbound Firewall

Starting with Instant 6.4.0.2-4.1, you can configure firewall rules for the inbound traffic coming through the uplink ports of an IAP. The rules defined for inbound traffic are applied if the destination is not a user connected to the IAP. If the destination already has a user role assigned, the user role overrides the actions or options specified in inbound firewall configuration. However, if a deny rule is defined for the inbound traffic, it is applied irrespective of the destination and user role. Unlike the ACL rules in a WLAN SSID or wired profile, the inbound firewall rules can be configured based on the source subnet.

For all subnets, a deny rule is created by default as the last rule. If at least one rule is configured, the deny all rule is applied to the upstream traffic by default.



Management access to the AP is allowed irrespective of the inbound firewall rule. For more information on configuring restricted management access, see *Configuring Management Subnets* in *Aruba Instant 6.4.0.2-4.1 User Guide*.

The inbound firewall is not applied to traffic coming through GRE tunnel.

For more information, see:

- *Configuring Inbound Firewall Rules* in the *Aruba Instant 6.4.0.2-4.1 User Guide*
- The **inbound-firewall** and **show inbound-firewall-rules** commands in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*

Fast Roaming Enhancements

Starting with 6.4.0.2-4.1, Instant supports 802.11k (Radio Resource Management) and 802.11v (BSS Transition Management) standards to improve Quality of Service (QoS) and seamless connectivity.

The 802.11k protocol provides mechanisms for APs and clients to dynamically measure the available radio resources and enables stations to query and manage their radio resources. In an 802.11k enabled network, APs and clients can share radio and link measurement information, neighbor reports, and beacon reports with each other. This allows the WLAN network infrastructural elements and clients to assess resources and make optimal mobility decisions to ensure Quality of Service (QoS) and seamless continuity.



Ensure that the client match feature is enabled to allow AP and clients to exchange neighbor reports.

The 802.11v standard provides Wireless Network Management enhancements to the IEEE 802.11 MAC and PHY. It extends radio measurements to define mechanisms for wireless network management of stations including BSS transition management. IAPs support the generation of the BSS transition management request frames to the 802.11k clients when a suitable AP is identified for a client through client match.

For information on configuring a WLAN SSID for 802.11k and 802.11v support, see:

- *Configuring Fast Roaming for Wireless Clients* in the *Aruba Instant 6.4.0.2-4.1 User Guide*
- The **wlan ssid-profile** command in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*

Support for 4G Modems

Instant 6.4.0.2-4.1 adds support for the following 4G modems:

- Netgear Aircard 341 u
- Pantech UML295
- Franklin Wireless u770
- Huawei 3276s-150

For information on configuring modems to enable 3G or 4G uplink, see:

- *Cellular Uplink* in the *Aruba Instant 6.4.0.2-4.1 User Guide*
- The **cellular-uplink-profile** command in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*

Client Match Enhancements

Starting with Instant 6.4.0.2-4.1, in addition to dynamic load balancing, sticky clients, and band steering, the following conditions trigger client match to allow the clients to be moved from one AP to another for better performance.

- **Channel Utilization:** Based on the percentage of channel utilization, clients are steered from a busy channel to an idle channel.
- **Client Capability Match:** Based on the client capability match, clients are steered to appropriate channel, for example HT20, HT40, or VHT80.

If client match is enabled, you can also view a graphical representation of the radio map of an AP and the client distribution on an AP radio.

- Select an access point in the **Access Points** tab and the **Client Match** link, to display a stations map view and a graph with real-time data points for the AP radio. If the AP supports dual band, you can toggle between 2.4GHz and 5 GHz links in the client match graph area to view the data. When you hover the mouse on the graph, details such as RSSI, client match status, and the client distribution on channels are displayed.
- Select a client in the **Clients** tab and the **Client Match** link, to display a graph with real-time data points for an AP radio map. When you hover the mouse on the graph, details such as RSSI, channel utilization details, and client count on each channel are displayed.

For more information on client match configuration and visualization, see the *Aruba Instant 6.4.0.2-4.1 User Guide*.

Sourcing Virtual Controller Traps from the Virtual Controller IP

Starting with Instant 6.4.0.2-4.1, if the Virtual Controller IP is configured, traps are generated from the Virtual Controller IP. However, the source IP address for the interface up and interface down traps is the AP IP address.

The **sysObject** OID object is enhanced to return information on Virtual Controller. Generally, the **sysObjectID** returns OIDs for a specific model number of the device within the IAP product family. When an SNMP query is performed for this object on an AP IP address (either master IAP or slave IAP IP address), information on AP type is retrieved. However, if the query is performed on a Virtual Controller IP address, information on the IAP acting as the Virtual Controller is displayed.

For example, if an IAP-135 is the master IAP, a query on this IAP returns the iso.org.dod.internet.private.enterprise.aruba.products.apProducts.ap135 (1.3.6.1.4.1.14823.1.2.48) result. Similarly, a query on the Virtual Controller IP returns the OID details with **iapvc**.

For more information on SNMP traps and MIB objects, see *Aruba Instant 6.4.0.2-4.1 MIB Reference Guide*.

Support for TACACS+ Servers

In Instant 6.4.0.2-4.1, a new external server is added to support authentication and accounting privileges for management users. The users can create several TACACS+ server profiles, out of which one or two of the servers can be specified to authenticate management users.

If two TACACS+ servers are configured as authentication servers, the users can use them as primary and backup servers or in the load balancing mode.

TACACS+ servers can also be used along with RADIUS servers. For example, you can use a TACACS server as the primary server and a RADIUS server as the backup server. IAPs also support the TACACS+ accounting feature that reports management commands to TACACS+ servers through console port, Telnet, SSH, web, and Cloud,



The TACACS+ accounting option is available only if one of the specified servers is a TACACS+ server.

For more information on TACACS+ Server and TACACS+ accounting, see:

- *Supported Authentication Servers, Configuring an External Server for Authentication* in the *Aruba Instant 6.4.0.2-4.1 User Guide*.
- The **wlan tacacs-server**, **show tacacs server**, and **mgmt-accounting** commands in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*.

Integration with an XML API Interface

Starting with Instant 6.4.0.2-4.1, IAPs can be integrated with an XML API Interface by sending specific XML commands to the IAP from an external server. These commands can be used to add, delete, authenticate, query, or blacklist a user or a client.

For more information on XML API, see:

- *Integrating an IAP with an XML API interface* in the *Aruba Instant 6.4.0.2-4.1 User Guide*.
- The **xml-api-server**, **show xml-api-server** commands in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*.

Backup RADIUS Server Configuration with Termination Enabled

By default, for 802.1X authorization, the client conducts an EAP exchange with the RADIUS server, and the AP acts as a relay for this exchange. When **Termination** is enabled, the IAP by itself acts as an authentication server and terminates the outer layers of the EAP protocol, only relaying the innermost layer to the external RADIUS server. You can now configure two RADIUS servers for a WLAN SSID when EAP termination is enabled and use these servers in the primary and backup mode.

For more information, see *Configuring 802.1X Authentication for a Wireless Network Profile* in the *Aruba Instant 6.4.0.2-4.1 User Guide*.

AP Zone Configuration

Starting with 6.4.0.2-4.1, you can configure zone settings for an IAP. The same zone information can be configured on a WLAN SSID, so that the SSID can be broadcast on the IAP.

The following constraints apply to the AP zone configuration:

- An IAP can belong to only one zone and only one zone can be configured on an SSID.
- If an SSID belongs to a zone, all IAPs in this zone can broadcast this SSID. If no IAP belongs to the zone configured on the SSID, the SSID is not broadcast.
- If an SSID does not belong to any zone, all IAPs can broadcast this SSID.

For information on configuring an AP zone, see:

- *Configuring Zone Settings on an IAP* and *Configuring WLAN Settings for an SSID Profile* in the *Aruba Instant 6.4.0.2-4.1 User Guide*
- The **zonename** and **wlan ssid-profile** commands in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*

Authentication Survivability with EAP-TLS

In Instant 6.4.0.2-4.1, the authentication survivability feature is enhanced to support EAP-TLS authentication protocol. The authentication survivability feature supports a survivable authentication framework against the remote link failure when working with the external authentication servers. When enabled, this feature allows the IAPs to authenticate the previously connected clients against the cached credentials if the connection to the authentication server is temporarily lost.



For EAP-PEAP authentication, ensure that CPPM 6.0.2 or later is used for authentication. For EAP-TLS authentication, any external or third-party server can be used.

For EAP-TLS authentication, ensure that the server and CA certificates from the authentication servers are uploaded on IAP. For more information, see *Uploading Certificates* in *Aruba Instant 6.4.0.2-4.1 User Guide*.

The **show auth-survivability** command is also enhanced to display debug logs for troubleshooting issues. For more information, see:

- *Support for Authentication Survivability* in the *Aruba Instant 6.4.0.2-4.1 User Guide*.
- The **show auth-survivability** command in the *Aruba Instant 6.4.0.2-4.1 CLI Reference Guide*

Support for 128 ACL Rules

Starting with Instant 6.4.0.2-4.1 release, you can now configure up to 128 ACL rules for a wired or wireless profile through the WLAN wizard or wired user role through the UI and CLI.

- To configure ACL rules for an SSID or wired port profile role in the CLI, use the **wlan access-rule** command.
- To configure ACL rules in the UI, navigate to **Security > Roles**. Select the role and click **New** under **Access Rules**.

Configurable Port for Communication between AirWave Management Server and IAP

Starting with Instant 6.4.0.2-4.1, you can now customize the port number of the AirWave management server through the server_host:server_port format.

For more information on managing an IAP through AirWave, see *Managing IAP from AirWave* in *Aruba Instant 6.4.0.2-4.1 User Guide*.

Disabling of Bridging and Routing Traffic between Clients Connected to an SSID

Starting with Instant 6.4.0.2-4.1, you can now disable bridging and routing traffic between two clients connected to an SSID. When inter-user bridging and local routing is denied, the clients can connect to the Internet but cannot communicate with each other, and the bridging and routing traffic between the clients is sent to the upstream device to make the forwarding decision.

To deny inter-user bridging and local routing for the WLAN SSID clients, run the following commands at the CLI:

```
(Instant AP) (config)# wlan ssid-profile <ssid-profile>
(Instant AP) (SSID Profile <ssid-profile>)# deny-inter-user-bridging
(Instant AP) (SSID Profile <ssid-profile>)# deny-local-routing
(Instant AP) (SSID Profile <ssid-profile>)# end
(Instant AP)# commit apply
```

NTP Server Configuration Options

The Network Time Protocol (NTP) helps obtain the precise time from a server and regulate the local time in each network element. Connectivity to a valid NTP server is required to synchronize the IAP clock to set the correct time. If NTP server is not configured in the IAP network, an IAP reboot may lead to variation in time data.

By default, the IAP tries to connect to **pool.ntp.org** to synchronize time. A different NTP server can be configured either from the UI or from management platforms such as Central. It can also be provisioned through the DHCP option 42. If the NTP server is configured, it takes precedence over the DHCP option 42 provisioned value. The NTP server provisioned through the DHCP option 42 is used if no server is configured. The default server pool.ntp.org is used if no NTP server is configured or provisioned through DHCP option 42.

Change in Extended SSID Factory Default Settings

Starting with Instant 6.4.0.2-4.1, extended SSID is enabled by default in the factory default settings of Instant APs. This disables mesh in the factory default settings.

Support for Read-Only Users to Access CLI

Starting with Instant 6.4.0.2-4.1, read-only users can access the IAP CLI through telnet, SSH, or console.

Enhancement to the Client Match Maximum Threshold Limit

Starting with Instant 6.4.0.2-4.1, the maximum threshold limit for Client Match is set to 255. The previous maximum threshold value was 20.

Regulatory Updates

Table 9: Regulatory Domain Updates

Regulatory Domain	Description
Mexico	Support for all shipping IAPs.
Australia, New Zealand, and Canada	Support for IAP-275 platform.
Australia, New Zealand, and India	Support for IAP-103 platform.

Reintroducing IAP-92/93 in Aruba Instant 6.4.0.3-4.1.0.1 and future 6.4.x.x-4.1.x.x releases

Support for IAP-92/93 is reintroduced in Instant 6.4.0.3-4.1.0.1 and will continue in future 6.4.x.x-4.1.x.x releases. However, the following features are no longer available for IAP-92/93 in 6.4.x.x-4.1.x.x releases:

- AirGroup
- Internal RADIUS server for 802.1x authentication
- EAP Termination
- Authentication Survivability
- LLDP integration

The features listed above may be configured through Instant CLI/Web UI and AirWave Management Platform, but will have no effect on IAP-92/93. In a cluster running Instant 6.4.x.x-4.1.x.x, only IAP-92/93 will have the above limitations.

In order to conserve memory, IAP-92/93 is now restricted to a single active CLI session, either through a console, SSH, or telnet. An error message **"All CLI sessions are in use"** is displayed if the user attempts to open multiple sessions.

Security Update

As part of [CVE-2014-3566](#) security vulnerabilities and exposures, SSLv3 transport layer security is disabled from Instant 6.4.2.0-4.1.1.1 release. Clients using SSLv3 will not be able to access captive portal or Instant UI. Instead of SSLv3, use TLS1.0 transport security or later versions.

Addition of NOTICE Syslog Message

In the 6.4.2.0-4.1.1.1 release, when a new user is added or deleted, a syslog NOTICE message with the IP and MAC address of the client is generated.

Age Field in RSSI Entry Sent to ALE Server

In the 6.4.2.0-4.1.1.1 release, the **Age** field is added to the RSSI entry in the data sent from the IAP to the ALE server, to ensure that the information pertaining to the aged clients are discarded from the ALE database.

Support for Proxy-based Servers for AirGroup Clients

Starting from the 6.4.2.3-4.1.1.2 release, IAPs support proxy based servers such as Printopia or PaperCut. With this enhancement, AirGroup can discover services that are advertised by the proxy servers.

Enhancements to AppRF Data for IAPs Managed by AirWave

The AirWave managed IAPs can now send the destination details in the AppRF data to the AMP. Ensure that you use AirWave 8.0.6.1 with the IAPs running 6.4.2.3-4.1.1.2 to view the historical statistics of an AirWave managed IAP. However, the AirWave 8.0.6.1 version does not display the web category and web-reputation data sent from an IAP.

Security Update

In the 6.4.2.3-4.1.1.2 release, a potential crash in a management process is fixed.

Enhancements to EAP Request Retry Time

In the 6.4.2.3-4.1.1.2 release, the EAP retry time is reduced from 30 seconds to 5 seconds. With this enhancement, if the IAP does not receive an EAP-response from the client within 5 seconds, it resends the EAP-request, to ensure that the 802.11X client authentication is not delayed.

Resolved Issues in 6.4.2.6-4.1.1.6

The following issues were fixed in the 6.4.2.6-4.1.1.6 release.

3G / 4G Management

Table 10: 3G / 4G Management Fixed Issue

Bug ID	Description
115556	<p>Symptom: The Usblnit information in the XML file of the modem was out of date. This information has now been updated.</p> <p>Scenario: This issue occurred when a cellular device was used as the IAP uplink. This issue was observed in IAPs running 6.4.0.2-4.1 release.</p>

AirGroup

Table 11: AirGroup Fixed Issue

Bug ID	Description
113888	<p>Symptom: The Autograph service was blocked even though it was enabled in the AirGroup configuration. The fix ensures that the IAP can handle the mDNS query packets that are case-sensitive.</p> <p>Scenario: This issue was observed in IAP-134/135 devices running Instant 6.4.2.3-4.1.1.5 or earlier versions.</p>

AP Platform

Table 12: AP Platform Fixed Issues

Bug ID	Description
115475	<p>Symptom: An increase in memory utilization was observed when the IAP received GVRP packets continuously. A change in the code has resolved the issue pertaining to memory leak.</p> <p>Scenario: This issue was observed on all IAPs running Instant 6.4.2.3-4.1.1.5 or earlier versions.</p>
105732	<p>Symptom: When IAP-22x series devices were connected to the network, the Link Aggregation Control Protocol (LACP) was not enabled on the IAP. The fix ensures that LACP is enabled on the IAP when it receives an LACP Protocol Data Unit (PDU).</p> <p>Scenario: This issue was found in IAP-22x series access points running Instant 6.4.2.3-4.1.1.5 release or earlier versions.</p>
113031	<p>Symptom: IAP was unable to form a cluster with LACP enabled on HP switches. The fix ensures that the IAPs form a cluster when LACP is enabled on HP switches.</p> <p>Scenario: This issue occurred when the LACP PDU from the HP switch was missing in the IAP. This issue was observed on all IAPs supporting LACP when connected to a HP switch.</p>
115990	<p>Symptom: IAPs rebooted continuously after multiple printing requests were received. This issue is resolved by adding a rate limit for print requests.</p> <p>Scenario: This issue was not limited to a specific IAP platform or software version.</p>

AppRF

Table 13: AppRF Fixed Issue

Bug ID	Description
109182	<p>Symptom: DPI classification failed for DHCP profiles associated with local and guest VLANs. This issue is resolved by passing the DPI classification for DPI ACEs and additionally, fixing the enforcement logic to adopt application classification.</p> <p>Scenario: This issue occurred when the client received an IP address from the guest or the local VLAN pool and the pre-classification permitted traffic instead of SNAT, thereby blocking the DPI classification. This issue was observed in all IAPs running Instant 6.4.0.2-4.1 release or later versions.</p>

Authentication

Table 14: Authentication Fixed Issues

Bug ID	Description
113658	<p>Symptom: IAPs sent accounting request without class ID to the authentication servers. This issue is resolved by extending the length of the class ID returned by the RADIUS server.</p> <p>Scenario: This issue occurred when the length of the class ID returned by the RADIUS server exceeded the 64 bytes limit. This issue was not limited to a specific IAP platform or software release version.</p>
114131	<p>Symptom: The master IAP was unable to send out packets to the RADIUS authentication server. The fix ensures that the RADIUS packets are delivered to the authentication server.</p> <p>Scenario: This issue was not limited to a specific IAP model or software version.</p>
111025	<p>Symptom: EAP-TTLS authentication failed for an IAP client when termination was enabled. This issue is resolved by introducing a change to handle the EAP-TTLS authentication when termination is enabled.</p> <p>Scenario: This issue was observed in IAPs running Instant 6.4.2.0-4.1.1.0 release.</p>
113660	<p>Symptom: If the IAP client did not have a valid IP address assigned, IAPs delayed sending the accounting packets to the authentication server. The ip-ready flag is added in the output of the show clients status <client-mac> command to indicate if the IAP clients have a valid IP address.</p> <p>Scenario: This issue was not limited to any specific IAP platform or software version</p>

Captive Portal

Table 15: Captive Portal Fixed Issue

Bug ID	Description
113774	<p>Symptom: For WISPr clients, the location header displayed the host name, instead of the location URL. The fix ensures that the valid redirect URLs are added in the HTTP header.</p> <p>Scenario: This issue occurred when WISPr was enabled on the IAP and a WISPr client is connected. This issue was not limited to a specific IAP model or software version.</p>

Content Filtering

Table 16: Content Filtering Fixed Issue

Bug ID	Description
112396	<p>Symptom: IAPs sent user notice level and syslog notice level messages twice everytime an L3 client entry was created or modified. The fix ensures that the IAP does not send duplicate alerts.</p> <p>Scenario: This issue was not limited to a specific IAP model or software version.</p>

Datapath

Table 17: *Datapath / Firewall Fixed Issues*

Bug ID	Description
112948	<p>Symptom: Changes to the bandwidth limit were not applied to the existing clients on the guest VLAN. A change in the bandwidth contract assignment process has resolved this issue.</p> <p>Scenario: This issue occurred when the bandwidth limit was updated for connected clients and was observed in IAPs running Instant 6.4.2.0-4.1.1.2 release.</p>
112951	<p>Symptom: Although appropriate bandwidth limit was set for the clients, the clients connected to an SSID could use a higher bandwidth than assigned values. A change in the bandwidth contract assignment process has fixed this issue.</p> <p>Scenario: This issue occurred when two or more clients were associated to a SSID. This issue was observed in IAPs running Instant 6.4.2.0-4.1.1.2 release.</p>
116275	<p>Symptom: The IAP network experienced connectivity issues. This issue is resolved by ensuring that the stale datapath user entries are not created when AirGroup DLNA services are enabled.</p> <p>Scenario: This issue occurred when DLNA services and ARP poison check were enabled at the same time, with more than two IAPs in a cluster. This issue was observed in IAPs running Instant 6.4.2.3-4.1.1.3 or later versions.</p>

DHCP Server

Table 18: *DHCP Server Fixed Issues*

Bug ID	Description
107678	<p>Symptom: Dnsmasq restarts randomly when the Excluded address option is configured on a DHCP scope. Addressing a logical issue in the subnet manipulation has resolved this issue.</p> <p>Scenario: This issue was observed in IAPs running Instant 6.4.2.0-4.1.1.2 release.</p>
111753	<p>Symptom: The DHCP server could not check for duplicate network configuration. The fix ensures that the network checks are enabled for local DHCP, guest VLAN, Bridge and PPPoE connections.</p> <p>Scenario: This issue was not limited to a specific IAP model or software release version.</p>

GRE

Table 19: *GRE Fixed Issue*

Bug ID	Description
111866	<p>Symptom: After the reboot, IAPs were unable to re-register and establish a VPN tunnel connection. The fix ensures that a VPN connection is successfully established after the IAP reboots.</p> <p>Scenario: This issue was observed in IAPs running Instant 6.4.2.0-4.1.1.2 release or later versions.</p>

PPPoE

Table 20: *PPPoE Fixed Issue*

Bug ID	Description
110472	<p>Symptom: The PPPoE connection on an IAP could not be established. The fix ensures that the IAP CLI establishes a new PPPoE connection when the PPPoE process is down.</p> <p>Scenario: This issue occurred when the IAP CLI could not recognize that the PPPoE process was down and kept waiting for the connection to be re-established. This issue was found in IAPs with PPPoE uplink configured and was not limited to any specific release version.</p>

SNMP

Table 21: *SNMP Fixed Issue*

Bug ID	Description
117918	Symptom: IAPs could not send traps to custom ports such as 52522. The fix ensures that the length of the destination address string is checked to distinguish IPv6 or IPv4. Scenario: This issue occurred when the port information was stored in ASCII strings instead of the numeric octets of the individual bytes with the port number. Due to this, the IAPs considered the port address as an IPv6 address and did not send the traps. This issue was found in IAPs running 6.4.2.3-4.1.1.5 or earlier versions.

Wi-Fi Driver

Table 22: *Wi-Fi Driver Fixed Issues*

Bug ID	Description
109244	Symptom: Motorola™ scanners experienced connectivity issues when roaming from one IAP to another in a cluster. This issue is resolved by modifying the logic of the respective IAP code. Scenario: This issue was observed in all IAPs running 6.4.2.3-4.1.1.5 release or earlier versions.
115254	Symptom: The time stamp in beacon for the IAP-115 2.4 GHz radio was automatically reset. This issue is resolved by restoring the Time Synchronization Function (TSF) if it was lost during chip reset. Scenario: This issue occurred when Scanning was enabled and a 2.4GHz SSID was created. This issue was observed in IAP-115 running Instant 6.4.0.3-4.1.0.1 or later release versions.

Resolved Issues in 6.4.2.3-4.1.1.5

The following issue was fixed in the 6.4.2.3-4.1.1.5 release.

Aruba Central

Table 23: *Aruba Central Fixed Issue*

Bug ID	Description
115562	Symptom: IAPs disconnected randomly from the Central server after sending the <i>event</i> message to Central. This issue is resolved by introducing a change in the content length of the <i>event</i> message. Scenario: This issue occurred when the IAPs sent the <i>event</i> message with incorrect content length to Central. Due to this issue, the Central UI frequently displayed the VCs disconnected alert message and the IAPs automatically disconnected and then reconnected to Central. This issue is found in IAPs running 6.4.2.3-4.1.1.2 or later release versions.

Resolved Issues in 6.4.2.3-4.1.1.4

The following issue was fixed in the 6.4.2.3-4.1.1.4 release.

AirWave, Aruba Central, and Aruba Activate

Table 24: *AirWave, Aruba Central, and Aruba Activate Fixed Issue*

Bug ID	Description
115436	<p>Symptom: IAPs could not establish an HTTPS connection to the external servers with mutual authentication. Although IAPs operated normally from a wireless infrastructure standpoint, communication to a configuration management or provisioning server using SSL was lost. This issue is now resolved.</p> <p>Scenario: This issue was found in IAPs that were trying establish an HTTPS session with the Activate, Central, or AirWave server by using certificate-based authentication instead of the traditional PSK-based authentication.</p>

Resolved Issues in 6.4.2.3-4.1.1.3

The following issues are fixed in the 6.4.2.3-4.1.1.3 release.

AP Platform

Table 25: *AP Platform Fixed Issues*

Bug ID	Description
111890	<p>Symptom: The Virtual Controller in a cluster of IAP-225 devices was not reachable. A change in the DHCP assignment process has resolved this issue.</p> <p>Scenario: This issue was found in IAP-225 devices running 6.4.2.3-4.1.1 or later versions when the IAPs in a cluster assumed IP addresses outside the scope of the VLANs assigned for the IAP network. Due to this, the master IAP console and GUI could not be accessed.</p>
112353	<p>Symptom: When the LAN link speed was 10 Mbps or half of it, the IAP-105 devices were unable to send packets when booting for the first time after a factory reset. This issue is resolved by making a change in the IAP code.</p> <p>Scenario: This issue was observed in IAP-105 access points running Instant 6.4.2.3-4.1.1.2 release or earlier versions.</p>

AirGroup

Table 26: *AirGroup Fixed Issue*

Bug ID	Description
113491	<p>Symptom: The users were not able to add AirGroup service IDs through the IAP UI or CLI. Increasing the service ID string limit to 128 characters has resolved this issue.</p> <p>Scenario: This issue occurred when the service ID string added by the user contained more than 32 characters. The issue was not limited to any specific IAP platform or Instant release version.</p>

AirWave

Table 27: *AirWave Fixed Issue*

Bug ID	Description
112853	<p>Symptom: The IAPs in the Air Monitor mode sent inaccurate transmission power information to the AirWave management server. This issue is resolved by making a change in the content of the information sent to the AirWave server.</p> <p>Scenario: This issue occurred when the AirWave managed IAP was set to function in the Air Monitor mode and was found in IAPs running Instant 6.4.0.2-4.1.0.x or later releases.</p>

AppRF

Table 28: *AppRF Fixed Issues*

Bug ID	Description
111993	Symptom: AppRF did not display any data on an SSID if the SSID name contained spaces. A change in the AppRF chart data matching has resolved this issue. Scenario: This issue was found in IAPs running Instant 6.4.2.0-4.1.1.2 release.
113028	Symptom: An increase in the memory utilization was observed when AppRF was enabled on an IAP. A change in the code has resolved the issue pertaining to memory leak. Scenario: This issue occurred when AppRF was enabled and was found in IAPs running Instant 6.4.0.2-4.1.x.x releases.

ARM

Table 29: *ARM Fixed Issues*

Bug ID	Description
112117	Symptom: When the 80 MHz support was enabled on an IAP, only 36E was selected as a valid channel. To resolve this issue, a change in the IAP code is made to add all the correct channels in the allowed channels list for VHT80. Scenario: This issue was observed in IAP-22x and IAP-27x devices running 6.4.2.3-4.1.1.2 release when ARM was enabled on an IAP to allocate 80 MHz channels.
112398	Symptom: The IAP radio stopped working when detecting radar signal on the DFS channel. This issue is resolved by fixing a logical error. Scenario: This issue was observed in IAP-205, IAP-215, IAP-225, and IAP-275 devices running Instant 6.4.2.3-4.1.1.2 release.
113395	Symptom: IAPs operated with a higher transmission power. This issue is resolved by assigning default values to the new parameters that were introduced as part of the upgrade. Scenario: This issue occurred because the default values were not applied to the newly added parameters after an IAP upgrade. The issue was found in IAPs running Instant 6.4.2.0-4.1.1.2 release.

Authentication

Table 30: *Authentication Fixed Issues*

Bug ID	Description
112113	Symptom: IAPs did not support the intermediate CA certificate. The intermediate CA certificates are now supported. Scenario: This issue was found in IAPs running Instant 6.3.1.1-4.0.0.x or 6.4.2.0-4.1.x.x releases.
113004	Symptom: Client authentication against the internal server of an IAP failed. A change in processing OIDs in certificates for client authentication has resolved this issue. Scenario: This issue occurred when EAP-TLS termination security setting was configured on an SSID and the client certificates included certain OIDs that could not be processed. The issue was found in IAPs running Instant 6.4.2.0-4.1.1.2 release.
112883	Symptom: IAPs sent accounting STOP request only after the session timeout interval elapsed. A change in the accounting module has resolved this issue. Scenario: This issue occurred when external captive portal was configured on the IAPs running Instant 6.4.2.0-4.1.1 release.

Captive Portal

Table 31: *Captive Portal Fixed Issue*

Bug ID	Description
111601	<p>Symptom: When a customized logo for captive portal was added to an IAP-225 device, the slave IAPs moved out of the IAP cluster. A change in image file synchronizing process has resolved this issue.</p> <p>Scenario: This issue occurred when a captive portal logo was uploaded on the IAP with restricted access to IAP management (the restricted-mgmt-access command) configured. This issue was observed in IAPs running Instant 6.3.1.1-4.0 or later releases.</p>

DHCP Configuration

Table 32: *DHCP Configuration Fixed Issues*

Bug ID	Description
111747	<p>Symptom: The local I2 DHCP scope configuration details were not displayed in the IAP UI. The local I2 DHCP configuration details are now displayed through the IAP UI and CLI.</p> <p>Scenario: This issue was not limited to a specific IAP platform or Instant release version.</p>
111749	<p>Symptom: The local DHCP scope configuration was incomplete without Default Router, Excluded address and Lease time settings in the UI. The fix ensures that the complete configuration is displayed in the UI.</p> <p>Scenario: This issue was not limited to a specific IAP model or Instant release version.</p>

PPPoE

Table 33: *PPPoE Fixed Issue*

Bug ID	Description
112394	<p>Symptom: The PPPoE connection could not be established when the username string for the IAP login contained the # character. The fix allows the users to include the # character in the username string.</p> <p>Scenario: This issue was not limited to a specific IAP platform or Instant release version.</p>

SNMP

Table 34: *SNMP Fixed Issue*

Bug ID	Description
111574	<p>Symptom: The IAP-224/225 devices returned the output as zero while retrieving data from the ifTable. The fix ensures that the correct output is received on querying the ifTable.</p> <p>Scenario: This issue was observed on IAP-224/225 devices running Instant 6.4.2.3-4.1.1.2 release.</p>

STM

Table 35: *STM Fixed Issue*

Bug ID	Description
113152	<p>Symptom: A higher CPU utilization was observed in IAPs. This issue is resolved by restricting the Wi-Fi drivers from sending messages pertaining to client roaming when fast roaming is not enabled on an SSID.</p> <p>Scenario: This issue occurred because the Wi-Fi drivers sent incorrect message requests to the STM process, which in turn sent incorrect PAPI messages. The issue was observed in IAPs running Instant 6.4.0.2-4.1.x.x releases.</p>

Wi-Fi Driver

Table 36: *Wi-Fi Driver Fixed Issues*

Bug ID	Description
112960	<p>Symptom: Client devices experienced connectivity issues due to a mismatch in the sequence number between the AP and the client. A change in code has resolved this issue.</p> <p>Scenario: This issue occurred when the MPDU aggregation was enabled and was not limited to any specific AP platform or release version.</p>
113381	<p>Symptom: Wireless client devices connected to 802.11ac access points experienced connectivity loss. This issue is resolved by introducing a change in the code that clears old entries pertaining to de-authenticated clients from the AP callback table.</p> <p>Scenario: This issue occurred when the old entries in the AP callback table were not cleared and was found in APs running ArubaOS 6.4.2.3.</p>

Resolved Issues in 6.4.2.3-4.1.1.2

The following issues are fixed in the 6.4.2.3-4.1.1.2 release.

AP Platform

Table 37: *Access Point Fixed Issues*

Bug ID	Description
108725	<p>Symptom: A higher CPU utilization was observed in some IAP models when the captive portal clients continuously sent more than 12 HTTPS requests per second. This issue is resolved by making a change in the code to throttle HTTPS requests.</p> <p>Scenario: This issue occurred when the guest clients sent more number of HTTPS requests. This issue was observed in IAP-93, IAP-105, and IAP-175 devices running 6.3.1.1-4.0 or later versions.</p>
104947	<p>Symptom: A RAP-109 was unable to send or receive data packets through the Ethernet0 port. The fix ensures that the IAP reboots when it stops sending or receiving packets through Ethernet0 port for about six minutes.</p> <p>Scenario: This issue was not limited to a specific IAP model or software release version.</p>
110994	<p>Symptom: An IAP-225 device crashed and rebooted. A change in the internal IAP code has resolved this issue.</p> <p>Scenario: This issue was found in an IAP cluster with IAP-225 and IAP-275 devices running 6.4.2.0-4.1.1 release.</p>

Bug ID	Description
111019	<p>Symptom: The client Idle time in the show ap debug client-table ap-name command output was not reset when APs received null data packets. This issue is resolved by updating an internal module.</p> <p>Scenario: This issue occurred when Station Control Block (SCB) was not updated with the time stamp on receiving any packet from the client. This issue was found in IAP-224/225 devices running 6.4.2.0-4.1.1.1 or later.</p>
111418	<p>Symptom: The IAP-104/105 devices were unable to send packets when the link speed was 10 Mbps or half of it. This issue is resolved by making a change in the IAP code.</p> <p>Scenario: This issue was observed in IAP-104/105 running 6.4.2.0-4.1.1.1 and earlier release versions.</p>

AirWave

Table 38: *AirWave Fixed Issue*

Bug ID	Description
109732	<p>Symptom: A RAP-3WN managed by AirWave went back to partial factory default setting. To resolve this issue, log out of the AirWave session and then log in again.</p> <p>Scenario: This issue occurred when AirWave propagated the configuration template while provisioning an IAP. This issue was observed in all IAPs running 6.4.2.0-4.1.1.1 or earlier versions.</p>

AirGroup

Table 39: *AirGroup Fixed Issues*

Bug ID	Description
108666	<p>Symptom: AirGroup servers with uppercase letters in the service ID were not displayed in the output for the show airgroup servers command. This issue is resolved by making the entry for the service ID as case-sensitive.</p> <p>Scenario: This issue occurred when the service ID for the AirGroup server contained both lowercase and uppercase letters. This issue was not limited to a specific IAP model or Instant release version.</p>
107215	<p>Symptom: IAPs were unable to handle the records of service IDs that were case-sensitive and hence failed to respond to the client queries. This issue is resolved by making a change in the IAP code.</p> <p>Scenario: This issue occurred when the IAPs misinterpreted the information stored in the cache by the server advertising the service ID with case-sensitive values. This issue was not limited to a specific IAP model and was found in IAPs running 6.3.1.1-4.0.0.0 release or later versions.</p>

ARM

Table 40: ARM Fixed Issues

Bug ID	Description
109601	<p>Symptom: The IAP UI and CLI displayed incorrect values for transmission power when the IAPs were operating in certain DFS channels such as 116. The fix ensures that the IAP UI and CLI display the correct values for transmission power when operating in DFS channels.</p> <p>Scenario: This issue occurred when the IAPs were operating in DFS channel such as 116 in the US regulatory domain and was observed in the IAP-135 and IAP-105 devices running 6.4.2.0-4.1.1 release.</p>
110143	<p>Symptom: An IAP crashed during a client match operation for the clients connected to an 802.11v (BSS transition management) enabled WLAN SSID. A change in the internal IAP code has resolved this issue.</p> <p>Scenario: This issue was found in the IAP-103 devices running 6.4.0.2-4.1 or later release versions when the client match operation was performed on the 802.11v clients.</p>
110407	<p>Symptom: Some wireless clients could not connect to an SSID on which 802.11r (fast roaming) was enabled. This issue is resolved by using a SSID specific variable to check SSID 802.11r configuration on a driver.</p> <p>Scenario: The issue occurred when two SSIDs were configured on the IAP, one with 802.11r enabled and the other with 802.11r disabled. This issue was found in IAPs running 6.4.2.0-4.1.1.1 release version.</p>

Authentication

Table 41: Authentication Fixed Issues

Bug ID	Description
108831	<p>Symptom: When the client was connected to a dynamic WEP SSID and roamed to a new AP in the cluster, the username in the accounting start packet was its MAC address instead of the client's real username. This issue is resolved by ensuring that the cached username is used or the accounting is delayed until the 802.1X authentication is completed by client.</p> <p>Scenario: This issue occurred when the dynamic WEP authentication was configured on the SSID with accounting enabled. This issue was not limited to a specific IAP model or software version.</p>
110935	<p>Symptom: The virtual controller sent the accounting packet with an old class ID for the reconnecting clients. The IAPs now send the accounting packets with appropriate class IDs, after a successful client authentication.</p> <p>Scenario: This issue was not limited to any specific IAP platform or release version.</p>
111417	<p>Symptom: When Opportunistic Key Caching (OKC) was enabled, the 802.11r capable Apple Mac devices were unable to reconnect to the IAP. This issue was resolved by making a change in the IAP code.</p> <p>Scenario: This issue occurred because IAP did not support OKC for Mac clients. Due to this, the non-OKC clients must re-associate to an IAP after silently disconnecting from the IAP. This issue was found in IAPs running Instant 6.3.x.x-4.0.0.x releases.</p>

CLI

Table 42: CLI Fixed Issues

Bug ID	Description
109165	<p>Symptom: The IAP CLI was running in a degraded state and was stuck in a wait state, although the sub-processes were completed. A change in the CLI module has resolved this issue.</p> <p>Scenario: This issue occurred when the CLI process was left idle for a long time and was found in IAPs running 6.4.2.0-4.1.1 or later versions.</p>

Datapath

Table 43: *Datapath Fixed Issues*

Bug ID	Description
108579	<p>Symptom: Although the bandwidth contract values were modified for an SSID, the clients connecting to the SSID were not assigned the modified values. The updated contract values can now be applied to the traffic generated by the client.</p> <p>Scenario: This issue occurred when the client associated to an SSID that was modified to use new bandwidth contract values and was not limited to a specific IAP platform or software version.</p>
109428	<p>Symptom: The clients connected to a slave IAP could not access the Internet when the Deny inter user bridging feature was enabled. To resolve this issue, a change in the code was introduced to handle ARP response packets from the slave IAP to other IP addresses in VLAN subnet.</p> <p>Scenario: This issue occurred when the guest VLAN was configured on the SSID and Deny inter user bridging was set to enabled. This issue was found in IAPs running 6.4.2.0-4.1.1 release version.</p>
110454	<p>Symptom: When a 0.0.0.0 route was configured in a routing profile, the IAP performed source NAT for the Multicast DNS (MDNS) or Digital Living Network Alliance (DLNA) queries to the VPN clients and they did not work. To resolve this issue, an explicit permit rule was added in the ACL rules to allow these queries without source NAT.</p> <p>Scenario: This issue occurred when a 0.0.0.0 route was configured in a routing profile for the centralized L2 client and the Split-tunnel option was enabled for the centralized L2 DHCP profile. This issue was found this IAPs running 6.4.2.0-4.1.1 release version.</p>
110949	<p>Symptom: The slave IAPs could not be reached from the network. A change in the uplink VLAN settings has resolved this issue.</p> <p>Scenario: This issue was found in IAPs running 6.4.2.0-4.1.1 release version when the enet-vlan configuration setting was not applied for the uplink VLAN on the slave IAP.</p>

IAP-VPN

Table 44: *IAP-VPN Fixed Issue*

Bug ID	Description
108770	<p>Symptom: In a Master-Local topology, although the automatic GRE tunnel configuration was enabled on the IAP, the GRE tunnel to the controller was deleted after a master IAP failover. A change in the IAP management module of controller has resolved this issue.</p> <p>Scenario: This issue occurred when a master IAP tried to connect to the controller with the same Virtual Controller key and a different inner IP address after a failover. Due to this, when the IAP tried to establish a VPN tunnel with the local controller, the GRE tunnel to the controller was deleted. This issue was observed in IAPs running 6.4.2.0-4.1.1 and controllers running 6.4.2.2 releases.</p>

SNMP

Table 45: *SNMP Fixed Issues*

Bug ID	Description
107701	<p>Symptom: The IAP sent incomplete information in the SNMP trap when a RADIUS client failed to authenticate. A change in the code has resolved this issue.</p> <p>Scenario: This issue occurred when the IAP sent only two parameters in the SNMP trap for the RADIUS client authentication failure. This issue was found in IAPs running 6.3.1.0-3.3.0.3 or later versions.</p>
110622	<p>Symptom: IAPs did not send any traps when a rogue AP was removed from the network. The fix in this release ensures that the wlsxUnsecureAPResolved trap is sent when a rogue AP is removed from the network by the AM module.</p> <p>Scenario: This issue was observed in IAPs running 6.4.2.0-4.1.1.1 or earlier versions.</p>

STM

Table 46: *STM Fixed Issues*

Bug ID	Description
104639	<p>Symptom: Wireless clients unexpectedly failed to connect to the 802.11r enabled WLAN SSID. Changes in the station management module ensure that the clients roam seamlessly in an 802.11r enabled WLAN.</p> <p>Scenario: This issue was observed when an 802.11r-capable wireless client roamed from one AP to another. This issue was not limited to any specific IAP platform.</p>
109429	<p>Symptom: The Change of Authorization (CoA) requests were acknowledged by the master IAP, although the RADIUS server sent the Change of Authorization (CoA) requests to the slave IAP. A change in the IAP code has resolved this issue.</p> <p>Scenario: This issue occurred when a client was connected to the slave IAP and the CoA requests were sent to the slave IAP by the RADIUS server. As the requests were acknowledged by the master IAP, the RADIUS server could not process these messages and kept sending CoA requests to the slave IAP. This issue was found in IAPs running 6.3.1.1-4.0 release or later versions.</p>

Uplink Configuration

Table 47: *Uplink Configuration Fixed Issues*

Bug ID	Description
108830	<p>Symptom: When the PPPoE uplink connection was enabled, web pages were partially displayed. Changes in the IAP data path were made to ensure that the packets sent by the server do not exceed the value configured for MTU.</p> <p>Scenario: This issue occurred when the Maximum Transmission Unit (MTU) set by the server was more than the MTU allowed for the PPPoE uplink. This issue was found in IAPs running 6.4.2.0-4.1.1 release or earlier versions.</p>
108538	<p>Symptom: When an AirWave managed IAP was quickly unplugged from the cluster, after the AirWave server applied the PPPOE configuration and the IAP configuration was restored to initial configuration, the PPPoE uplink connection could not be established on the IAP. To resolve this issue, IAPs now send the Configuration is successfully synchronized from management server message to the management server after a configuration check. Due to this change, the administrators must verify the configuration synchronization event on AirWave or Central, before unplugging or powering off the IAP.</p> <p>Scenario: This issue occurred when the IAP was unplugged before the PPPoE configuration details were completely synchronized with the AMP management server. As a result, if the IAP failed to establish connection with the AirWave server after a reboot, the IAP configuration including the PPPoE configuration applied from the AirWave server was lost. This issue was observed in IAPs running 6.3.1.1-4.0 or earlier versions.</p>

User Interface

Table 48: *User Interface Fixed Issues*

Bug ID	Description
109171	<p>Symptom: The IAP UI page appeared blank when accessed through the web browsers. This issue is resolved by introducing a mechanism to resolve the non-ASCII characters in the client names.</p> <p>Scenario: This issue was observed in 6.4.2.0-4.1.1.1 or earlier release versions when the names of the IAP clients contained special characters.</p>
109669	<p>Symptom: IAPs presented the Aruba logo in the browser URL bar during captive portal authentication. To resolve this issue, a check in the IAP code is added.</p> <p>Scenario: Although a customized captive portal certificate was uploaded on the IAP, the IAP ignored the certificate and displayed the Aruba logo in the browser URL bar during authentication. This issue was not limited to a specific IAP platform or release version.</p>
110593	<p>Symptom: Although the Client IP assignment was set to Network assigned and the Client VLAN assignment was set to the Dynamic option with a VLAN ID in the SSID configuration, the IAP UI displayed the Client IP assignment mode as Virtual Controller managed and Client VLAN assignment as Custom on the VLAN tab of the WLAN SSID wizard.</p> <p>Scenario: This issue was observed in IAPs running occurred 6.4.2.0-4.1.1 release when a VLAN ID was configured under a DHCP scope and set as a dynamic VLAN for per-user VLAN assignment in the WLAN SSID wizard.</p>

Wi-Fi Driver

Table 49: *Wi-Fi Driver Fixed Issues*

Bug ID	Description
111138	<p>Symptom: A mismatch was found between the supported transmission rate in beacon and the minimum transmission rate configured for the 802.11g clients. A change in the internal IAP code has resolved this issue.</p> <p>Scenario: This issue was found in IAPs running 6.4.2.0-4.1.1 release version.</p>
110481	<p>Symptom: Sometimes, the IAP-225 devices buffered packets for too long. A driver update in the IAP has resolved this issue.</p> <p>Scenario: This issue occurred when the AP buffered packets for an 802.11b client. The issue was found in IAPs running 6.4.2.0-4.1.1.1.</p>
110524	<p>Symptom: Some unknown SSIDs were displayed on Apple® devices. To resolve this issue, upgrade to 6.4.2.3-4.1.1.2 release version.</p> <p>Scenario: This issue was observed in IAPs running 6.4.2.0-4.1.1 release when hidden SSIDs were configured.</p>
110650	<p>Symptom: An IAP-225 device could not set Traffic Indication Map (TIM) bits, before sending broadcast or multicast traffic. To resolve this issue, upgrade to 6.4.2.3-4.1.1.2 release.</p> <p>Scenario: This issue occurred when hidden SSIDs were configured on the IAPs and was found in IAPs running 6.4.2.0-4.1.1.</p>

Resolved Issues in 6.4.2.0-4.1.1.1

The following issues are fixed in the 6.4.2.0-4.1.1.1 release.

Authentication

Table 50: *Authentication Fixed Issues*

Bug ID	Description
105221	<p>Symptom: When using separate accounting servers for a specified IAP, the accounting packets were not being sent to both accounting servers. This issue is resolved after making an internal code change.</p> <p>Scenario: This issue occurs when the user sets 2 accounting servers for accounting purposes. This issue was observed in all IAPs running Instant 6.4.2.0-4.1.1.0 release.</p>
106750	<p>Symptom: An 802.11b legacy handy terminal failed to authenticate using dynamic WEP/EAP-TLS. This issue is resolved by modifying the Instant software to handle the frames from the EAP terminals.</p> <p>Scenario: The IAP works fine with open system ESSID and static WEP, but fails when dynamic WEP is used. This issue was observed in IAP-225 running Instant 6.3.1.1-4.0.0.0 release and later versions.</p>

Captive Portal

Table 51: *Captive Portal Fixed Issue*

Bug ID	Description
105924	<p>Symptom: Captive Portal did not work with custom certificates. This issue is resolved by adding a support unencrypted private key in the custom certificate.</p> <p>Scenario: This issue occurred when a custom certificate was being used and the private key header was "BEGIN PRIVATE KEY". This issue was observed in all IAPs running Instant 6.3.1.1-4.0.0.0 and later versions.</p>

Datapath / Firewall

Table 52: *Datapath / Firewall Fixed Issue*

Bug ID	Description
106268	<p>Symptom: DHCP routing was delayed when Captive Portal and MAC-auth were enabled. This issue is resolved after mapping the client to the ACL103.</p> <p>Scenario: This issue was observed because of the pre-auth role ACL and was observed in IAP-225 running Instant 6.4.2.0-4.1.1.0 and earlier releases.</p>

General

Table 53: *General Fixed Issues*

Bug ID	Description
106291	<p>Symptom: IAPs were getting automatically rebooted in the cluster stating that the system clock was far ahead of the NTP sync result. This issue is resolved by preventing the IAPs from rebooting automatically.</p> <p>Scenario: This issue occurred when the IAP changed the system time based on the data in the UDP packets. This issue is not limited to a specific IAP model or software release version.</p>
108209	<p>Symptom: IAP-22x series was unable to perform an LACP failover when the E0 port was down. The fix ensures a successful LACP failover.</p> <p>Scenario: This issue was observed in IAP-22x and IAP-270 series access points running Instant 6.4.0.2-4.1.0.x versions.</p>

IDS

Table 54: *IDS Fixed Issue*

Bug ID	Description
104645	<p>Symptom: False alarms were raised in the cluster indicating that the connected IAP was a RogueIAP. The fix prevents the false alarms.</p> <p>Scenario: This issue occurred when the IAP considered a remote MAC client as a wired client This issue was observed in all IAPs running Instant 6.4.2.0-4.1.1.0 release and earlier versions.</p>

Mesh

Table 55: *Mesh Fixed Issues*

Bug ID	Description
105155	<p>Symptom: SNMPv3 traps with inform enabled were not getting processed on the IAP-204/205 platforms as there were failures in the initial exchange of the INFORM messages. The fix ensures there are no failures during the exchange of INFORM messages.</p> <p>Scenario: This issue occurred when the SNMPv3 INFORM receiver was configured on the IAP-204/205 platforms. This issue was observed in IAP-204/205 platforms running Instant 6.4.2.0-4.1.1.0 release.</p>
108512	<p>Symptom: Large number of packet drops were reported on the IAP Mesh point. This issue is resolved by making an internal code change.</p> <p>Scenario: When reporting the failed tx packets, IAP also included the 802.11 management packets and some control packets which were not relevant for the report. This issue was observed in IAP-175 running Instant6.4.0.3-4.1.0.2 release.</p>

SNMP

Table 56: *SNMP Fixed Issues*

Bug ID	Description
105155	<p>Symptom: SNMPv3 traps with inform enabled were not getting processed on the IAP-204/205 platforms as there were failures in the initial exchange of the INFORM messages. The fix ensures there are no failures during the exchange of INFORM messages.</p> <p>Scenario: This issue occurred when the SNMPv3 INFORM receiver was configured on the IAP-204/205 platforms. This issue was observed in IAP-204/205 platforms running Instant 6.4.2.0-4.1.1.1 release.</p>
107073	<p>Symptom: Incorrect output was generated for ESSID with SNMP walk, get, or get-next functions. This issue is resolved after making an internal code change.</p> <p>Scenario: This issue occurred when an existing SSID was disabled. This issue was not limited to a specific IAP model and was found in IAPs running Instant 6.4.2.0-4.1.1 and earlier versions.</p>

STM

Table 57: *STM Fixed Issue*

Bug ID	Description
106383	<p>Symptom: Clients using MAC authentication and 802.1x authentication went into a denyall role when roaming with PMK cache in the cluster. This issue is resolved after a making a change in the code.</p> <p>Scenario: This issue was observed when the clients roam from one IAP to another with PMK cache. This issue was not limited to a specific IAP model or Instant software release version.</p>

VPN

Table 58: *VPN Fixed Issue*

Bug ID	Description
108068	Symptom: An IAP managed through AirWave was unable to establish IPsec tunnel after a factory reset. This issue is resolved by updating the time required for setting up an IPsec tunnel. Scenario: This issue is not limited to a specific IAP model or software release version.

Resolved Issues in 6.4.2.0-4.1.1.0

The following issue is fixed in the 6.4.2.0-4.1.1.0 release:

User Interface

Table 59: *User Interface Fixed Issue*

Bug ID	Description
104466	Symptom: An IAP User Interface (UI) session remained connected even after the password was changed in another CLI/UI session. This issue is resolved by making a code level change to disconnect the UI/CLI session logged in using the old password. Scenario: This issue occurred when a change was made to the admin, read-only, or guest accounts for management user accounts. This issue was observed in all IAPs running Instant 6.4.0.3-4.1.0.1 release.