

# **AOS-W Instant**

## **6.4.2.6-4.1.1.12**



Release Notes

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AOS-W Instant 6.4.2.6-4.1.1.12 is a patch release that introduces enhancements and fixes to the issues found in the previous releases.

For more information on upgrading OAW-IAPs to the new release version, see the *Upgrading an OAW-IAP* topic in the *AOS-W Instant 6.4.2.0-4.1.1 User Guide*.

## Contents

- [What's New in this Release on page 10](#) lists regulatory information, any new features and enhancements, and issues fixed in Instant 6.4.2.6-4.1.1.12.
- [Issues Resolved in Previous Releases on page 26](#) describes the issues fixed in the previous 6.4.x.x-4.1.1.x releases.
- [Features Added in Previous Releases on page 15](#) describes the features and enhancements in previous releases.
- [Known Issues and Limitations on page 13](#) lists the known issues and limitations identified in 6.4.x.x-4.1.1.x releases.

## Contacting Support

**Table 1:** *Contact Information*

Contact Center Online	
• Main Site	<a href="http://www.alcatel-lucent.com/enterprise">http://www.alcatel-lucent.com/enterprise</a>
• Support Site	<a href="https://service.esd.alcatel-lucent.com">https://service.esd.alcatel-lucent.com</a>
• Email	<a href="mailto:esd.support@alcatel-lucent.com">esd.support@alcatel-lucent.com</a>
Service & Support Contact Center Telephone	
• North America	1-800-995-2696
• Latin America	1-877-919-9526
• EMEA	+800 00200100 (Toll Free) or +1(650)385-2193
• Asia Pacific	+65 6240 8484
• Worldwide	1-818-878-4507

This chapter lists the enhancements and the issues fixed in the Instant 6.4.2.6-4.1.1.12 release.

### 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 2:** *DRT Versions*

Instant Release Version	Applicable DRT Version
6.4.2.6-4.1.1.12	1.0_53255
6.4.2.6-4.1.1.11	1.0_52480
6.4.2.6-4.1.1.10	1.0_51685
6.4.2.6-4.1.1.9	1.0_51362
6.4.2.6-4.1.1.8	1.0_50775
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 OAW-IAP models, refer to the respective DRT release notes on [service.esd.alcatel-lucent.com](http://service.esd.alcatel-lucent.com).

## Resolved Issues in This Release

The following issues are fixed in the Instant 6.4.2.6-4.1.1.12 release.

### OmniVista

**Table 3:** *OmniVista Fixed Issue*

Bug ID	Description
126303	<p><b>Symptom:</b> The OmniVista server failed to establish a connection with the OAW-IAPs when the OAW-IAPs received a new VPN endpoint configuration. The fix ensures that the OmniVista server is able to establish a connection with the OAW-IAPs.</p> <p><b>Scenario:</b> OAW-IAPs faced this issue when the FQDN was used for OmniVista and VPN endpoint configuration. The issue was found in all OAW-IAPs running Instant 6.4.2.0-4.1.1.9 release.</p>

### Authentication

**Table 4:** *Authentication Fixed Issue*

Bug ID	Description
135481	<p><b>Symptom:</b> The AMP was unable to display the authentication type when clients were connected to the OAW-IAPs. This fix ensures that the AMP displays the authentication type for clients connected to the Master OAW-IAPs.</p> <p><b>Scenario:</b> This issue was observed when Master and Slave OAW-IAPs were unable to update the authentication type on the MIB client table. The issue was observed on all OAW-IAPs running Instant 6.4.2.0-4.1.1.0 release.</p>

### CLI

**Table 5:** *CLI Fixed Issue*

Bug ID	Description
125798	<p><b>Symptom:</b> OmniVista was unable to fetch the output of CLI commands from certain OAW-IAPs when the IAP branch was connected through VPN. The fix ensures that the OAW-IAPs respond to OmniVista with the output of the CLI commands.</p> <p><b>Scenario:</b> This issue occurred when a router with lower MTU settings was used, and the large size packets were getting dropped. The issue was observed in all OAW-IAPs running Instant 6.4.0.2-4.1.0.0 and later releases.</p>

### Datapath/Firewall

**Table 6:** *Datapath/Firewall Fixed Issue*

Bug ID	Description
126106	<p><b>Symptom:</b> OAW-IAPs failed to establish a connection with the OmniVista server when a configuration was pushed from OmniVista. The fix ensures that the IAPs are able to establish a connection with the OmniVista server.</p> <p><b>Scenario:</b> This issue was observed when the routing profile entries were activated more than once, thereby increasing the usage count of route cache entry for the controller IP. When the tunnel went down, the usage count for the controller IP remained as a non-zero value and was not cleared. Once the tunnel came back, the route cache entry addition failed, and continued to point to the stale tunnel device. The issue was found in about 40 OAW-IAPs running Instant 6.4.2.0-4.1.1.0.</p>

## VPN

**Table 7:** *VPN Fixed Issue*

Bug ID	Description
127729	<p><b>Symptom:</b> The backup IPsec tunnel was UP even after the IPsec fast failover feature was disabled. The fix ensures that the backup tunnel is down when the IPsec fast failover feature is disabled.</p> <p><b>Scenario:</b> OAW-IAPs found this issue when the fast failover was disabled, and the pre-emption from the backup tunnel to the primary tunnel was not deleting the backup VPN tunnel. The issue was observed in all OAW-IAPs running Instant 6.4.2.3-4.1.1.5 release.</p>

This chapter describes the known issues and limitations identified in 6.4.x.x-4.1.1.x releases of AOS-W Instant.

## Known Issues

### 3G/4G Uplink Management

**Table 8:** 3G/4G Uplink Management Known Issues

Bug ID	Description
98775	<p><b>Symptom:</b> Sometimes, the USB modem connected to OAW-RAP108 and OAW-RAP3WN is not functional as the 3G and 4G interfaces fail to come up.</p> <p><b>Scenario:</b> This issue is observed in OAW-RAP108 and OAW-RAP3WN running Instant 6.2.0.0-3.3 or later.</p> <p><b>Workaround:</b> Disconnect and reconnect the USB modem.</p>
102807	<p><b>Symptom:</b> Users are currently unable to provision the Netgear 340U USB modem on the OAW-IAP.</p> <p><b>Scenario:</b> This issue is observed in all OAW-IAPs running Instant 6.4.2.0-4.1.1 release.</p> <p><b>Workaround:</b> As a workaround, run the Netgear Linux patch to enable the Netgear 340U modem to work with OAW-IAP.</p>
105159	<p><b>Symptom:</b> Huawei 3276-150 version of USB modem works with all AP types except OAW-RAP108, OAW-RAP109, and OAW-RAP3WN.</p> <p><b>Scenario:</b> This issue is not limited to a specific OAW-IAP model or software version.</p> <p><b>Workaround:</b> The Huawei 3276-150 modem will not be detected on OAW-RAP108 and OAW-RAP109, and so as a workaround, connect to the modem using an external hub. For OAW-RAP3WN, 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><b>Symptom:</b> 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><b>Scenario:</b> This issue is observed when the priorities are changed for the Ethernet and cellular uplinks. This issue is not limited to a specific OAW-IAP model or software release.</p> <p><b>Workaround:</b> None.</p>

### Wired Network Profiles

**Table 9:** Wired Network Profiles Known Issue

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

## Limitations

### No Support for Mesh on OAW-IAP2xx Access Points

Mesh OAW-IAP configuration is not supported on 802.11ac AP platforms (OAW-IAP2xx access points).

## Application Classification

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

**Table 10:** *Application Classification*

Bug ID	Description
<b>Lync</b>	Due to the adaptive nature of Lync, a few sessions might occasionally be wrongly classified.
<b>Skype</b>	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.
<b>Speedtest.net</b>	In certain geographical locations, speedtest.net uses an alternate port (TCP 8080) for the actual data test which can lead to classification failures.
<b>Tor Browser</b>	Proxying through Tor using proxy configuration or using the packaged Tor Browser does not get classified.
<b>Carbonite</b>	Carbonite application classification does not function as expected.
<b>Google Drive</b>	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 6.4.0.2-4.1 and 6.4.x.x-4.1.x.x releases of AOS-W Instant.

## Features and Enhancements

The following features and enhancements were introduced in Instant 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 OAW-IAP-200 Series and OAW-IAP-210 Series devices.

- The OAW-IAP-200 Series (OAW-IAP204 and OAW-IAP-205) access points support the IEEE 802.11ac and 802.11n standards for high-performance WLAN. It is a dual radio, 2x2:2 802.11ac 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 802.11ac 5 GHz functionality while simultaneously supporting legacy 802.11 a/b/g wireless services. For more information about this product, visit <https://service.esd.alcatel-lucent.com>.
- The OAW-IAP-210 Series (OAW-IAP-214 and OAW-IAP-215) access points support the IEEE 802.11ac standard for high-performance WLAN. It is a 3x3 802.11ac access point that uses MIMO (Multiple-Input, Multiple-Output) technology and other high-throughput mode techniques to deliver high-performance, 802.11ac 2.4 GHz and 802.11ac 5 GHz functionality while simultaneously supporting existing 802.11 a/b/g wireless services. For more information about this product, visit <https://service.esd.alcatel-lucent.com>.

### Enhancement for the AppRF Feed to OmniVista

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

### Support for Separate RADIUS and Accounting Servers on OAW-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 OAW-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 OAW-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 OAW-IAP cannot be a Master OAW-IAP due to the unavailability of an IP Address and also does not have an uplink connection.
- When the OAW-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 OAW-IAP-9x platforms, when the slave OAW-IAP may not be able to join the master OAW-IAP due to certain restrictions.
- If the OAW-IAP is not allowed to join the **allowed-ap-list** when **auto-join** has been disabled.
- In a mixed class network, when the slave OAW-IAPs join the master OAW-IAP with a different Instant version causing the image sync from OmniVista to fail.
- When the user connects the E1 port of the OAW-IAP to a switch, and the OAW-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 6.4.0.2-4.1.0.0, Instant supports two AppRF feature sets: On-board Deep Packet Inspection (DPI) and cloud-based Web Policy Enforcement (WPE).

1. **Deep packet inspection:** OAW-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 OAW-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 OAW-IAP performs lookups against cloud-hosted services. This feature requires an annual per OAW-IAP subscription. Please contact the AOS-W 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 OAW-IAP from the main window. When clicked, the **AppRF** link displays the application traffic summary for OAW-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 OAW-IAP can enforce multiple actions, including blocking, QoS enforcement, and throttling.




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The AppRF features are not supported on the OAW-IAP92/93 platform. Access rule configuration and charts for applications and application categories are not supported on OAW-IAP104/105, OAW-IAP134/135, and OAW-RAP3WN/3WNP platforms. Only the web category charts are displayed for these OAW-IAP models.

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For more information on DPI and AppRF, see:

- *Deep Packet Inspection and Application Visibility* in the *AOS-W Instant 6.4.0.2-4.1 User Guide*



- The **dpi**, **show dpi**, **show dpi-stats**, and **wlan access-rule** commands in the *AOS-W 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 OAW-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 OAW-IAP* in the *AOS-W Instant 6.4.0.2-4.1 User Guide*
- The **airgroup**, **airgroupservice**, and **show aigroup** commands in the *AOS-W Instant 6.4.0.2-4.1 CLI Reference Guide*

## Support for New Access Points

This release adds Instant support for OAW-IAP270 series and OAW-IAP103 devices.

- The OAW-IAP270 series (OAW-IAP274 and OAW-IAP275) 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 OAW-IAP103 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 <https://service.esd.alcatel-lucent.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 OAW-IAP) and downstream (OAW-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 11: 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 *AOS-W Instant 6.4.0.2-4.1 User Guide*
- The **wlan ssid-profile** command in the *AOS-W Instant 6.4.0.2-4.1 CLI Reference Guide*

## Console Access to OAW-IAP

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

To disable console access to an OAW-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 *AOS-W 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 *AOS-W Instant 6.4.0.2-4.1 User Guide*
- The **ip dhcp** command in the *AOS-W 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 OAW-IAP. The rules defined for inbound traffic are applied if the destination is not a user connected to the OAW-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.

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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.

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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 *AOS-W Instant 6.4.0.2-4.1 User Guide*.

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

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For more information, see:

- *Configuring Inbound Firewall Rules* in the *AOS-W Instant 6.4.0.2-4.1 User Guide*
- The **inbound-firewall** and **show inbound-firewall-rules** commands in the *AOS-W 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.



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

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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. OAW-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 *AOS-W Instant 6.4.0.2-4.1 User Guide*
- The **wlan ssid-profile** command in the *AOS-W 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 *AOS-W Instant 6.4.0.2-4.1 User Guide*
- The **cellular-uplink-profile** command in the *AOS-W 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 *AOS-W 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 OAW-IAP product family. When an SNMP query is performed for this object on an AP IP address (either master OAW-IAP or slave OAW-IAP IP address), information on AP type is retrieved. However, if the query is performed on a Virtual Controller IP address, information on the OAW-IAP acting as the Virtual Controller is displayed.

For example, if an OAW-IAP135 is the master OAW-IAP, a query on this OAW-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 *AOS-W 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. OAW-IAPs also support the TACACS+ accounting feature that reports management commands to TACACS+ servers through console port, Telnet, SSH, web, and Cloud,



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

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

- *Supported Authentication Servers, Configuring an External Server for Authentication* in the *AOS-W Instant 6.4.0.2-4.1 User Guide*.
- The **wlan tacacs-server**, **show tacacs server**, and **mgmt-accounting** commands in the *AOS-W 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, OAW-IAPs can be integrated with an XML API Interface by sending specific XML commands to the OAW-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 OAW-IAP with an XML API interface* in the *AOS-W Instant 6.4.0.2-4.1 User Guide*.
- The **xml-api-server**, **show xml-api-server** commands in the *AOS-W 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 OAW-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 *AOS-W 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 OAW-IAP. The same zone information can be configured on a WLAN SSID, so that the SSID can be broadcast on the OAW-IAP.

The following constraints apply to the AP zone configuration:

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

For information on configuring an AP zone, see:

- *Configuring Zone Settings on an OAW-IAP and Configuring WLAN Settings for an SSID Profile* in the *AOS-W Instant 6.4.0.2-4.1 User Guide*
- The **zonename** and **wlan ssid-profile** commands in the *AOS-W 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 OAW-IAPs to authenticate the previously connected clients against the cached credentials if the connection to the authentication server is temporarily lost.



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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.

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

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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 *AOS-W Instant 6.4.0.2-4.1 User Guide*.
- The **show auth-survivability** command in the *AOS-W 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 OmniVista Management Server and OAW-IAP

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

For more information on managing an OAW-IAP through OmniVista, see *Managing OAW-IAP from OmniVista* in *AOS-W 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 OAW-IAP clock to set the correct time. If NTP server is not configured in the OAW-IAP network, an OAW-IAP reboot may lead to variation in time data.

By default, the OAW-IAP tries to connect to **pool.ntp.org** to synchronize time. A different NTP server can be configured from the UI. 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 OAW-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 12:** *Regulatory Domain Updates*

Regulatory Domain	Description
Mexico	Support for all shipping OAW-IAPs.
Australia, New Zealand, and Canada	Support for OAW-IAP275 platform.
Australia, New Zealand, and India	Support for OAW-IAP103 platform.

## Reintroducing OAW-IAP92/93 in AOS-W Instant 6.4.0.3-4.1.0.1 and future 6.4.x.x-4.1.x.x releases

Support for OAW-IAP92/93 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 OAW-IAP92/93 in 6.4.x.x-4.1.x.x releases:

- AirGroup
- Internal RADIUS server for all types of authentication
- EAP Termination
- Authentication Survivability
- LLDP integration

The features listed above may be configured through Instant CLI/Web UI and OmniVista Management Platform, but will have no effect on OAW-IAP92/93. In a cluster running Instant 6.4.x.x-4.1.x.x, only OAW-IAP92/93 will have the above limitations.

In order to conserve memory, OAW-IAP92/93 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 OAW-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, OAW-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 OAW-IAPs Managed by OmniVista

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



## New Traps for Accounting Request Timeout and Master OAW-IAP Failover

In the 6.4.2.6-4.1.1.6 patch release:

- A new trap is added to trigger an alert when the accounting request times out.
- When the master OAW-IAP fails over, the newly elected master OAW-IAP sends the "**Access Point xx:xx:xx:xx:xx:xx Down**" **SNMP trap info, xx:xx:xx:xx:xx:xx is the original master IAP's mac address** trap.

## Communication with the Provisioning Servers

In the 6.4.2.6-4.1.1.6 patch release, the OAW-IAP software is enhanced to communicate with the provisioning servers seamlessly and allow mandatory upgrade processes to run in the background without affecting the existing OAW-IAP network or configuration.

## Enhancements to show ap cacert Command Output

In the 6.4.2.6-4.1.1.6 patch release, the **show ap cacert** command displays expiration date for all CA certificates in OAW-IAP.

## MIB Enhancements

In the 6.4.2.6-4.1.1.6 patch release, the following MIB enhancements are introduced on the OAW-IAPs.

- A new standard MIB, **ipAddrTable**, is introduced. The MIB includes the Virtual Controller IP address.
- The Virtual Controller interface is added as a separate virtual interface along with br0 and tun0 interfaces in the **ifTable** MIB.

## Support for Logging off WISPr Clients

Starting from the Instant 6.4.2.6-4.1.1.8 release, OAW-IAPs allow the WISPr clients to log off.

## MAC Authentication of Guest Users

Starting from Instant 6.4.2.6-4.1.1.8 release, you can enable MAC authentication for guest users profiles when captive portal authentication is disabled on a guest SSID. When splash pages profiles are not configured for a guest SSID, you can enable MAC authentication to allow guest clients to authenticate against the internal server of the OAW-IAP.

## Rogue Detection in Wired and Wireless mode

Starting from the Instant 6.4.2.6-4.1.1.8 release, OAW-IAPs can report information on rogue APs detected on a wired uplink or wireless port to the OmniVista Management Platform (AMP) server.

## Resolved Issues in 6.4.2.6-4.1.1.11

### CLI

**Table 13:** CLI Fixed Issues

Bug ID	Description
128764	<p><b>Symptom:</b> OAW-IAP CLI crashed when the <b>show ap debug airwave-stats</b> command was executed. This issue is resolved by adding memory overflow protection to prevent the data length from exceeding the buffer size.</p> <p><b>Scenario:</b> This issue was not limited to a specific OAW-IAPmodel or software version and was observed when more than 100 OAW-IAPdevices were connected to the management network.</p>

### Datapath/Firewall

**Table 14:** Datapath/Firewall Fixed Issues

Bug ID	Description
126377	<p><b>Symptom:</b> OAW-IAPs dropped client ARP packets when the client VLAN was deleted from the VLAN multicast table. This issue is resolved when the client exists on the IAP and the IAP does not delete the client VLAN from the VLAN multicast table.</p> <p><b>Scenario:</b> This issue was not limited to a specific OAW-IAPmodel or Instantsoftware version.</p>

### Wi-Fi Driver

**Table 15:** Wi-Fi Driver Fixed Issues

Bug ID	Description
117718	<p><b>Symptom:</b> OAW-IAPs kept printing Station Management (STM) error logs (AOS OTA errors) at runtime. A fix has been implemented to drop the AOS OTA error logs at runtime.</p> <p><b>Scenario:</b> This issue was not limited to a specific OAW-IAPmodel or Instantsoftware version.</p>

## Resolved Issues in 6.4.2.6-4.1.1.10

### Datapath/Firewall

**Table 16:** Datapath/Firewall Fixed Issues

Bug ID	Description
124839	<p><b>Symptom:</b> After upgrading the OAW-IAP firmware to 6.4.2.6-4.1.1.9, clients were unable to resolve queries for any of the DNS records except for DNS A type records. The fix ensures that the wired clients are able to resolve queries for all types of DNS records.</p> <p><b>Scenario:</b> This issue was observed in all OAW-IAPs running Instant 6.4.2.6-4.1.1.9 release.</p>

## Resolved Issues in 6.4.2.6-4.1.1.9

### AppRF

**Table 17:** *AppRF Fixed Issues*

Bug ID	Description
115294	<b>Symptom:</b> AnOAW-IAP crashed and rebooted when AppRF was enabled. A change in the OAW-IAP code has resolved this issue. <b>Scenario:</b> The <b>dpimgr</b> core file indicated that the <b>dpimgr</b> process had failed. This issue was not limited to a specific OAW-IAP model or software version.
115897	<b>Symptom:</b> An increase in memory utilization was observed when AppRF was enabled on anOAW-IAP. A change in the OAW-IAP code has resolved the memory leak issue. <b>Scenario:</b> This issue was observed in OAW-IAPs running Instant 6.4.2.6-4.1.1.8 or earlier versions.

### Datapath/Firewall

**Table 18:** *Datapath/Firewall Fixed Issues*

Bug ID	Description
120708	<b>Symptom:</b> In a Centralized L3 network, OAW-IAP clients were not assigned IP addresses when an IAP-VPN connection was formed using cellular uplink. A change in the OAW-IAP code has resolved this issue. <b>Scenario:</b> This issue was observed in all OAW-IAPs running Instant 6.4.2.6-4.1.1.7 or later versions.
122297	<b>Symptom:</b> OAW-IAPs received throughput much lower than the configured bandwidth, when traffic was being sent by the client to the OAW-IAP. A change in the OAW-IAP code has resolved the low throughput issue. <b>Scenario:</b> This issue was observed in all OAW-IAPs running Instant 6.4.2.6-4.1.1.7 and later versions.
122330	<b>Symptom:</b> When a client roamed from one OAW-IAP to another in a cluster, the bandwidth contract was not enforced on the client traffic. This issue is resolved by deriving a new contract ID in the new OAW-IAP, instead of reusing the contract ID received from the previously connected OAW-IAP. <b>Scenario:</b> This issue occurred due to a contract ID mismatch when the client connected to a new OAW-IAP when roaming in the cluster. This issue was not limited to a specific OAW-IAP model or software version.
122448	<b>Symptom:</b> The IAP-VPN users experienced connectivity issues and the OAW-IAP client traffic failed at random intervals. <b>Scenario:</b> This issue was observed in all OAW-IAPs running Instant 6.4.2.0-4.1.1 and later versions.
122763	<b>Symptom:</b> An OAW-IAP crashed when the domain ACL DNS entries in the setup exceeded the limitation set for the OAW-IAP. The fix ensures that the OAW-IAPs do not crash when the limitation is exceeded. <b>Scenario:</b> This issue was observed in all OAW-IAPs running Instant 6.4.2.0-4.1.1 and later versions.
119328	<b>Symptom:</b> Although the Enet VLAN was configured on the IAP, the traffic generated from the OAW-IAP was not tagged with the Enet VLAN ID. The fix ensures that the traffic generated from the OAW-IAP is correctly tagged to the Enet VLAN. <b>Scenario:</b> This issue was not limited to a specific OAW-IAP model or software version.

## DHCP Server

**Table 19:** *DHCP Server Fixed Issue*

Bug ID	Description
121504	<p><b>Symptom:</b> The DHCP option 82 forwarded by the OAW-IAP did not include the SSID information. A change in the OAW-IAP code has resolved this issue.</p> <p><b>Scenario:</b> The SSID information was not listed in the <b>Agent Remote ID</b> and <b>Agent Circuit ID</b> fields of the DHCP option 82. This issue was observed in OAW-IAP205 and IAP225 devices running Instant 6.4.2.6-4.1.1.8 or earlier versions.</p>

## Wi-Fi Driver

**Table 20:** *Wi-Fi Driver Fixed Issue*

Bug ID	Description
123447 121836	<p><b>Symptom:</b> Client devices using Windows OS were unable to receive WhatsApp messages when operating in the power-save mode. The fix ensures that the client devices pass traffic and receive messages even when they are in idle state or power-save mode.</p> <p><b>Scenario:</b> This issue was found in OAW-IAP224/225 devices running Instant 6.4.2.6-4.1.1.7 or earlier releases.</p>

## Resolved Issues in 6.4.2.6-4.1.1.8

### 3G/4G

**Table 21:** *3G/4G Fixed Issue*

Bug ID	Description
119023	<p><b>Symptom:</b> A cellular modem could not be configured due to the presence of invalid special characters in the parameter for modem initialization. To resolve this issue, a check has been introduced to allow only valid special characters in the <b>USB init</b> field.</p> <p><b>Scenario:</b> This issue occurred when invalid double quotes were used in the <b>USB init</b> field during a cellular uplink configuration. This issue was found in OAW-IAPs running 6.4.2.x-4.1.1.x releases.</p>

### OmniVista

**Table 22:** *OmniVista Fixed Issue*

Bug ID	Description
118843	<p><b>Symptom:</b> OAW-IAP could not establish a connection with a new OmniVista Management Platform (AMP) server and reverted to the old AMP server. This fix ensures that a configuration restore event is sent to the old AMP server when an OAW-IAP connects to the new AMP server.</p> <p><b>Scenario:</b> This issue was observed on all OAW-IAPs running Instant 6.4.2.6-4.1.1.7 and earlier versions.</p>

## AP Platform

**Table 23:** AP Platform Fixed Issue

Bug ID	Description
113738	<p><b>Symptom:</b> The eth0 port of OAW-RAP109 stopped responding when there was bi-directional traffic. A change in the OAW-IAP code has resolved this issue without rebooting the OAW-IAP.</p> <p><b>Scenario:</b> This issue occurred when the eth0 port functioned in a duplex half mode (10Mbps or 100Mbps) with heavy port traffic. The issue was observed in OAW-RAP109 devices running Instant 6.4.2.6-4.1.1.7 release or earlier versions.</p>
118854	<p><b>Symptom:</b> OAW-IAPs rebooted randomly with reboot reason as kernel panic. A change in the OAW-IAP code has resolved this issue.</p> <p><b>Scenario:</b> This issue was not limited to a specific OAW-IAP platform or a software release version.</p>

## AppRF

**Table 24:** AppRF Fixed Issue

Bug ID	Description
119416 121017	<p><b>Symptom:</b> An increase in memory utilization was observed when AppRF was enabled on an OAW-IAP. A change in the OAW-IAP code has resolved the memory leak issue.</p> <p><b>Scenario:</b> This issue occurred when the OAW-IAP could not reach BrightCloud® for AppRF application and web filtering operations. This issue was found in OAW-IAPs running 6.4.2.6-4.1.1.7 or earlier release versions.</p>

## ARM

**Table 25:** ARM Fixed Issues

Bug ID	Description
113332	<p><b>Symptom:</b> The Radio Frequency (RF) channels experienced some inconsistency when the RF settings were edited on the mesh portal. A change in the internal process module of OAW-IAP has resolved this issue.</p> <p><b>Scenario:</b> This issue was observed in all OAW-IAPs running Instant 6.4.2.6-4.1.1.7 or earlier versions.</p>
116233	<p><b>Symptom:</b> An HT capable client connected to an SSID did not show up as an HT client in OAW-IAP client list. To resolve this issue, OAW-IAPs now rely on checking channels for HT capable clients if the client device does not send HT bit in the probe response.</p> <p><b>Scenario:</b> This issue was found in OAW-IAPs running 4.2.6-4.1.1.7 or earlier release versions.</p>
117201	<p><b>Symptom:</b> False SSID violation messages were continuously displayed for the OAW-IAPs within a cluster. A change in the SSID violation classification and the detection mechanism has resolved this issue.</p> <p><b>Scenario:</b> This issue occurred when APs split from the cluster and rejoined it. This issue was found in OAW-IAPs running 4.2.6-4.1.1.7 or earlier release versions.</p>

## Authentication

**Table 26:** *Authentication Fixed Issues*

Bug ID	Description
108486	<p><b>Symptom:</b> Although the <b>wpa-psk-tkip</b> encryption type was configured for an SSID in the CLI, the UI displayed the encryption key as <b>WPA-2 Personal</b>. The UI now displays WPA personal as a separate encryption setting in the <b>Key Management</b> drop-down list.</p> <p><b>Scenario:</b> This issue was observed in OAW-IAPs running 6.3.1.x-4.0.0.x and 6.4.2.x-4.1.1.7 or earlier release versions.</p>
121555	<p><b>Symptom:</b> After upgrading OAW-IAP to 4.1 or a higher release version, OAW-IAP could not be configured to generate the same RADIUS packet format as the OAW-IAP version 4.0. This issue is resolved by adding a mac-authentication-delimiter 'n' and auth-pkt-mac-format upper-case delimiter ':' to ensure the format is supported.</p> <p><b>Scenario:</b> This issue was observed in all OAW-IAPs when upgraded to 6.4.0.2-4.1 or later versions.</p>

## Datapath/Firewall

**Table 27:** *Datapath/Firewall Fixed Issues*

Bug ID	Description
117460	<p><b>Symptom:</b> When a new VPN session was established, the datapath entries for the previous sessions were not cleared. To resolve this issue, a change in the code is introduced to clear the AP session entries while changing routing profiles.</p> <p><b>Scenario:</b> Due to this issue, packets were routed through the VPN tunnel despite adding a new host route. This issue was not limited to a specific OAW-IAP platform or software release version.</p>
119931	<p><b>Symptom:</b> When <b>Per-ap tunnel</b> GRE was configured in an OAW-IAP cluster, clients associated to the slave OAW-IAPs could not reach CPPM. Changes to the VPN route configuration have resolved this issue.</p> <p><b>Scenario:</b> When the <b>Per-ap tunnel</b> GRE was configured, the Captive portal HTTPS traffic was routed to master OAW-IAP, instead of being forwarded to the cont. This issue was not limited to a specific OAW-IAP model or software release version.</p>
116568	<p><b>Symptom:</b> Wired clients connected to an AP could not connect to the wireless clients on the same OAW-IAP. Clients can ping each other only if they are connected to an AP with the source-NAT configuration.</p> <p><b>Scenario:</b> This issue was found in OAW-IAPs running 6.4.2.0-4.1.1.1 release.</p>
120995	<p><b>Symptom:</b> An OAW-IAP client moved from one VLAN to another in the cluster, but was still getting an IP address from the old VLAN instead of the new VLAN. The fix ensures that the OAW-IAP client receives the IP address from the new VLAN.</p> <p><b>Scenario:</b> The issue occurred as the dhcp request from the client was sent out before acquiring the new VLAN. This resulted in the client receiving the IP address from the old VLAN. This issue was not limited to a specific OAW-IAP model or software version.</p>

## DHCP

**Table 28:** *DHCP Fixed Issue*

Bug ID	Description
117039	<p><b>Symptom:</b> Although six Centralized, L3 DHCP scopes were configured in the OAW-IAP UI and CLI, only three entries were created in the backend. This issue is resolved by modifying the logic that checks the maximum value for DHCP scopes.</p> <p><b>Scenario:</b> This issue was not limited to a specific OAW-IAP platform or a software release version.</p>

## PPPoE

**Table 29:** *PPPoE Fixed Issue*

Bug ID	Description
118449	<p><b>Symptom:</b> The <b>pppoe-svcname</b> parameter was appended dynamically when the PPPoE link was down and the OAW-IAP was trying to reconnect. Due to this, the subsequent PPPoE discovery packets carried an incorrect service name and were unable to establish a connection. The fix ensures that the old <b>pppoe-svcname</b> parameters are cleared before new PPPoE link is established.</p> <p><b>Scenario:</b> This issue occurred when the PPPoE configuration script did not clear the SVC parameters and instead was adding the SVC name each time an attempt was made to establish a new link. This issue was observed in all OAW-IAPs using a PPPoE uplink connection and running Instant 6.4.2.0-4.1.1 and later releases.</p>

## RTLS

**Table 30:** *RTLS Fixed Issue*

Bug ID	Description
119377	<p><b>Symptom:</b> OAW-IAPs sent incorrect age information to the RTLS server. To resolve this issue, the age field in the information sent to the RTLS server is modified.</p> <p><b>Scenario:</b> This issue was found in OAW-IAP205s running 6.4.2.6-4.1.1.7 or earlier releases.</p>

## STM

**Table 31:** *STM Fixed Issue*

Bug ID	Description
115422	<p><b>Symptom:</b> AnOAW-IAP cluster with two OAW-IAP225 access points was connected to a client running a Windows 64-bit Operating System. The OAW-IAP UI and CLI were unable to identify the exact Operating System type of the client. This issue is resolved by making a change in the OAW-IAP code.</p> <p><b>Scenario:</b> This issue was not limited to a specific OAW-IAP model or Instant software release.</p>

## Resolved Issues in 6.4.2.6-4.1.1.7

## AppRF

**Table 32:** *AppRF Fixed Issues*

Bug ID	Description
113996	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue occurred due to an error in application classification and was found in OAW-IAPs running 6.4.0.x-4.1.0.x or later releases.</p>
115295	<p><b>Symptom:</b> The OAW-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><b>Scenario:</b> 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 OAW-IAPs displayed this error message when the HTTP traffic was denied by a network rule. This issue was found in OAW-IAPs running 6.4.0.2-4.1.0.0 or later releases.</p>

## Datapath/Firewall

**Table 33:** *Datapath/Firewall Fixed Issues*

Bug ID	Description
117036	<b>Symptom:</b> 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. <b>Scenario:</b> 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 OAW-IAPs running 6.4.0.x-4.1.x.x or later releases.

## 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 34:** *3G / 4G Management Fixed Issue*

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

### AirGroup

**Table 35:** *AirGroup Fixed Issue*

Bug ID	Description
113888	<b>Symptom:</b> The Autograph service was blocked even though it was enabled in the AirGroup configuration. The fix ensures that the OAW-IAP can handle the mDNS query packets that are case-sensitive. <b>Scenario:</b> This issue was observed in OAW-IAP134/135 devices running Instant 6.4.2.3-4.1.1.5 or earlier versions.



## AP Platform

**Table 36:** AP Platform Fixed Issues

Bug ID	Description
115475	<p><b>Symptom:</b> An increase in memory utilization was observed when the OAW-IAP received GVRP packets continuously. A change in the code has resolved the issue pertaining to memory leak.</p> <p><b>Scenario:</b> This issue was observed on all OAW-IAPs running Instant 6.4.2.3-4.1.1.5 or earlier versions.</p>
105732	<p><b>Symptom:</b> When OAW-IAP220 series devices were connected to the network, the Link Aggregation Control Protocol (LACP) was not enabled on the OAW-IAP. The fix ensures that LACP is enabled on the OAW-IAP when it receives an LACP Protocol Data Unit (PDU).</p> <p><b>Scenario:</b> This issue was found in OAW-IAP220 series access points running Instant 6.4.2.3-4.1.1.5 release or earlier versions.</p>
113031	<p><b>Symptom:</b> OAW-IAP was unable to form a cluster with LACP enabled on HP switches. The fix ensures that the OAW-IAPs form a cluster when LACP is enabled on HP switches.</p> <p><b>Scenario:</b> This issue occurred when the LACP PDU from the HP switch was missing in the OAW-IAP. This issue was observed on all OAW-IAPs supporting LACP when connected to a HP switch.</p>
115990	<p><b>Symptom:</b> OAW-IAPs rebooted continuously after multiple printing requests were received. This issue is resolved by adding a rate limit for print requests.</p> <p><b>Scenario:</b> This issue was not limited to a specific OAW-IAP platform or software version.</p>

## AppRF

**Table 37:** AppRF Fixed Issue

Bug ID	Description
109182	<p><b>Symptom:</b> 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><b>Scenario:</b> 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 OAW-IAPs running Instant 6.4.0.2-4.1 release or later versions.</p>
107237	<p><b>Symptom:</b> An increase in memory utilization was observed when AppRF was enabled on an OAW-IAP. A change in the OAW-IAP code has resolved issue related to the memory leak that was caused due to an internal error in accessing BrightCloud® server.</p> <p><b>Scenario:</b> This issue occurred when the OAW-IAP failed to reach BrightCloud® for AppRF application and web filtering operations and was found in OAW-IAPs running 6.4.2.3-4.1.1.5 or earlier versions.</p>

## Authentication

**Table 38:** *Authentication Fixed Issues*

Bug ID	Description
113658	<p><b>Symptom:</b> OAW-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><b>Scenario:</b> 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 OAW-IAP platform or software release version.</p>
114131	<p><b>Symptom:</b> The master OAW-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><b>Scenario:</b> This issue was not limited to a specific OAW-IAP model or software version.</p>
111025	<p><b>Symptom:</b> EAP-TTLS authentication failed for an OAW-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><b>Scenario:</b> This issue was observed in OAW-IAPs running Instant 6.4.2.0-4.1.1.0 release.</p>
113660	<p><b>Symptom:</b> If the OAW-IAP client did not have a valid IP address assigned, OAW-IAPs delayed sending the accounting packets to the authentication server. The <b>ip-ready flag</b> is added in the output of the <b>show clients status &lt;client-mac&gt;</b> command to indicate if the OAW-IAP clients have a valid IP address.</p> <p><b>Scenario:</b> This issue was not limited to any specific OAW-IAP platform or software version</p>

## Captive Portal

**Table 39:** *Captive Portal Fixed Issue*

Bug ID	Description
113774	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue occurred when WISPr was enabled on the OAW-IAP and a WISPr client is connected. This issue was not limited to a specific OAW-IAP model or software version.</p>

## Content Filtering

**Table 40:** *Content Filtering Fixed Issue*

Bug ID	Description
112396	<p><b>Symptom:</b> OAW-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 OAW-IAP does not send duplicate alerts.</p> <p><b>Scenario:</b> This issue was not limited to a specific OAW-IAP model or software version.</p>

## Datapath

**Table 41:** *Datapath / Firewall Fixed Issues*

Bug ID	Description
112948	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue occurred when the bandwidth limit was updated for connected clients and was observed in OAW-IAPs running Instant 6.4.2.0-4.1.1.2 release.</p>
112951	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue occurred when two or more clients were associated to a SSID. This issue was observed in OAW-IAPs running Instant 6.4.2.0-4.1.1.2 release.</p>
116275	<p><b>Symptom:</b> The OAW-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><b>Scenario:</b> This issue occurred when DLNA services and ARP poison check were enabled at the same time, with more than two OAW-IAPs in a cluster. This issue was observed in OAW-IAPs running Instant 6.4.2.3-4.1.1.3 or later versions.</p>

## DHCP Server

**Table 42:** *DHCP Server Fixed Issues*

Bug ID	Description
107678	<p><b>Symptom:</b> Dnsmasq restarts randomly when the <b>Excluded address</b> option is configured on a DHCP scope. Addressing a logical issue in the subnet manipulation has resolved this issue.</p> <p><b>Scenario:</b> This issue was observed in OAW-IAPs running Instant 6.4.2.0-4.1.1.2 release.</p>
111753	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue was not limited to a specific OAW-IAP model or software release version.</p>

## GRE

**Table 43:** *GRE Fixed Issue*

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

## PPPoE

**Table 44:** *PPPoE Fixed Issue*

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

## SNMP

**Table 45:** *SNMP Fixed Issue*

Bug ID	Description
117918	<p><b>Symptom:</b> OAW-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.</p> <p><b>Scenario:</b> 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 OAW-IAPs considered the port address as an IPv6 address and did not send the traps. This issue was found in OAW-IAPs running 6.4.2.3-4.1.1.5 or earlier versions.</p>

## Wi-Fi Driver

**Table 46:** *Wi-Fi Driver Fixed Issues*

Bug ID	Description
109244	<p><b>Symptom:</b> Motorola™ scanners experienced connectivity issues when roaming from one OAW-IAP to another in a cluster. This issue is resolved by modifying the logic of the respective OAW-IAP code.</p> <p><b>Scenario:</b> This issue was observed in all OAW-IAPs running 6.4.2.3-4.1.1.5 release or earlier versions.</p>
115254	<p><b>Symptom:</b> The time stamp in beacon for the OAW-IAP115 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.</p> <p><b>Scenario:</b> This issue occurred when <b>Scanning</b> was enabled and a 2.4GHz SSID was created. This issue was observed in OAW-IAP115 running Instant 6.4.0.3-4.1.0.1 or later release versions.</p>

## 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.

## OmniVista

**Table 47:** *OmniVista Fixed Issue*

Bug ID	Description
115436	<p><b>Symptom:</b> OAW-IAPs could not establish an HTTPS connection to the external servers with mutual authentication. Although OAW-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><b>Scenario:</b> This issue was found in OAW-IAPs that were trying establish an HTTPS session with the OmniVista 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 48:** *AP Platform Fixed Issues*

Bug ID	Description
111890	<b>Symptom:</b> The Virtual Controller in a cluster of OAW-IAP225 devices was not reachable. A change in the DHCP assignment process has resolved this issue. <b>Scenario:</b> This issue was found in OAW-IAP225 devices running 6.4.2.3-4.1.1 or later versions when the OAW-IAPs in a cluster assumed IP addresses outside the scope of the VLANs assigned for the OAW-IAP network. Due to this, the master OAW-IAP console and GUI could not be accessed.
112353	<b>Symptom:</b> When the LAN link speed was 10 Mbps or half of it, the OAW-IAP105 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 OAW-IAP code. <b>Scenario:</b> This issue was observed in OAW-IAP105 access points running Instant 6.4.2.3-4.1.1.2 release or earlier versions.

### AirGroup

**Table 49:** *AirGroup Fixed Issue*

Bug ID	Description
113491	<b>Symptom:</b> The users were not able to add AirGroup service IDs through the OAW-IAP UI or CLI. Increasing the service ID string limit to 128 characters has resolved this issue. <b>Scenario:</b> 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 OAW-IAP platform or Instant release version.

### OmniVista

**Table 50:** *OmniVista Fixed Issue*

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

### AppRF

**Table 51:** *AppRF Fixed Issues*

Bug ID	Description
111993	<b>Symptom:</b> 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. <b>Scenario:</b> This issue was found in OAW-IAPs running Instant 6.4.2.0-4.1.1.2 release.
113028	<b>Symptom:</b> An increase in the memory utilization was observed when AppRF was enabled on an OAW-IAP. A change in the code has resolved the issue pertaining to memory leak. <b>Scenario:</b> This issue occurred when AppRF was enabled and was found in OAW-IAPs running Instant 6.4.0.2-4.1.x.x releases.

## ARM

**Table 52:** *ARM Fixed Issues*

Bug ID	Description
112117	<p><b>Symptom:</b> When the 80 MHz support was enabled on an OAW-IAP, only 36E was selected as a valid channel. To resolve this issue, a change in the OAW-IAP code is made to add all the correct channels in the allowed channels list for VHT80.</p> <p><b>Scenario:</b> This issue was observed in OAW-IAP220 series and OAW-IAP27x devices running 6.4.2.3-4.1.1.2 release when ARM was enabled on an OAW-IAP to allocate 80 MHz channels.</p>
112398	<p><b>Symptom:</b> The OAW-IAP radio stopped working when detecting radar signal on the DFS channel. This issue is resolved by fixing a logical error.</p> <p><b>Scenario:</b> This issue was observed in OAW-IAP205, OAW-IAP215, OAW-IAP225, and OAW-IAP275 devices running Instant 6.4.2.3-4.1.1.2 release.</p>
113395	<p><b>Symptom:</b> OAW-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.</p> <p><b>Scenario:</b> This issue occurred because the default values were not applied to the newly added parameters after an OAW-IAP upgrade. The issue was found in OAW-IAPs running Instant 6.4.2.0-4.1.1.2 release.</p>

## Authentication

**Table 53:** *Authentication Fixed Issues*

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

## Captive Portal

**Table 54:** *Captive Portal Fixed Issue*

Bug ID	Description
111601	<p><b>Symptom:</b> When a customized logo for captive portal was added to an OAW-IAP225 device, the slave OAW-IAPs moved out of the OAW-IAP cluster. A change in image file synchronizing process has resolved this issue.</p> <p><b>Scenario:</b> This issue occurred when a captive portal logo was uploaded on the OAW-IAP with restricted access to OAW-IAP management (the <b>restricted-mgmt-access</b> command) configured. This issue was observed in OAW-IAPs running Instant 6.3.1.1-4.0 or later releases.</p>

## DHCP Configuration

**Table 55:** *DHCP Configuration Fixed Issues*

Bug ID	Description
111747	<b>Symptom:</b> The local I2 DHCP scope configuration details were not displayed in the OAW-IAP UI. The local I2 DHCP configuration details are now displayed through the OAW-IAP UI and CLI. <b>Scenario:</b> This issue was not limited to a specific OAW-IAP platform or Instant release version.
111749	<b>Symptom:</b> 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. <b>Scenario:</b> This issue was not limited to a specific OAW-IAP model or Instant release version.

## PPPoE

**Table 56:** *PPPoE Fixed Issue*

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

## SNMP

**Table 57:** *SNMP Fixed Issue*

Bug ID	Description
111574	<b>Symptom:</b> The OAW-IAP224/225 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. <b>Scenario:</b> This issue was observed on OAW-IAP224/225 devices running Instant 6.4.2.3-4.1.1.2 release.

## STM

**Table 58:** *STM Fixed Issue*

Bug ID	Description
113152	<b>Symptom:</b> A higher CPU utilization was observed in OAW-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. <b>Scenario:</b> 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 OAW-IAPs running Instant 6.4.0.2-4.1.x.x releases.

## Wi-Fi Driver

**Table 59:** *Wi-Fi Driver Fixed Issues*

Bug ID	Description
112960	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue occurred when the MPDU aggregation was enabled and was not limited to any specific AP platform or release version.</p>
113381	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue occurred when the old entries in the AP callback table were not cleared and was found in APs running AOS-W 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 60:** *Access Point Fixed Issues*

Bug ID	Description
108725	<p><b>Symptom:</b> A higher CPU utilization was observed in some OAW-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><b>Scenario:</b> This issue occurred when the guest clients sent more number of HTTPS requests. This issue was observed in OAW-IAP93, OAW-IAP105, and OAW-IAP175P/175AC devices running 6.3.1.1-4.0 or later versions.</p>
104947	<p><b>Symptom:</b> A OAW-RAP109 was unable to send or receive data packets through the Ethernet0 port. The fix ensures that the OAW-IAP reboots when it stops sending or receiving packets through Ethernet0 port for about six minutes.</p> <p><b>Scenario:</b> This issue was not limited to a specific OAW-IAP model or software release version.</p>
110994	<p><b>Symptom:</b> An OAW-IAP225 device crashed and rebooted. A change in the internal OAW-IAP code has resolved this issue.</p> <p><b>Scenario:</b> This issue was found in an OAW-IAP cluster with OAW-IAP225 and OAW-IAP275 devices running 6.4.2.0-4.1.1 release.</p>
111019	<p><b>Symptom:</b> The client Idle time in the <b>show ap debug client-table ap-name</b> command output was not reset when APs received null data packets. This issue is resolved by updating an internal module.</p> <p><b>Scenario:</b> 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 OAW-IAP224/225 devices running 6.4.2.0-4.1.1.1 or later.</p>
111418	<p><b>Symptom:</b> The OAW-IAP104/105 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 OAW-IAP code.</p> <p><b>Scenario:</b> This issue was observed in OAW-IAP104/105 running 6.4.2.0-4.1.1.1 and earlier release versions.</p>



## OmniVista

**Table 61:** *OmniVista Fixed Issue*

Bug ID	Description
109732	<p><b>Symptom:</b> A OAW-RAP3WN managed by OmniVista went back to partial factory default setting. To resolve this issue, log out of the OmniVista session and then log in again.</p> <p><b>Scenario:</b> This issue occurred when OmniVista propagated the configuration template while provisioning an OAW-IAP. This issue was observed in all OAW-IAPs running 6.4.2.0-4.1.1.1 or earlier versions.</p>

## AirGroup

**Table 62:** *AirGroup Fixed Issues*

Bug ID	Description
108666	<p><b>Symptom:</b> AirGroup servers with uppercase letters in the service ID were not displayed in the output for the <b>show airgroup servers</b> command. This issue is resolved by making the entry for the service ID as case-sensitive.</p> <p><b>Scenario:</b> 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 OAW-IAP model or Instant release version.</p>
107215	<p><b>Symptom:</b> OAW-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 OAW-IAP code.</p> <p><b>Scenario:</b> This issue occurred when the OAW-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 OAW-IAP model and was found in OAW-IAPs running 6.3.1.1-4.0.0.0 release or later versions.</p>

## ARM

**Table 63:** *ARM Fixed Issues*

Bug ID	Description
109601	<p><b>Symptom:</b> The OAW-IAP UI and CLI displayed incorrect values for transmission power when the OAW-IAPs were operating in certain DFS channels such as 116. The fix ensures that the OAW-IAP UI and CLI display the correct values for transmission power when operating in DFS channels.</p> <p><b>Scenario:</b> This issue occurred when the OAW-IAPs were operating in DFS channel such as 116 in the US regulatory domain and was observed in the OAW-IAP135 and OAW-IAP105 devices running 6.4.2.0-4.1.1 release.</p>
110143	<p><b>Symptom:</b> An OAW-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 OAW-IAP code has resolved this issue.</p> <p><b>Scenario:</b> This issue was found in the OAW-IAP103 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><b>Symptom:</b> 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><b>Scenario:</b> 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 OAW-IAPs running 6.4.2.0-4.1.1.1 release version.</p>

## Authentication

**Table 64:** *Authentication Fixed Issues*

Bug ID	Description
108831	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue occurred when the dynamic WEP authentication was configured on the SSID with accounting enabled. This issue was not limited to a specific OAW-IAP model or software version.</p>
110935	<p><b>Symptom:</b> The virtual controller sent the accounting packet with an old class ID for the reconnecting clients. The OAW-IAPs now send the accounting packets with appropriate class IDs, after a successful client authentication.</p> <p><b>Scenario:</b> This issue was not limited to any specific OAW-IAP platform or release version.</p>
111417	<p><b>Symptom:</b> When Opportunistic Key Caching (OKC) was enabled, the 802.11r capable Apple Mac devices were unable to reconnect to the OAW-IAP. This issue was resolved by making a change in the OAW-IAP code.</p> <p><b>Scenario:</b> This issue occurred because OAW-IAP did not support OKC for Mac clients. Due to this, the non-OKC clients must re-associate to an OAW-IAP after silently disconnecting from the IAP. This issue was found in OAW-IAPs running Instant 6.3.x.x-4.0.0.x releases.</p>

## CLI

**Table 65:** *CLI Fixed Issues*

Bug ID	Description
109165	<p><b>Symptom:</b> The OAW-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><b>Scenario:</b> This issue occurred when the CLI process was left idle for a long time and was found in OAW-IAPs running 6.4.2.0-4.1.1 or later versions.</p>

## Datapath

**Table 66:** *Datapath Fixed Issues*

Bug ID	Description
108579	<p><b>Symptom:</b> 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><b>Scenario:</b> 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 OAW-IAP platform or software version.</p>
109428	<p><b>Symptom:</b> The clients connected to a slave OAW-IAP could not access the Internet when the <b>Deny inter user bridging</b> feature was enabled. To resolve this issue, a change in the code was introduced to handle ARP response packets from the slave OAW-IAP to other IP addresses in VLAN subnet.</p> <p><b>Scenario:</b> This issue occurred when the guest VLAN was configured on the SSID and <b>Deny inter user bridging</b> was set to enabled. This issue was found in OAW-IAPs running 6.4.2.0-4.1.1 release version.</p>
110454	<p><b>Symptom:</b> When a 0.0.0.0 route was configured in a routing profile, the OAW-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><b>Scenario:</b> This issue occurred when a 0.0.0.0 route was configured in a routing profile for the centralized L2 client and the <b>Split-tunnel</b> option was enabled for the centralized L2 DHCP profile. This issue was found this OAW-IAPs running 6.4.2.0-4.1.1 release version.</p>
110949	<p><b>Symptom:</b> The slave OAW-IAPs could not be reached from the network. A change in the uplink VLAN settings has resolved this issue.</p> <p><b>Scenario:</b> This issue was found in OAW-IAPs running 6.4.2.0-4.1.1 release version when the <b>enet-vlan</b> configuration setting was not applied for the uplink VLAN on the slave OAW-IAP.</p>

## IAP-VPN

**Table 67:** *IAP-VPN Fixed Issue*

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

## SNMP

**Table 68:** *SNMP Fixed Issues*

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

## STM

**Table 69:** *STM Fixed Issues*

Bug ID	Description
104639	<p><b>Symptom:</b> 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><b>Scenario:</b> 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 OAW-IAP platform.</p>
109429	<p><b>Symptom:</b> The Change of Authorization (CoA) requests were acknowledged by the master OAW-IAP, although the RADIUS server sent the Change of Authorization (CoA) requests to the slave OAW-IAP. A change in the OAW-IAP code has resolved this issue.</p> <p><b>Scenario:</b> This issue occurred when a client was connected to the slave OAW-IAP and the CoA requests were sent to the slave OAW-IAP by the RADIUS server. As the requests were acknowledged by the master OAW-IAP, the RADIUS server could not process these messages and kept sending CoA requests to the slave OAW-IAP. This issue was found in OAW-IAPs running 6.3.1.1-4.0 release or later versions.</p>

## Uplink Configuration

**Table 70:** *Uplink Configuration Fixed Issues*

Bug ID	Description
108830	<p><b>Symptom:</b> 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><b>Scenario:</b> 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 OAW-IAPs running 6.4.2.0-4.1.1 release or earlier versions.</p>
108538	<p><b>Symptom:</b> When an OmniVista managed OAW-IAP was quickly unplugged from the cluster, after the OmniVista server applied the PPPoE configuration and the OAW-IAP configuration was restored to initial configuration, the PPPoE uplink connection could not be established on the OAW-IAP. To resolve this issue, OAW-IAPs now send the <b>Configuration is successfully synchronized from management server</b> message to the management server after a configuration check. Due to this change, the administrators must verify the configuration synchronization event on OmniVista, before unplugging or powering off the OAW-IAP.</p> <p><b>Scenario:</b> This issue occurred when the OAW-IAP was unplugged before the PPPoE configuration details were completely synchronized with the AMP management server. As a result, if the OAW-IAP failed to establish connection with the OmniVista server after a reboot, the OAW-IAP configuration including the PPPoE configuration applied from the OmniVista server was lost. This issue was observed in OAW-IAPs running 6.3.1.1-4.0 or earlier versions.</p>

## User Interface

**Table 71:** *User Interface Fixed Issues*

Bug ID	Description
109171	<p><b>Symptom:</b> The OAW-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><b>Scenario:</b> This issue was observed in 6.4.2.0-4.1.1.1 or earlier release versions when the names of the OAW-IAP clients contained special characters.</p>
109669	<p><b>Symptom:</b> OAW-IAPs presented the Alcatel-Lucent logo in the browser URL bar during captive portal authentication. To resolve this issue, a check in the OAW-IAP code is added.</p> <p><b>Scenario:</b> Although a customized captive portal certificate was uploaded on the OAW-IAP, the OAW-IAP ignored the certificate and displayed the Alcatel-Lucent logo in the browser URL bar during authentication. This issue was not limited to a specific OAW-IAP platform or release version.</p>
110593	<p><b>Symptom:</b> Although the <b>Client IP assignment</b> was set to <b>Network assigned</b> and the <b>Client VLAN assignment</b> was set to the <b>Dynamic</b> option with a VLAN ID in the SSID configuration, the OAW-IAP UI displayed the <b>Client IP assignment</b> mode as <b>Virtual Controller managed</b> and <b>Client VLAN assignment</b> as <b>Custom</b> on the <b>VLAN</b> tab of the WLAN SSID wizard.</p> <p><b>Scenario:</b> This issue was observed in OAW-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 72:** *Wi-Fi Driver Fixed Issues*

Bug ID	Description
111138	<b>Symptom:</b> 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 OAW-IAP code has resolved this issue. <b>Scenario:</b> This issue was found in OAW-IAPs running 6.4.2.0-4.1.1 release version.
110481	<b>Symptom:</b> Sometimes, the OAW-IAP225 devices buffered packets for too long. A driver update in the OAW-IAP has resolved this issue. <b>Scenario:</b> This issue occurred when the AP buffered packets for an 802.11b client. The issue was found in OAW-IAPs running 6.4.2.0-4.1.1.1.
110524	<b>Symptom:</b> Some unknown SSIDs were displayed on Apple® devices. To resolve this issue, upgrade to 6.4.2.3-4.1.1.2 release version. <b>Scenario:</b> This issue was observed in OAW-IAPs running 6.4.2.0-4.1.1 release when hidden SSIDs were configured.
110650	<b>Symptom:</b> An OAW-IAP225 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. <b>Scenario:</b> This issue occurred when hidden SSIDs were configured on the OAW-IAPs and was found in OAW-IAPs running 6.4.2.0-4.1.1.

## 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 73:** *Authentication Fixed Issues*

Bug ID	Description
105221	<b>Symptom:</b> When using separate accounting servers for a specified OAW-IAP, the accounting packets were not being sent to both accounting servers. This issue is resolved after making an internal code change. <b>Scenario:</b> This issue occurs when the user sets 2 accounting servers for accounting purposes. This issue was observed in all OAW-IAPs running Instant 6.4.2.0-4.1.1.0 release.
106750	<b>Symptom:</b> 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. <b>Scenario:</b> The OAW-IAP works fine with open system ESSID and static WEP, but fails when dynamic WEP is used. This issue was observed in OAW-IAP225 running Instant 6.3.1.1-4.0.0.0 release and later versions.

### Captive Portal

**Table 74:** *Captive Portal Fixed Issue*

Bug ID	Description
105924	<b>Symptom:</b> Captive Portal did not work with custom certificates. This issue is resolved by adding a support unencrypted private key in the custom certificate. <b>Scenario:</b> 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 OAW-IAPs running Instant 6.3.1.1-4.0.0.0 and later versions.

## Datapath / Firewall

**Table 75: Datapath / Firewall Fixed Issue**

Bug ID	Description
106268	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue was observed because of the pre-auth role ACL and was observed in OAW-IAP225 running Instant 6.4.2.0-4.1.1.0 and earlier releases.</p>

## General

**Table 76: General Fixed Issues**

Bug ID	Description
106291	<p><b>Symptom:</b>OAW-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 OAW-IAPs from rebooting automatically.</p> <p><b>Scenario:</b> This issue occurred when the OAW-IAP changed the system time based on the data in the UDP packets. This issue is not limited to a specific OAW-IAP model or software release version.</p>
108209	<p><b>Symptom:</b>OAW-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><b>Scenario:</b> This issue was observed in OAW-IAP220 series and OAW-IAP270 series access points running Instant 6.4.0.2-4.1.0.x versions.</p>

## IDS

**Table 77: IDS Fixed Issue**

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

## Mesh

**Table 78: Mesh Fixed Issues**

Bug ID	Description
105155	<p><b>Symptom:</b> SNMPv3 traps with inform enabled were not getting processed on the OAW-IAP204/205 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><b>Scenario:</b> This issue occurred when the SNMPv3 INFORM receiver was configured on the OAW-IAP204/205 platforms. This issue was observed in OAW-IAP204/205 platforms running Instant 6.4.2.0-4.1.1.0 release.</p>
108512	<p><b>Symptom:</b> Large number of packet drops were reported on the OAW-IAP Mesh point. This issue is resolved by making an internal code change.</p> <p><b>Scenario:</b> When reporting the failed tx packets, OAW-IAP also included the 802.11 management packets and some control packets which were not relevant for the report. This issue was observed in OAW-IAP175P/175AC running Instant6.4.0.3-4.1.0.2 release.</p>

## SNMP

**Table 79:** *SNMP Fixed Issues*

Bug ID	Description
105155	<p><b>Symptom:</b> SNMPv3 traps with inform enabled were not getting processed on the OAW-IAP204/205 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><b>Scenario:</b> This issue occurred when the SNMPv3 INFORM receiver was configured on the OAW-IAP204/205 platforms. This issue was observed in OAW-IAP204/205 platforms running Instant 6.4.2.0-4.1.1.1 release.</p>
107073	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue occurred when an existing SSID was disabled. This issue was not limited to a specific OAW-IAP model and was found in OAW-IAPs running Instant 6.4.2.0-4.1.1 and earlier versions.</p>

## STM

**Table 80:** *STM Fixed Issue*

Bug ID	Description
106383	<p><b>Symptom:</b> 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><b>Scenario:</b> This issue was observed when the clients roam from one OAW-IAP to another with PMK cache. This issue was not limited to a specific OAW-IAP model or Instant software release version.</p>

## VPN

**Table 81:** *VPN Fixed Issue*

Bug ID	Description
108068	<p><b>Symptom:</b> An OAW-IAP managed through OmniVista 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.</p> <p><b>Scenario:</b> This issue is not limited to a specific OAW-IAP model or software release version.</p>

## 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 82:** *User Interface Fixed Issue*

Bug ID	Description
104466	<p><b>Symptom:</b> An OAW-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.</p> <p><b>Scenario:</b> 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 OAW-IAPs running Instant 6.4.0.3-4.1.0.1 release.</p>