

HPE Aruba Networking Central Licensing Guide



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This document describes the HPE Aruba Networking Central Foundation and Advanced Licenses and provides detailed information about the different license types, the features and devices supported in each license type, and how to manage the devices and services.

Intended Audience

This guide is intended for network administrators who are responsible for adding and assigning licenses to devices in HPE Aruba Networking Central.

Related Documents

In addition to this document, see the [HPE Aruba Networking Help Center](#) for more details about SD-Branch and HPE Aruba Networking Central.

Conventions

[Table 1](#) lists the typographical conventions used throughout this guide to emphasize important concepts.

Table 1: *Typographical Conventions*

Type Style	Description
<i>Italics</i>	This style is used to emphasize important terms and to mark the titles of books.
System items	This fixed-width font depicts the following: <ul style="list-style-type: none">▪ Sample screen output▪ System prompts
Bold	<ul style="list-style-type: none">▪ Keys that are pressed▪ Text typed into a GUI element▪ GUI elements that are clicked or selected

The following informational icons are used throughout this guide:



Indicates helpful suggestions, pertinent information, and important things to remember.



Indicates a risk of damage to your hardware or loss of data.



Indicates a risk of personal injury or loss of life.

Terminology Change

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

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

Contacting Support

Table 2: *Contact Information*

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

HPE Aruba Networking Central Licenses

As part of the shift to an Edge-to-Cloud Platform-as-a-Service organization, HPE Aruba Networking has introduced the subscription licenses — HPE Aruba Networking Central Foundation and Advanced (HPE Aruba Networking Central Licenses) on a per-device basis. This is a uniform software subscription licensing model that will be extended to all products under the HPE Aruba Networking Central-managed portfolio. The new 1, 3, 5, 7, and 10-year fixed-term licenses offer you the flexibility to choose services and device operations that are most meaningful to the type of business that you own.



The Device Management and Service Token licensing model is not relevant as of Nov 2021. The previous licensing model is changed to the new licensing model, which provides a uniform licensing structure for all types of devices such as APs, switches, and gateways.

For more information about the features supported, see [HPE Aruba Networking Central Licenses Feature Details](#) and [HPE Aruba Networking Central Data Sheet](#).



Managing subscriptions will be available in the HPE GreenLake portal. For more information, see **Manage** section in the *HPE GreenLake Edge to Cloud Platform User Guide*, using the following link:
https://support.hpe.com/hpesc/public/docDisplay?docId=a00120892en_us

In addition, flexible consumption options and payment models are available with the as-a-Service (aaS) SKUs for access points, switches, and gateways. The flexible consumption options include delayed activation for up to 90 days, license co-termination, mid-cycle tier upgrade, and seamless license renewal.

This chapter includes the following topics:

- [License Types for Devices](#) - The HPE Aruba Networking Central licensing model provides different licenses for APs, switches, and gateways.



The licenses for APs, switches, and gateways cannot be used interchangeably. For example, you cannot use an AP Foundation License on a gateway. Similarly, if you have an HPE Aruba Networking 25xx Switch but the license available is for an HPE Aruba Networking 29xx Switch, the HPE Aruba Networking 29xx Switch license cannot be applied to the HPE Aruba Networking 25xx Switch.

- [Supported Devices](#) - The HPE Aruba Networking Central Licenses support APs, switches, and gateways depending on the device model.
- [Supported Features](#) - The features that are available in both the Foundation and Advanced Licenses have different AI, API, monitoring, configuration, troubleshooting, security, service, and EdgeConnect SD-Branch options depending on the licensing tier.

License Types for Devices

This section provides information about the types of licenses depending on the device.

Access Points

Table 3: *Access Points License Types*

License Type	Description
Foundation	This license provides all the features for APs.
Advanced	This license provides all the features included in the Foundation License, with additional features related to AI Insights and WLAN services.

For more information, see [HPE Aruba Networking Central SaaS Subscription Ordering Guide](#) and [HPE Aruba Networking Central Data Sheet](#).

Switches (AOS-S and AOS-CX)

Table 4: *Switches License Types*

License Type	Description
Foundation	This license provides all the features for switches (AOS-S and AOS-CX).
Advanced	This license provides all the features included in the Foundation License, with additional feature related to Central NetConductor Fabric.

For more information, see [HPE Aruba Networking Central SaaS Subscription Ordering Guide](#) and [HPE Aruba Networking Central Data Sheet](#).

Gateways

Table 5: *Gateways License Types*

Deployment Model	License Type	Description
Wireless gateways	Gateway WLAN Advanced	This license provides functionality for wireless cloud management.
	Gateway WLAN Advanced with Security	This license provides functionality for wireless cloud management with some additional security features.

Deployment Model	License Type	Description
SD-Branch (Branch and VPNC)	SD-Branch Foundation	This license provides all features required for SD-Branch functionality in branch or headend deployments.
	SD-Branch Foundation Base	This license provides all the features included in a Foundation License but can support only up to 75 client devices per branch site.
	SD-Branch Foundation with Security	This license provides all features required for SD-WAN functionality in branch or headend deployments and some additional security features.
	SD-Branch Foundation Base with Security	This license provides all the features included in a Foundation with Security License, but can support only up to 75 client devices per branch.
	SD-Branch Advanced	This license provides all the features included in a Foundation License, with additional features related to SaaS Express and AI Insights.
	SD-Branch Advanced with Security	This license provides all the features of an Advanced License, with additional security features related to IPS and IDS, security dashboard, and anti-malware.
VPNC	Virtual Gateway (VGW) License	This license is available for AWS, Azure, GCP, and ESXi platforms and is licensed based on the bandwidth required. The license types available for VGW are, VGW-500M, VGW-2G, and VGW-4G.



Wireless gateway deployments do not require any SD-Branch licenses. However, if a gateway has an SD-Branch license, the gateway can still perform wireless management.

For more information, see [HPE Aruba Networking Central SaaS Subscription Ordering Guide](#) and [HPE Aruba Networking Central Data Sheet](#).

For a detailed list of the features supported in each type of license, see [Supported Features](#).

For more information, see **Evaluation Licenses** section in the HPE Aruba Networking Central Help Center.



The Foundation and Advanced Licenses for APs, switches, WLAN gateways, and SD-Branch gateways are different and cannot be used interchangeably.

Supported Devices

The HPE Aruba Networking Central Licenses are supported for APs, switches, and gateways. The pricing structure for Foundation and Advanced Licenses for the hardware devices may differ based on the types of models. For more information on the individual device models supported, see the following sections.

APs and IAPs

All AP and IAP models that are currently being shipped are supported.

For more information, see **Supported Devices for AOS 10** and **Supported IAPs** section in the HPE Aruba Networking Central Help Center.

Switches

HPE Aruba Networking Central supports AOS-S and AOS-CX switches. All the switches used in a stack must have a license assigned in HPE Aruba Networking Central.

For more information, see **Supported AOS Switch Platforms** and **Supported AOS-CX Platforms** sections in the HPE Aruba Networking Central Help Center.

Gateways

Based on the licenses type, HPE Aruba Networking Central supports EdgeConnect SD-Branch and Cloud WLAN Gateway personas.

For more information, see **Supported Gateways** section in the HPE Aruba Networking Central Help Center.

Gateway WLAN Advanced License

The Gateway WLAN Advanced License is applicable to all gateways.

Gateway WLAN Advanced with Security License

The Gateway WLAN Advanced with Security License can be assigned to the following gateways:

- HPE Aruba Networking 9114 Gateway
- HPE Aruba Networking 9240 Gateway



Only the HPE Aruba Networking 9240 Base model will support security licenses. Security support for the HPE Aruba Networking 9240 with a Silver or Gold capacity licenses will be available in a future release. For more information, see [HPE Aruba Networking Wireless Operating System 10 Capacity Licenses](#).

EdgeConnect SD-Branch Foundation and EdgeConnect SD-Branch Advanced License

The EdgeConnect SD-Branch Foundation and EdgeConnect SD-Branch Advanced License are applicable to all gateways.

EdgeConnect SD-Branch Foundation Base License

The EdgeConnect SD-Branch Foundation Base License can be assigned to the following gateways:

- HPE Aruba Networking 7005, 7008, 9004, 9004-LTE, 9012

This license includes all the features available in the EdgeConnect SD-Branch Foundation License. However, this license can support only up to 75 client devices per branch.

When the client capacity reaches the threshold, HPE Aruba Networking Central triggers an alert to indicate the EdgeConnect SD-Branch Foundation Base License capacity limit has exceeded. If the notification option for the license capacity limit exceeded alert is configured, HPE Aruba Networking

Central sends an email notification with a list of HPE Aruba Networking gateways that exceed the client-capacity threshold. You can also configure alerts to trigger an incident using Webhook.

For more information, see **Gateway Alerts** section in the HPE Aruba Networking Central Help Center.

EdgeConnect SD-Branch Foundation with Security, EdgeConnect SD-Branch Foundation Base with Security, and EdgeConnect SD-Branch Advanced with Security License

The EdgeConnect SD-Branch Foundation with Security, EdgeConnect SD-Branch Foundation Base with Security, and EdgeConnect SD-Branch Advanced with Security License can be assigned to the following gateways:

- HPE Aruba Networking 9004 Gateway
- HPE Aruba Networking 9004-LTE Gateway
- HPE Aruba Networking 9012 Gateway
- HPE Aruba Networking 9114 Gateway
- HPE Aruba Networking 9240 Gateway

The HPE Aruba Networking 9114 and HPE Aruba Networking 9240 gateways can only use the security licenses in a branch persona. The security licenses in a VPNC persona will be available in a future release.

Only the HPE Aruba Networking 9240 Base model will support security licenses. Security support for the HPE Aruba Networking 9240 with a Silver or Gold capacity licenses will be available in a future release. For more information, see [HPE Aruba Networking Wireless Operating System 10 Capacity Licenses](#).



Virtual Gateway (VGW) License (VPNC only)

Virtual gateways have bandwidth based licenses. These licenses are valid on public cloud providers like AWS, Azure, and Google Cloud, including on-premises Hypervisors like VMware ESXi. Currently, the bandwidth licenses available are 500 Mbps, 2 Gbps, and 4 Gbps.

HPE Aruba Networking Virtual Gateway is a virtual instance of the headend gateway for HPE Aruba Networking EdgeConnect SD-Branch. HPE Aruba Networking Central supports licenses based on the bandwidth capacity for virtual gateways. All license assignments are undertaken by the virtual gateway orchestration app.

The following are the options available for Virtual Gateway Licenses:

- License duration—1 year, 3 years, and 5 years
- Available bandwidths—500 Mbps, 2 Gbps, and 4 Gbps
- Available HPE Aruba Networking Virtual Gateways based on the bandwidth—VGW-500M for 500 Mbps, VGW-2G for 2 Gbps, and VGW-4G for 4Gbps

HPE Aruba Networking Central maintains a pool of Virtual Gateway Licenses. When a Virtual Gateway License expires and there are no available Virtual Gateway Licenses, the expired license is unassigned from the HPE Aruba Networking Central account. The availability of SKUs is dependent on the installation consuming the license. If a Virtual Gateway License expires and there is a similar new license available, the new license is assigned to the Virtual Gateway, provided that the **Auto-Subscribe** option is enabled.

For more information, see the **Device** section in the *HPE GreenLake Edge to Cloud Platform User Guide*, using the following link:

https://support.hpe.com/hpesc/public/docDisplay?docId=a00120892en_us

For an HPE Aruba Networking Central evaluation account, four licenses of each base SKU are assigned to the account. These evaluation licenses are valid for 90 days.

The list of licenses available against consumed licenses is also displayed during the deployment of a Virtual Gateway.

When the client capacity reaches the threshold, HPE Aruba Networking Central triggers an alert to indicate the Gateway Base License capacity limit has exceeded. If the notification option for the license capacity limit exceeded alert is configured, HPE Aruba Networking Central sends an email notification with a list of HPE Aruba Networking gateways that exceed the client-capacity threshold. You can also configure alerts to trigger an incident using Webhook.

For more information, see **Gateway Alerts** section in the HPE Aruba Networking Central Help Center.

For more information, see [HPE Aruba Networking Central SaaS Subscription Ordering Guide](#).

Supported Features

HPE Aruba Networking Central supports features tied to the Foundation and Advanced Licenses. For more information about the different configuration and monitoring options, see the following sections.

- [AP Foundation and Advanced License](#)
- [Switch Foundation and Advanced License](#)
- [Gateway Licenses](#)

For more information about the features supported, see [HPE Aruba Networking Central Licenses Feature Details](#) and [HPE Aruba Networking Central Data Sheet](#).

Switch Foundation and Advanced License

The Switch Foundation and Advanced License for HPE Aruba Networking Central includes the following features:

Feature Category	Foundation License Features	Advanced License Features
Configuration	<ul style="list-style-type: none">▪ UI- and template-based group configuration▪ Auto-commit▪ Configuration audit▪ Multi-editor configuration <p>NOTE: Multi-editor configuration is supported for AOS-CX only</p> <ul style="list-style-type: none">▪ Stack management <p>NOTE: Stack management is supported for AOS-CX only</p>	All the features in Foundation
Monitoring and Reporting	<ul style="list-style-type: none">▪ Network Health, Summary Dashboards▪ Network Topology View▪ Client List and Details	All the features in Foundation

Feature Category	Foundation License Features	Advanced License Features
	<ul style="list-style-type: none"> ▪ Switch List and Details ▪ Access to all monitoring data for up to 30 days ▪ Access to reporting data for up to 90 days ▪ Access to historical Summary report data for up to one year ▪ Audit Trail ▪ Alerts and Events 	
AI Operations	<ul style="list-style-type: none"> ▪ AI Search ▪ AI Insights <ul style="list-style-type: none"> ◦ Availability – Switch 	All the features in Foundation
Troubleshooting	<ul style="list-style-type: none"> ▪ Network Check, Device Check, CLI commands ▪ Live Events and Packet Capture for wired client <p>NOTE: Live Events and Packet Capture are supported for AOS-S only.</p>	All the features in Foundation
Security	<ul style="list-style-type: none"> ▪ User-Based Tunneling (UBT) for Dynamic Segmentation ▪ Client Insights <p>NOTE: Client Insights is supported for AOS-CX only</p> <ul style="list-style-type: none"> ▪ Cloud Authentication <p>NOTE: Cloud Authentication is supported for AOS-CX only</p>	<ul style="list-style-type: none"> ▪ All the features in Foundation ▪ Central NetConductor Fabric Wizard <p>NOTE: Central NetConductor Fabric Wizard is supported for AOS-CX only</p>
API	Northbound (NB) API—The number of API calls per day is dynamic and is based on the number of subscribed devices (by default, the value is set to 5000 API calls per day).	All the features in Foundation Streaming API

AP Foundation and Advanced License

The AP Foundation and Advanced License for HPE Aruba Networking Central includes the following features:

Feature Category	Foundation License Features	Advanced License Features
Configuration	<ul style="list-style-type: none"> ▪ UI- and template-based group configuration <ul style="list-style-type: none"> ◦ SSID (Bridge Mode) ◦ IAP VPN ▪ Auto-commit ▪ Configuration audit ▪ Power Save (Manual and AI-driven power save) 	All the features in Foundation

Feature Category	Foundation License Features	Advanced License Features
Monitoring and Reporting	<ul style="list-style-type: none"> ▪ Network Health, Summary, Wi-Fi Connectivity Dashboards ▪ Network Topology View ▪ Visual RF Floorplans ▪ Client List and Details ▪ AP List and Details ▪ Go Live mode for Client, AP ▪ Application Visibility ▪ WebCC Firewall rules, visualization by reputation and category ▪ Access to all monitoring data for up to 30 days ▪ Access to reporting data for up to 90 days ▪ Access to historical Summary report data for up to one year ▪ Audit Trail ▪ Alerts and Events ▪ Access, Spectrum, Monitor mode of radio operations ▪ UXI Sensor Integration 	<ul style="list-style-type: none"> ▪ All the features in Foundation ▪ Air Slice <ul style="list-style-type: none"> ◦ Visibility and Prioritization of applications
AI Operations	<ul style="list-style-type: none"> ▪ AI Search ▪ AI Insights <ul style="list-style-type: none"> ◦ Connectivity—Wi-Fi ◦ Wireless Quality ◦ Availability—Access Points ◦ AI-driven AP Power Save ▪ AI Assist <ul style="list-style-type: none"> ◦ Dynamic logs <p>NOTE: Dynamic Logs is supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable it in your HPE Aruba Networking Central account.</p>	<ul style="list-style-type: none"> ▪ All the features in Foundation ▪ AI Insights—Wireless Quality <ul style="list-style-type: none"> ◦ Outdoor clients impacting Wi-Fi performance ◦ Coverage Hole Detection ◦ Transmit power optimization ◦ Improve RF resiliency by switching APs between switch stacks ▪ AI Assist <ul style="list-style-type: none"> ◦ HPE Aruba Networking support notification <p>NOTE: HPE Aruba Networking support notification is supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable it in your account.</p>
Troubleshooting	<ul style="list-style-type: none"> ▪ Network Check, CLI commands ▪ Live Events for Client and AP, Packet Capture 	All the features in Foundation
Services	<ul style="list-style-type: none"> ▪ AirGroup (In InstantOS-based APs, the service is hosted on the IAP Virtual controller and all services are supported.) 	<ul style="list-style-type: none"> ▪ All the features in Foundation ▪ Multi-zone ▪ Live Upgrades

Feature Category	Foundation License Features	Advanced License Features
	<p>NOTE: AirGroup is supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable it in your HPE Aruba Networking Central account.</p> <ul style="list-style-type: none"> ▪ AirMatch ▪ ClientMAtch ▪ DC failover (primary to secondary cluster) for mixed or tunnel profiles. <p>NOTE: Any mixed or tunnel profile configuration in a configuration group that includes different primary cluster selections is considered multi-zone and requires an Advanced license.</p> <ul style="list-style-type: none"> ▪ RF Management Services <ul style="list-style-type: none"> ◦ Adaptive Radio Management (ARM) ◦ ClientMatch ▪ Presence Analytics ▪ IoT Operations ▪ Air Pass 	<ul style="list-style-type: none"> ▪ UCC <p>NOTE: UCC is supported in this release as Early-Access features. Contact your SE or Account Manager to enable these in your HPE Aruba Networking Central account.</p>
<u>Security</u>	<ul style="list-style-type: none"> ▪ Cloud Guest ▪ Cloud Authentication and Policy ▪ Client Insights ▪ Clients Profile ▪ RAPIDS ▪ WIPS/WIDS <p>NOTE: Clients Profile and RAPIDS are supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable these in your account.</p>	<ul style="list-style-type: none"> ▪ All the features in Foundation
<u>API</u>	<p>Northbound (NB) API—The number of API calls per day is dynamic and is based on the number of subscribed devices (by default, the value is set to 5000 API calls per day).</p>	<ul style="list-style-type: none"> ▪ All the features in Foundation ▪ Streaming API
<u>EdgeConnect SD-Branch</u>	<p>Enables availability, orchestration, security, and monitoring features such as:</p> <ul style="list-style-type: none"> ▪ Layer 2, layer 3 and mixed tunnels ▪ Data Center and WAN redundancy ▪ Cloud Auth survivability ▪ Route or tunnel orchestration ▪ Policy-based routing ▪ Dynamic subnet allocation ▪ Microbranch monitoring 	<ul style="list-style-type: none"> ▪ All the features in Foundation ▪ WAN health visibility ▪ SSE integration using the Cloud Connect Service to connect Microbranch to HPE Aruba Networking SSE (Axis Security acquisition), Zscaler and others.

Gateway Licenses

HPE Aruba Networking Central offers various features based on the following license types.

- [Gateway WLAN Advanced License](#)
- [Gateway WLAN Advanced with Security License](#)
- [SD-Branch Foundation, Foundation Base, and Advanced License](#)
- [EdgeConnect SD-Branch Foundation with Security, EdgeConnect SD-Branch Foundation Base with Security, and EdgeConnect SD-Branch Advanced with Security License](#)
- [Virtual Gateway \(VGW\) License](#)

For more information about the features supported, see [HPE Aruba Networking Central Licenses Feature Details](#).

Gateway WLAN Advanced License

The Gateway WLAN Advanced License for HPE Aruba Networking Central includes the following features:

Feature Category	Gateway WLAN Advanced License Features
EdgeConnect SD-Branch	<ul style="list-style-type: none"> ▪ Gateway Clustering ▪ Tunneling ▪ Routing
Configuration	<ul style="list-style-type: none"> ▪ Mobility Gateway Management ▪ UI and Template based Group Configuration ▪ Configuration Audit
Monitoring and Reporting	<ul style="list-style-type: none"> ▪ Network Health and Summary Dashboards ▪ Network Topology View ▪ Client List and Details ▪ Application Visibility ▪ Web Content Classification ▪ Access to all monitoring data for up to 30 days ▪ Access to reporting data for up to 90 days ▪ Access to historical Summary report data for up to one year ▪ Audit Trail ▪ Alerts and Events
AI Operations	<ul style="list-style-type: none"> ▪ AI Search ▪ AI Insights <ul style="list-style-type: none"> ◦ Availability – Gateways ▪ AI Assist <ul style="list-style-type: none"> ◦ Dynamic logs <p>NOTE: Dynamic Logs is supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable it in your HPE Aruba Networking Central account.</p>
Troubleshooting	<ul style="list-style-type: none"> ▪ Network Check and CLI commands ▪ Live Events
API	Northbound (NB) API—The number of API calls per day is dynamic and is based on the number of subscribed devices (by default, the value is set to 5000 API calls per day).

For more information about the features supported, see [HPE Aruba Networking Central Licenses Feature Details](#).

Gateway WLAN Advanced with Security License

The Gateway WLAN Advanced with Security License for HPE Aruba Networking Central includes the following features:

Gateway WLAN Advanced with Security License

All the features in Gateway WLAN Advanced

- Intrusion Detection and Prevention (IDS/IPS)
- Anti-malware
- Security Dashboard

For more information about the features supported, see [HPE Aruba Networking Central Licenses Feature Details](#).

SD-Branch Foundation, Foundation Base, and Advanced License

The EdgeConnect SD-Branch Foundation, EdgeConnect SD-Branch Foundation Base, and EdgeConnect SD-Branch Advanced License for HPE Aruba Networking Central includes the following features:

The EdgeConnect SD-Branch Foundation Base License provides all the features required for SD-Branch functionality in branch deployments (i.e. features included in the SD-Branch Foundation License). This license can support only up to 75 client devices per branch.



Feature Category	EdgeConnect SD-Branch Foundation and Foundation Base License Features	EdgeConnect SD-Branch Advanced License Features
EdgeConnect SD-Branch	<ul style="list-style-type: none"> ▪ Branch Gateway and VPNC Management <p>NOTE: As Foundation Base License is for branch deployments, only the Branch Gateway feature is supported in this license and not the VPNC Management feature.</p> <ul style="list-style-type: none"> ▪ Stateful Firewall ▪ IPsec VPN ▪ Client VPN (VIA) ▪ Static and Dynamic Routing (BGP, OSPF, RIPv2) ▪ SD-WAN Route and Tunnel orchestration ▪ Orchestrated Cloud IaaS connectivity (AWS, Azure) ▪ Orchestrated SASE Integration ▪ Dynamic Path Steering ▪ Link Redundancy ▪ 4 WAN links plus 1 LTE link ▪ Application-based policies ▪ High Availability (Active-Standby or Active-Active) ▪ Web content filtering 	<ul style="list-style-type: none"> ▪ All the features in Foundation ▪ Central NetConductor Fabric wizard

Feature Category	EdgeConnect SD-Branch Foundation and Foundation Base License Features	EdgeConnect SD-Branch Advanced License Features
	<ul style="list-style-type: none"> ▪ Role-based Access Policy ▪ Full SD-LAN Control ▪ Clients Profile 	
<u>Configuration</u>	<ul style="list-style-type: none"> ▪ UI- and template-based group configuration ▪ Configuration audit 	All the features in Foundation
<u>Monitoring and Reporting</u>	<ul style="list-style-type: none"> ▪ Network, WAN Health, Summary Dashboards ▪ Network Topology View ▪ Client List and Details ▪ Gateway List and Details ▪ Go Live mode for Client ▪ Application Visibility ▪ WebCC Firewall rules, visualization by reputation and category ▪ Access to all monitoring data for up to 30 days ▪ Access to reporting data for up to 90 days ▪ Access to historical Summary report data for up to one year ▪ Audit Trail ▪ Alerts and Events ▪ Firewall Logging 	<ul style="list-style-type: none"> ▪ All the features in Foundation
<u>AI Operations</u>	<ul style="list-style-type: none"> ▪ AI Search ▪ AI Insights - Availability <ul style="list-style-type: none"> ◦ Gateways with high CPU utilization ◦ Gateways with high memory usage ◦ Failure to establish gateways tunnels ▪ AI Assist <ul style="list-style-type: none"> ◦ Dynamic logs <p>NOTE: Dynamic Logs is supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable it in your HPE Aruba Networking Central account.</p> ▪ WAN Insights (WAN policy recommendations and peer comparisons) 	<ul style="list-style-type: none"> ▪ AI Insights - Availability <ul style="list-style-type: none"> ◦ Gateways with uncommon health-probe IPs ◦ Gateways with under-performing WAN links ◦ Gateways WAN uplinks with higher latency than peers
<u>Troubleshooting</u>	Network Check, CLI commands	All the features in Foundation
<u>API</u>	Northbound (NB) API—The number of API calls per day is dynamic and is based on the number of subscribed devices (by default, the value is set to 5000 API calls per day).	All the features in Foundation Streaming API
<u>Services</u>	Not Applicable	SaaS Express

For more information about the features supported, see [HPE Aruba Networking Central Licenses Feature Details](#).

EdgeConnect SD-Branch Foundation with Security, EdgeConnect SD-Branch Foundation Base with Security, and EdgeConnect SD-Branch Advanced with Security License

The EdgeConnect SD-Branch Foundation with Security, EdgeConnect SD-Branch Foundation Base with Security, and EdgeConnect SD-Branch Advanced with Security License for HPE Aruba Networking Central includes the following features:

EdgeConnect SD-Branch Foundation with Security and EdgeConnect SD-Branch Foundation Base with Security License	EdgeConnect SD-Branch Advanced with Security License
All the features in EdgeConnect SD-Branch Foundation	All the features in EdgeConnect SD-Branch Advanced
<ul style="list-style-type: none"> ▪ Intrusion Detection and Prevention (IDS/IPS) ▪ Anti-malware ▪ Security Dashboard 	<ul style="list-style-type: none"> ▪ Intrusion Detection and Prevention (IDS/IPS) ▪ Anti-malware ▪ Security Dashboard

For more information about the features supported, see [HPE Aruba Networking Central Licenses Feature Details](#).

Virtual Gateway (VGW) License

The Virtual Gateway (VGW) License for HPE Aruba Networking Central includes the following features:

Feature Category	VGW License Features
EdgeConnect SD-Branch	<ul style="list-style-type: none"> ▪ VPNC Management ▪ Stateful Firewall ▪ IPsec VPN ▪ Client VPN ▪ GRE Tunnel ▪ Static and Dynamic Routing (BGP, OSPF, RIPv2) ▪ VGW orchestration in public cloud ▪ SD-WAN Route and Tunnel orchestration ▪ Orchestrated Cloud IaaS connectivity (AWS, Azure) ▪ Orchestrated SASE integration ▪ Link Redundancy ▪ High Availability (Active-Standby or Active-Active)

Feature Category	VGW License Features
<u>Configuration</u>	<ul style="list-style-type: none"> ▪ UI- and template-based group configuration ▪ Configuration audit
<u>Monitoring and Reporting</u>	<ul style="list-style-type: none"> ▪ Network, WAN Health, Summary Dashboards ▪ Network Topology View ▪ Access to all monitoring data for up to 30 days ▪ Access to reporting data for up to 90 days ▪ Access to historical Summary report data for up to one year ▪ Audit Trail ▪ Alerts and Events
<u>AI Operations</u>	<ul style="list-style-type: none"> ▪ AI Search ▪ AI Insights <ul style="list-style-type: none"> ◦ Availability – Gateways ▪ AI Assist <ul style="list-style-type: none"> ◦ Dynamic logs <p>NOTE: Dynamic Logs is supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable it in your HPE Aruba Networking Central account.</p>
<u>Troubleshooting</u>	Network Check, CLI commands
<u>API</u>	Northbound (NB) API: 5000 API calls/day per customer

For more information about the features supported, see [HPE Aruba Networking Central Licenses Feature Details](#).

HPE Aruba Networking Central Licenses

The following sections provide information about the HPE Aruba Networking Central features tied to Foundation and Advanced Licenses.

- [AI Operations](#)
- [API](#)
- [Configuration](#)
- [Monitoring and Reporting](#)
- [EdgeConnect SD-Branch](#)
- [Security](#)
- [Services](#)
- [Troubleshooting](#)

AI Operations

This topic provides the AI features for devices tied to Foundation and Advanced Licenses.

AI Insights

License Applicability: AI Insights is available for Foundation and Advanced Licenses for APs, switches, and gateways. The Insights that require an Advanced License are marked as Advanced in the UI.

The AI Insights dashboard displays a report of network events that could possibly affect the quality of the overall network performance. These are anomalies observed at the access point, connectivity, and client level for the selected time range. Each insight provides specific details on the occurrences of these events for easy debugging.

Different types of insights are generated by HPE Aruba Networking Central and they can be accessed from different contexts such as Global, Site, Clients, and Device. Some of the insights are part of an Advanced License only and they are marked as Advanced in the user interface.

The following figure displays various AI Insights available and some are marked as Advanced.

Figure 1 AI Insights List

Severity	Description	Category	Impact
High	Access Point transmit power can be optimized	Wireless Quality	11 dBm Delta
High	Coverage Hole Detected	Wireless Quality	88 Client Devices
High	Outdoor clients are impacting Wi-Fi performance	Wireless Quality	2809127 Outdoor Minutes (48.57 %), 380332 Indoor Minutes (0.95 %)
High	Dual-band (2.4/5 GHz) capable clients primarily used 2.4 GHz	Wireless Quality	6 (75 %) Impacted Clients, 8 Total Clients
High	Access Points had an excessive number of channel changes	Wireless Quality	40 Channel Changes, 2 (100 %) Impacted Radios, 2 Total Radios
High	Clients had excessive 802.1X authentication failures	Connectivity - Wi-Fi	9 Impacted Clients (100 % of 9), 3551 Failures (99.02 % of 3586)
High	Clients had excessive Wi-Fi security key-exchange failures	Connectivity - Wi-Fi	1 Impacted Clients (100 % of 1), 11 Failures (68.75 % of 16)
High	Clients had problems authenticating with the Captive Portal	Connectivity - Wi-Fi	1 Impacted Clients (100 % of 1), 6 Failures (100 % of 6)
High	Access Points had a high number of reboots	Availability - Access Point	5 (62.5 %) Impacted Access Points, 8 Total Access Points, 5 Reboots.
High	DNS server(s) rejected a high number of queries	Connectivity - Wi-Fi	606 (88.08 %) Failed Requests, 688 Total Requests
High	DNS request/responses were significantly delayed	Connectivity - Wi-Fi	14956 Average Delay (ms)
High	PVOS Switches had unusually high CPU utilization	Availability - Switch	4 (40 %) Impacted Switches, 10 Total Switches
High	PVOS Switches had unusually high memory usage	Availability - Switch	4 (40 %) Impacted Switches, 10 Total Switches
High	Gateways had unusually high CPU utilization	Availability - Gateway	13 Gateways
High	Gateways had high memory usage	Availability - Gateway	1 Gateways
High	Gateway tunnels failed to get established	Availability - Gateway	5 Tunnels Down
High	Clients had a significant number of Low SNR minutes	Wireless Quality	10 (40 %) Impacted Clients, 25 Total Clients
High	Clients had DHCP server connection problems	Connectivity - Wi-Fi	3 Impacted Clients (33.33 % of 9), 1851 Failures (95.27 % of 1943)
High	Clients had a high number of Wi-Fi Association failures	Connectivity - Wi-Fi	3 Impacted Clients (37.5 % of 8), 9 Failures (9.57 % of 94)
High	Clients had an unusual number of MAC authentication failures	Connectivity - Wi-Fi	4 Impacted Clients (36.36 % of 11), 21 Failures (29.17 % of 72)
High	Access Points had unusually high CPU utilization	Availability - Access Point	3 (30 %) Impacted Access Points, 10 Total Access Points
High	Access Points were impacted by high 2.4 GHz usage	Wireless Quality	8 (40 %) Impacted Access Point Radios, 20 Total Access Point Radios
High	Access Points were impacted by high 5 GHz usage	Wireless Quality	8 (40 %) Impacted Access Point Radios, 20 Total Access Point Radios
High	Access Point radios changed their transmit power frequently	Wireless Quality	357 Power Changes, 2 (50 %) Impacted Radios, 4 Total Radios
High	DNS queries failed to reach or return from the server	Connectivity - Wi-Fi	1146 (6.78 %) Lost Requests, 16900 Total Requests
High	PVOS Switches had an unusual number of port errors	Availability - Switch	1 (20 %) Impacted Switches, 5 Total Switches
High	Access Points with unusually high memory usage were found	Availability - Access Point	10 (10.1 %) Impacted Access Points, 99 Total Access Points
High	Information (telemetry) was not received from APs/Radios	Availability - Access Point	21 (1.87 %) Impacted Access Point Radios, 1124 Total Access Point Radios

The table below lists the features supported for AP, switch, and gateway licenses:

AP Foundation License	AP Advanced License	Switch Foundation	EdgeConnect SD-Branch Foundation, EdgeConnect SD-Branch Foundation Base, and VGW	EdgeConnect SD-Branch Advanced License
<ul style="list-style-type: none"> ■ Connectivity—Wi-Fi ■ Wireless Quality ■ Availability—Access Points 	<ul style="list-style-type: none"> ■ Wireless Quality <ul style="list-style-type: none"> ○ Outdoor clients impacting Wi-Fi performance ○ Coverage Hole Detection ○ Transmit power optimization ○ Improve RF resiliency by switching APs between switch stacks 	<ul style="list-style-type: none"> ■ Availability—Switch 	<ul style="list-style-type: none"> ■ Availability—Gateways <ul style="list-style-type: none"> ○ Gateways with high CPU utilization ○ Gateways with high memory usage ○ Failure to establish gateway tunnels 	<ul style="list-style-type: none"> ■ Availability—Gateways <ul style="list-style-type: none"> ○ Gateways with uncommon health-probe IPs ○ Gateways with under-performing WAN links ○ Gateways WAN uplinks with higher latency than peers



In this release, all AI Insights are available irrespective of the user role or HPE Aruba Networking Central subscription. In the upcoming HPE Aruba Networking Central release, AI Insights marked as **Advanced** in the user interface would require an advanced subscription.

AI Search

License Applicability: AI Search feature is available for Foundation License for AP, switch, and gateways.

The AI search feature in HPE Aruba Networking Central enables you to search for clients, devices, and infrastructure connected to the network. Using the search results, you can navigate to the configuration and troubleshooting pages. The search also retrieves relevant documentation to help you efficiently operate your networks. The search engine uses Natural Language Processing (NLP) to analyze queries and return relevant search results.

Dynamic Logs

License Applicability: Dynamic Log is available for both Foundation and Advanced Licenses for APs and gateways.

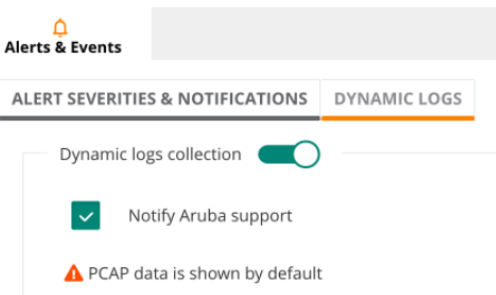
The Dynamic Logs feature enables HPE Aruba Networking Central to dynamically run CLI show commands on APs and gateways, and collect the output as logs. You can also enable HPE Aruba Networking support notification option to notify TAC support regarding the logs generated. These logs can be used to troubleshoot the APs and gateways.



Dynamic Logs is supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable it in your HPE Aruba Networking Central account.

The following figure displays the available options for Dynamic Logs.

Figure 2 *Dynamic Logs Option*



For devices assigned with the Foundation License, the Dynamic Logs feature only supports the log collection activity. Even if you enable the **Notify Aruba Support** option, the option is not activated for devices licensed with Foundation License.

For devices assigned with Advanced Licenses, Dynamic Logs support both log collection and the HPE Aruba Networking support notification option.

For example, assume an HPE Aruba Networking Central account with Dynamic Logs enabled, where you configure a group of three Access Points (APs), AP1, AP2, and AP3. AP1 has a Foundation License while AP2 and AP3 have Advanced Licenses. For this group, both **Dynamic logs collection** and **Notify Aruba Support** options are enabled. However, the HPE Aruba Networking support notification option is only applicable for AP2 and AP3, which have Advanced Licenses.

API

Streaming APIs

License Applicability: The Streaming API service requires that devices such as IAPs and gateways are assigned with Advanced License.

The Streaming API feature enables you to subscribe to a select set of services, instead of polling the NB API to get an aggregated state, or statistics of the events, pertinent to the monitoring activities of HPE Aruba Networking Central. With Streaming API, you can write value-added applications based on the aggregated context.

For example, with Streaming API, you are notified about the following types of events:

- The UP and DOWN status of the devices
- Change in location of stations

The Streaming API feature in HPE Aruba Networking Central is enabled only when any one of the devices in the account has an Advanced License. If the account has devices with only Foundation License, the Streaming API tab is not displayed in HPE Aruba Networking Central.

If the Streaming API feature is enabled, and the account has a mix of Foundation License and Advanced License for devices, the devices that are assigned with Foundation License do not stream any data for any topics.

Configuration

This topic provides the configuration features for devices tied to Foundation and Advanced Licenses.

AP Configuration

License Applicability: AP configuration is available for AP Foundation License.

Network administrators can manage APs through the Instant AOS UI, HPE Aruba Networking Central, or AirWave management system. Templates in HPE Aruba Networking Central refer to a set of configuration commands that can be used by the administrators for provisioning devices in a group. Configuration templates enable administrators to apply a set of configuration parameters simultaneously to multiple devices in a group and thus automate AP deployments.

For template-based provisioning, APs must be assigned to a group with template-based configuration method enabled.

AOS-S Configuration

License Applicability: AOS-S configuration is available for Switch Foundation License.

Network administrators can manage AOS-S switches through the HPE Aruba Networking Central UI menu options. Templates in HPE Aruba Networking Central refer to a set of configuration commands that can be used by the administrators for provisioning devices in a group. Configuration templates enable administrators to apply a set of configuration parameters simultaneously to multiple devices in a group and thus automate AOS-S deployments.

AOS-CX Configuration

License Applicability: AOS-CX configuration is available for Switch Foundation License.

Network administrators can manage AOS-CX switches through the HPE Aruba Networking Central UI menu options and the MultiEdit mode. The MultiEdit mode in HPE Aruba Networking Central provides a single window for viewing and editing the configuration for one or more AOS-CX switches. In this mode, viewing and editing the configuration is performed using the CLI syntax.

Templates in HPE Aruba Networking Central refer to a set of configuration commands that can be used by the administrators for provisioning devices in a group. Configuration templates enable administrators to apply a set of configuration parameters simultaneously to multiple devices in a group and thus automate AOS-CX deployments.

Auto-Commit

License Applicability: Auto-Commit is available for Foundation and Advanced Licenses for APs, switches, and gateways.

HPE Aruba Networking Central supports a two-staged configuration commit workflow for Instant APs. When the auto-commit state is enabled for a group, the configuration changes are instantly applied to all devices where the auto-commit state is enabled.

Configuration Audit

License Applicability: Configuration Audit is available for Foundation and Advanced Licenses for APs, switches, and gateways.

In HPE Aruba Networking Central, the Configuration Audit page provides an audit dashboard for reviewing configuration changes of the devices provisioned in the UI and template groups. The Configuration Audit page allows you to view configuration push errors, template synchronization errors, configuration sync, and device-level configuration overrides.

Gateway Configuration

License Applicability: Gateway configuration is available for EdgeConnect SD-Branch Foundation and EdgeConnect SD-Branch Foundation Base Licenses.

HPE Aruba Networking Central supports the following methods to configure Gateway groups and Gateways in SD-Branch deployments:

- **Guided Setup**—You can use the Guided Setup to quickly configure basic and essential parameters on Gateways for deploying the SD-WAN solution. The Guided Setup provides a wizard-based workflow for provisioning Gateways.
- **Basic Mode**—Allows you to configure your Gateways in a non-linear fashion. This mode allows you to make configuration changes after you provision your gateways for the first time using a Guided setup.
- **Advanced Mode**—Allows you to configure advanced features for SD-WAN deployments.

Template groups in HPE Aruba Networking Central allow network administrators to create a common configuration output by using a combination of CLI commands and variables, and apply this configuration to the other Gateway devices provisioned in that group.

Monitoring and Reporting

This topic provides the monitoring and reporting features for devices tied to Foundation and Advanced Licenses.

Access, Spectrum, Monitor Mode of Radio Operations

License Applicability: The Access, Spectrum, and Monitor modes of the radios of an access point are available for AP Foundation and Advanced Licenses.

In the Access mode, the Instant AP serves clients, while also monitoring for rogue Instant APs in the background. In the Monitor mode, the Instant AP acts as a dedicated monitor, scanning all channels for rogue Instant APs and clients. In the Spectrum mode, the Instant AP functions as a dedicated full-spectrum RF monitor, scanning all channels to detect interference, whether from the neighboring Instant APs or from non Wi-Fi devices such as microwaves and cordless phones.

Alerts and Events

License Applicability: Alerts and events for APs, Gateways, and switches is part of Foundation License and does not require any extra configuration. This tab shows data for all devices irrespective of device license type.

The **Alerts and Events** dashboard displays a list of alerts and events generated for events pertaining to device provisioning, configuration, and user management. You can view the alerts and events in the **List** view and **Summary** view. **Configuration** view is used to configure alerts and is available only at the **Global** context.

Application Visibility

License Applicability: The Application Visibility feature is a part of a Foundation License. However, as API streaming is available for Advanced Licenses only, the Application Visibility streaming service is supported only for APs with an Advanced License.

Application Visibility is a custom-built Layer-7 firewall capability in HPE Aruba Networking Central that allows you to create firewall policies based on the types of applications in IAPs. Application Visibility provides features like deep packet inspection, application monitoring, and Air Slice Policy.

Audit Trail

License Applicability: Audit Trail logs for APs, gateways, and switches, is part of Foundation License and does not require any extra configuration. This tab shows data for all devices irrespective of device license type.

The **Audit Trail** page in HPE Aruba Networking Central shows the total number of logs generated for all device management, configuration, and user management events triggered in the network.

Client List and Details

License Applicability: Clients monitoring is available for the Foundation License of AP, switch, and gateway.

The **Clients** page is also called the unified clients list and it provides a list of all clients that are connected to access points, switches, or gateways in the network. The List and Summary views under the Clients tab serve as dashboards. It displays details about the network performance, client connection status, instantaneous client refresh, Go Live (only AP), and other information required for monitoring the clients.

Floorplans

License Applicability: Floorplans is available for AP and gateway Foundation Licenses. Floorplans allow you to plan sites, create and manage floorplans, and provision access points. Floorplans provide a real-

time picture of the radio environment of your wireless network and the ability to plan the wireless coverage of new sites.

Reports

License Applicability: Reports is available for the Foundation License.

The Reports feature enables you to generate reports for the Clients, Insights, Infrastructure, Security Compliance, and Applications categories. The **Reports** feature is present under the **Analyze** section of the HPE Aruba Networking Central app. The functionalities present are creating a report, generating a report, scheduling the report generation, previewing a report, and downloading a report in PDF and CSV formats. The **Custom range** for the Summary report in Clients category is available for the last one year, except the current date (today). All other reports are available for 90 days except for the Insights which is available for two-weeks time range only.

Topology

License Applicability: Topology is available for Foundation and Advanced Licenses for APs, switches, and gateways.

In HPE Aruba Networking Central, the Topology tab in the site dashboard provides a graphical representation of the site, including the network layout, details of the devices deployed, and the health of the WAN uplinks and tunnels. The topology map provides information about third-party devices and devices that are not managed by HPE Aruba Networking. It also provides information about orphan and offline third-party devices, and the VLANs configured on switches running AOS-S and AOS-CX software.

Web Content Classification (WebCC)

License Applicability: The WebCC feature is available for Foundation Licenses for APs and gateways.

The WebCC allows you to classify website content based on reputation and take measures to block malicious sites. It fetches information about website content classification and geolocation of IPs. The IP reputation database contains known IP addresses associated with various malicious activities or threats such as botnet, DOS, and spam sources. The geolocation IP database contains the geographical location of the IP address from where the traffic is received or to which the traffic is sent. This provides geolocation and reputation filtering as part of the security suite.

The table below lists the features supported for AP and gateway licenses:

AP Foundation	EdgeConnect SD-Branch Foundation and EdgeConnect SD-Branch Foundation Base
WebCC Firewall rules, visualization by reputation and category	WebCC Firewall rules, visualization by reputation and category

Wi-Fi Connectivity

License Applicability: The Wi-Fi Connectivity dashboard for APs is part of Foundation License and does not require any extra configuration.

The **Wi-Fi Connectivity** page displays an overall view of the connection details for all clients that are connected to or tried to connect to each connection phase. The connection phases include the following:

- **All**—Displays the aggregated success percentage of Association, Authentication, and DHCP for all clients connected to the network.
- **Association**—Displays the percentage of successful attempts made by a client to connect to the network.
- **Authentication**—Displays the percentage of successful attempts of client authentication.
- **DHCP**—Displays the percentage of successful attempts of DHCP requests and responses when onboarding a client.
- **DNS**—Displays the percentage of successful attempts in the detected DNS resolutions, when a client is connected to the network.

EdgeConnect SD-Branch

This topic provides the EdgeConnect SD-Branch features for devices tied to Foundation and Advanced Licenses.

Application-based Policy

License Applicability: The application-based policy configuration is available for EdgeConnect SD-Branch Foundation License.

The Application-based policy configuration helps in deep packet inspection of application usage by clients. Using this configuration, you can define applications, security, and service aliases. You can configure Access Control Lists (ACLs) to restrict user access to an application or application category.

Dynamic Path Steering

License Applicability: Dynamic Path Steering is available for EdgeConnect SD-Branch Foundation and EdgeConnect SD-Branch Foundation Base License.

In the **Path Steering** tab, you can view traffic path steering details for the Dynamic Path Steering policies configured on the Branch Gateway. This tab also displays the number of policies that are compliant along with the total number of policies configured on the Branch Gateway.

Full SD-LAN Control

License Applicability: SD-LAN monitoring is available for EdgeConnect SD-Branch Foundation License.

The LAN Summary page displays a graphical representation of the LAN link availability of a Branch Gateway. It also provides a summary of all the LAN interfaces and port details.

IPsec VPN

License Applicability: IPsec VPN is available for EdgeConnect SD-Branch Foundation and EdgeConnect SD-Branch Foundation Base License.

An IPsec tunnel is configured to ensure that the data flow between the networks is encrypted. When configured, the IPsec tunnel to the controller secures corporate data. You can configure an IPsec tunnel from virtual controller using HPE Aruba Networking Central.

Role-based Access Policy

License Applicability: Role-based Access Policy configuration is available for EdgeConnect SD-Branch Foundation License.

The Role-based Access Policy determines client access based on the user roles assigned to a client. Each user or device connected to the branch network is associated with a user role. Once the role is assigned, traffic and security policies are applied to devices based on the role.

SD-WAN Overlay

License Applicability: SD-WAN Overlay monitoring is available for EdgeConnect SD-Branch Foundation License.

The SD-WAN Overlay is an orchestrator service for branch deployments, which is done by setting up IPsec tunnels between the Branch Gateways and VPN Concentrators. This is achieved through **Tunnel** and **Route** orchestration. The tunnel configuration between the branch and hub sites is automatic and the route configuration is done by redistributing the routing information learnt from the branch in a dynamic way. The **Map** and **Grid** views of the **Tunnel** and **Route** tabs under **SD-WAN Overlay** serve as dashboards for monitoring purpose, providing information about the tunnels and routes configured for an individual Branch Gateway.

Stateful Firewalls

License Applicability: Stateful Firewalls is available for EdgeConnect SD-Branch Foundation and EdgeConnect SD-Branch Foundation Base License.

Gateways support stateful firewall for stateful inspection of packets. Stateful firewalls provide an additional layer of security by tracking the state of network connections and using the state information from previous communications to monitor and control new communication attempts. To protect your network from external attacks and unauthorized communication attempts, you can configure match conditions and packet filtering criteria for the Gateways.

Web Content Filtering

License Applicability: Website content filtering is available for EdgeConnect SD-Branch Foundation License. Gateways enhance branch security by providing real-time web content and reputation filtering. The Website Content Classification feature on Branch Gateways allows you to classify website content based on reputation and take measures to block malicious sites.

Security

This topic provides the security features for devices tied to Foundation and Advanced Licenses.

Cloud Authentication and Policy

The Cloud Authentication and Policy provides a seamless and secure way to onboard and authenticate clients and users to wired and wireless networks by integrating with common cloud identity stores such as Google Workspace and Microsoft Azure Directory.

With HPE Aruba Networking Central, administrator can configure separate user policy and client policy as part of configuring user and client access policy. This flexibility of configuring independent user and client access policies allows the administrator to configure security levels at both user and client level.

Cloud Guest

License Applicability: Cloud Guest is available for the AP Foundation License.

The Cloud Guest access enables the guest users to connect to the network. This is provided through the splash page profile that is created by the administrators for the guest users in the **Guests** tab under

Manage. The **Summary** page in the **Manage > Guest Access** application is the monitoring dashboard that displays the number of guests, guest SSID, client count, type of clients, and guest connection. Cloud Guest deals with the AP, so the license that is assigned to the AP is also applicable to Cloud Guest. By default, the Foundation License is applicable. The Advanced License features will also be available if the Cloud Guest is assigned to it.

Clients Profile

License Applicability: Clients Profile is available for the AP Foundation License.

The Clients Profile enables network and security administrators to discover, monitor, and automatically classify new and existing devices that connect to a network. You can identify devices that include IoT devices, medical devices, printers, smart devices, laptops, VoIP phones, computers, gaming consoles, routers, servers, switches, and so on.

Intrusion Detection and Prevention (IDS or IPS)

License Applicability: IDS and IPS is available for Gateway WLAN Advanced with Security, EdgeConnect SD-Branch Foundation with Security, EdgeConnect SD-Branch Foundation Base with Security, and EdgeConnect SD-Branch Advanced with Security Licenses.

The IDS and IPS monitors, detects, and prevents threats in the inbound and outbound traffic. HPE Aruba Networking IDS or IPS adds an extra layer of security that focuses on users, applications, network connections, and can be integrated with the HPE Aruba Networking SD-Branch solution.

RAPIDS

License Applicability: RAPIDS is available for Foundation and Advanced Licenses for APs.

The RAPIDS feature enables HPE Aruba Networking Central to quickly identify and act on interfering APs in the network that can be later considered for investigation, restrictive action, or both. Once the interfering APs are discovered, HPE Aruba Networking Central sends alerts for security events to the network administrators about the possible threat and provides essential information needed to locate and manage the threat.



RAPIDS is supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable it in your HPE Aruba Networking Central account.

This feature is part of the AP Foundation License. However, as API streaming is available for Advanced License only, HPE Aruba Networking Central would not stream any security events for APs with Foundation License. For APs with Advanced License, API streaming of security events is available for further diagnosis and threat management.

Services

This topic provides the service features for devices tied to Foundation and Advanced Licenses.

AirGroup

License Applicability: AirGroup is available for both AP Foundation and Advanced Licenses.

AirGroup is a zero-configuration networking protocol that enables service discovery, address assignment, and name resolution for desktop computers, mobile devices, and network services. It is designed for flat, single-subnet IP networks such as wireless networking at home. AirGroup supports both wired and wireless devices.



AirGroup is supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable it in your HPE Aruba Networking Central account.

In InstantOS-based APs, the service is hosted on the IAP Virtual controller and all services are supported.

AirMatch

License Applicability: AirMatch is available for AP Foundation License.

AirMatch channel planning evens out channel distributions in any size of network and in any subset of the contiguous network. AirMatch also minimizes channel coupling where adjacent radios are assigned to the same channel.



AirMatch service is available only for APs with AOS 10.0.0.0 or later firmware versions.

Air Pass

The Air Pass feature provides seamless Wi-Fi connectivity for SIM enabled cellular devices for major mobile operators to enable Wi-Fi calling and to offload 5G/LTE traffic to enterprise wireless networks.



-
- Air Pass is currently available only in US.
 - AP Foundation license supports a single mobile operator.
 - AP Advanced license supports all participating providers.
-

Air Slice

License Applicability: The Air Slice feature is available for only AP Advanced Licenses.

The Air Slice feature allows network operators to build virtual networks suitable for specific application requirements. It allows network operators to monitor applications used by clients and supports multiple services such as gaming, IoT, voice, video, and so on.



Air Slice feature is available for APs with AOS 10.2.0.0 or later firmware versions.

For devices that have Advanced Licenses, the Air Slice feature supports unlimited applications and provides prioritization of custom-applications with visibility and configuration.

The table below lists the features supported for AP licenses:

Advanced

- Visibility and prioritization of applications
 - Maximum number of applications as supported by the HPE Aruba Networking Central platform
-

ClientMatch

License Applicability: ClientMatch is available for AP Foundation License.

ClientMatch continually monitors the RF neighborhood for each client to provide ongoing client band steering, load balancing, and enhanced AP reassignment for roaming mobile clients.

Presence Analytics

License Applicability: Presence Analytics is available for Foundation AP License.

Presence Analytics enables businesses to collect and analyze user presence data in public venues, enterprise environments, and retail hubs. Presence Analytics also enables businesses to collect real-time data on user footprints within the wireless network range.

SaaS Express

License Applicability: SaaS Express is available for EdgeConnect SD-Branch Advanced and EdgeConnect SD-Branch Advanced with Security Licenses only.

The SaaS Express feature, on SD-WAN Gateways, enables discovery of the SaaS application servers, monitors application performance, and steers traffic to the best-available servers, and thus provides an improved user experience.

Unified Communications

License Applicability: Unified Communications is available for AP Advanced Licenses.

The Unified Communications feature enables a seamless user experience for voice calls, video calls, and application-sharing when using communication and collaboration tools. It allows you to actively monitor voice, video, and application-sharing sessions, provide traffic visibility, prioritize the required sessions, and provide rich visual metrics for analytical purposes.



Unified Communications is supported in this release as an Early-Access feature. Contact your SE or Account Manager to enable it in your HPE Aruba Networking Central account.

MultiZone

License Applicability: MultiZone is available for Advanced Licenses only.

MultiZone provides multiple and separate secure networks while using the same AP in both tunnel and mixed mode deployments. It allows the AP to terminate SSIDs to multiple Gateways that reside in different zones or clusters. and also allows different clients to connect to different virtual APs for each cluster. The maximum number of allowed clusters is 5 and the total number of allowed gateways is 12. The gateways in different zones are independent and do not communicate with one another.

IoT Operations

License Applicability: IoT Operations is available for both AP Foundation and Advanced Licenses.

HPE Aruba Networking Central supports transporting IoT data over an enterprise WLAN. IoT data from partners who provide access control systems, industrial manufacturing systems, hospital, healthcare management, hospitality, and building management systems is supported. APs receive data from the IoT devices and send the dashboard metadata to HPE Aruba Networking Central and the IoT data to external servers through IoT Connectors. The IoT Connector aggregates the device data, performs edge-compute, and runs business logic on the raw data before sending the dashboard metadata and IoT data. Partner-developed applications can be used to send the IoT data to external servers.

Troubleshooting

This topic provides the troubleshooting features for devices tied to Foundation and Advanced Licenses.

Live Events

Licensing Applicability: Live Events for clients, APs and switches is part of Foundation License and does not require any extra configuration.

The clients **Live Events** page shows information required to troubleshoot issues related to a client or a site in real time for detailed analysis. HPE Aruba Networking Central also allows to troubleshoot issues related to access points. The AP Live Events feature is similar to client live troubleshooting, but in this case we can enable Live Events at the AP level. Currently, users can subscribe to Radio, VPN, and Spectrum events.

Live Packet Capture (PCAP)

Licensing Applicability: Live PCAP for APs and switches is part of Foundation License and does not require any extra configuration.

HPE Aruba Networking Central allows users to interact and launch a targeted packet capture on a client connected to a specific AP or a switch. When the user starts packet capture from the UI, HPE Aruba Networking Central notifies the AP and the switch. The default packet capture duration is 15 minutes.

Troubleshooting Tools

License Applicability: Troubleshooting for APs, gateways, and switches is part of Foundation License and does not require any extra configuration.

The **Tools** menu option allows network administrators and users with troubleshooting permission to perform troubleshooting or diagnostics tests on devices and networks managed by HPE Aruba Networking Central.

The **Tools** page is divided into the following tabs:

- **Network Check**—Allows you to run diagnostic checks on networks and troubleshoot client connectivity issues.
- **Device Check**—Allows you to run diagnostic checks and troubleshoot switches.
- **Commands**—Allows you to perform network health check on devices at an advanced level using command categories.

