atmosphere Meetup

AOS 10 is Here

Decoding the future of networking, Cloud or On-Premise

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7 March 2024

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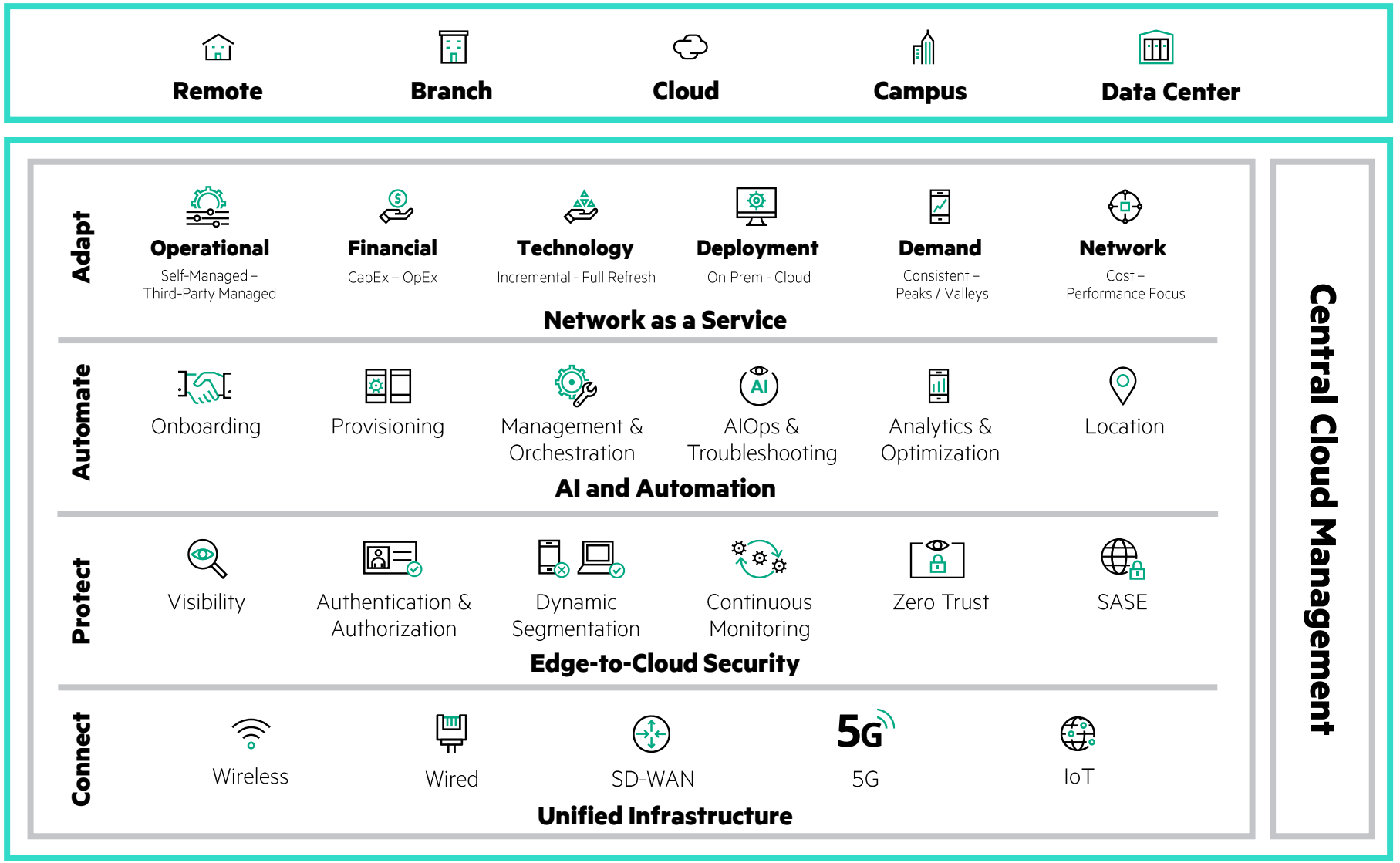
Orchestrating Network Services from Edge-to-Cloud

HPE Aruba Networking

Powered by ESP

(Edge Services Platform)



Deployment Models of Central

Deploy and Consume Central Your Way

Right-size for financial, technical, and staffing requirements

SaaS

Flexible subscription-based offering with instant access to new features makes it easy to align desired capabilities with budgets

HPE GreenLake for Aruba (NaaS)

Includes Aruba hardware, software, & services, paid in monthly subscriptions; includes customer experience management and an option to outsource day-to-day network management to Aruba

Managed Service Provider

Full lifecycle management by MSPs to optimize network service delivery and reduce burden on customer resources

On-Premises

Bring a a cloud-like management experience to your on-premises environment and maintain security or compliance mandates

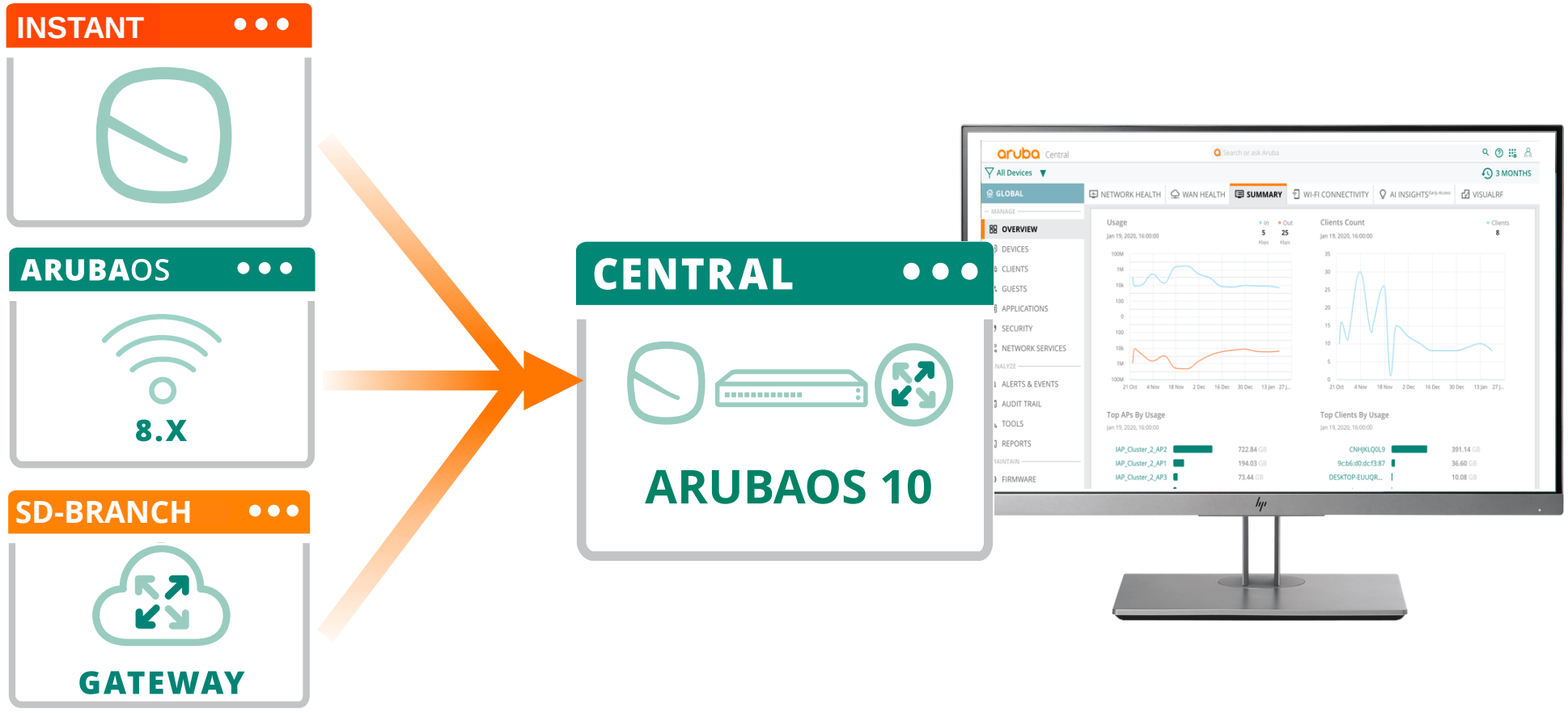
Evolution to a UNIFIED OPERATING SYSTEM

Simplified management and orchestration with AOS 10 and Central

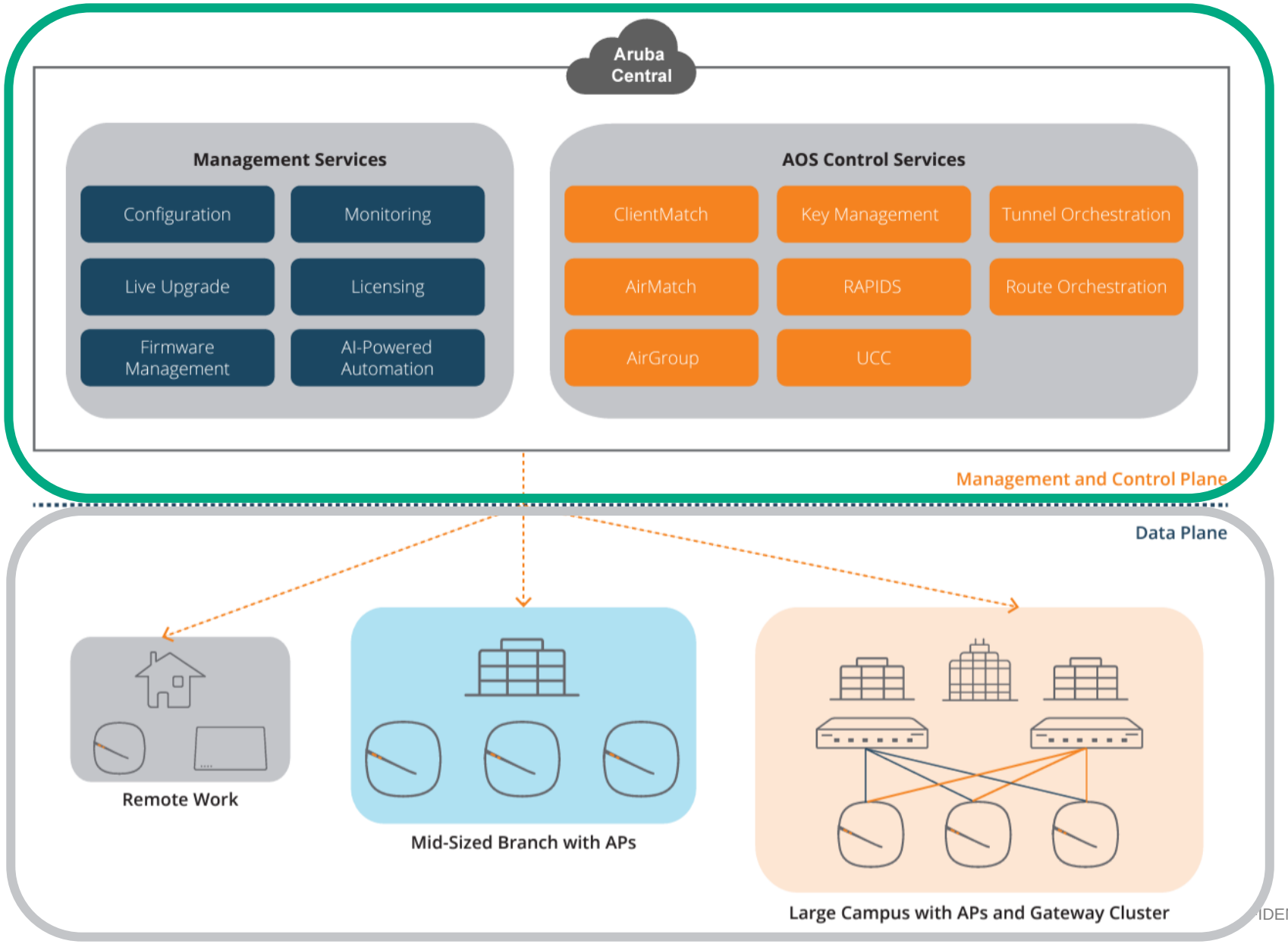
Aruba Instant Controller-less WLANs

Mobility Conductor and Controller-based WLANs

Branch and Headend Gateways



AOS 10 – Architecture



Aruba Central Cloud AIOps Coverage

End-to-End Network, App Performance and Network Visibility

Aruba Central Cloud

AI Search	Network Insights	AI Assist	Client Insights	Application Insights
Natural language queries for fast onboarding & troubleshooting	Proactive network anomaly detection and optimization	Automated Aruba TAC trouble ticket generation	Accurate IoT profiling for capacity planning & security policies	Automated application-level performance monitoring

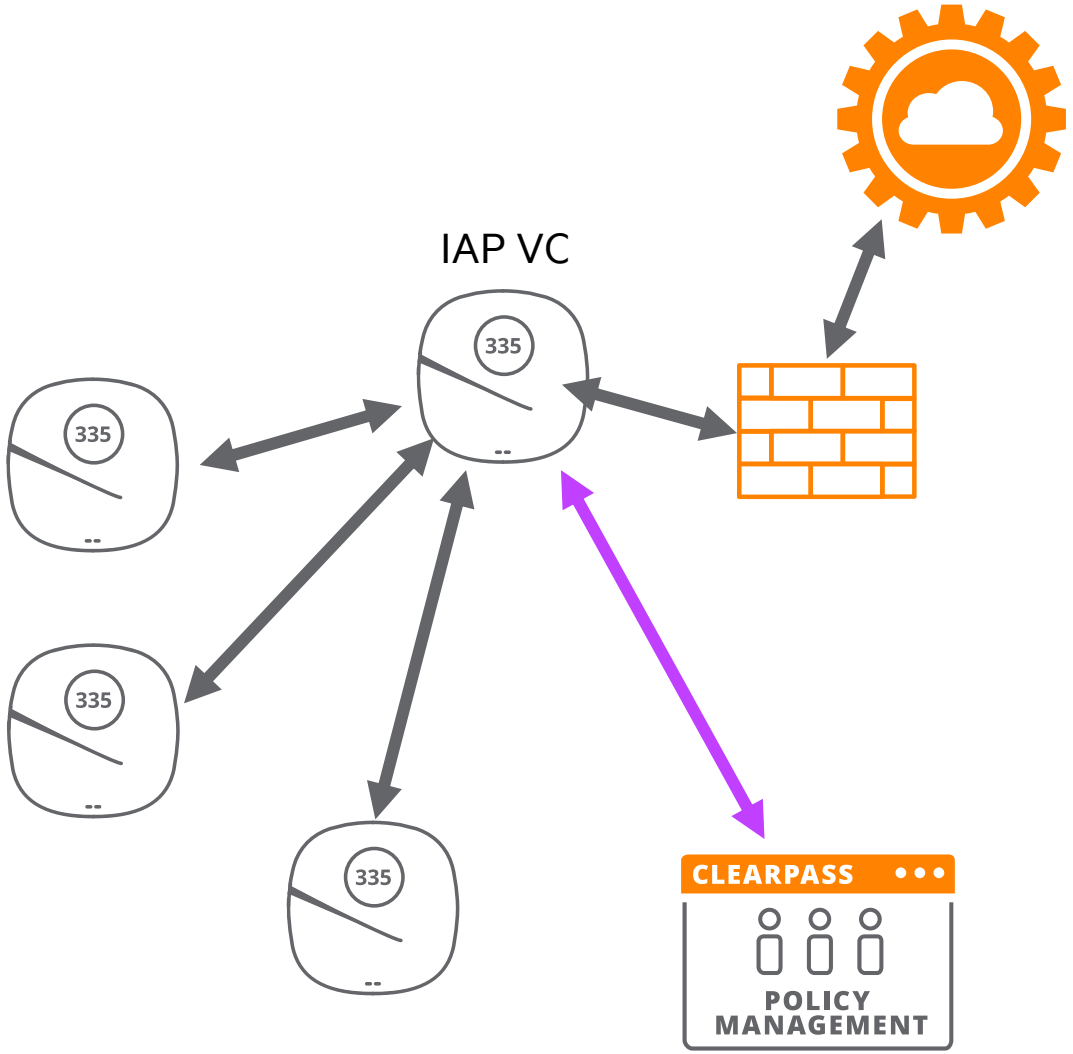
Wi-Fi, Wired, WAN Infrastructure: Planning, Setup, Troubleshooting & Optimization

Security: Profiles / Behavior

User: Application / Connectivity

Device Communication AOS 8 vs AOS 10

AOS 8 IAP - Device Communication



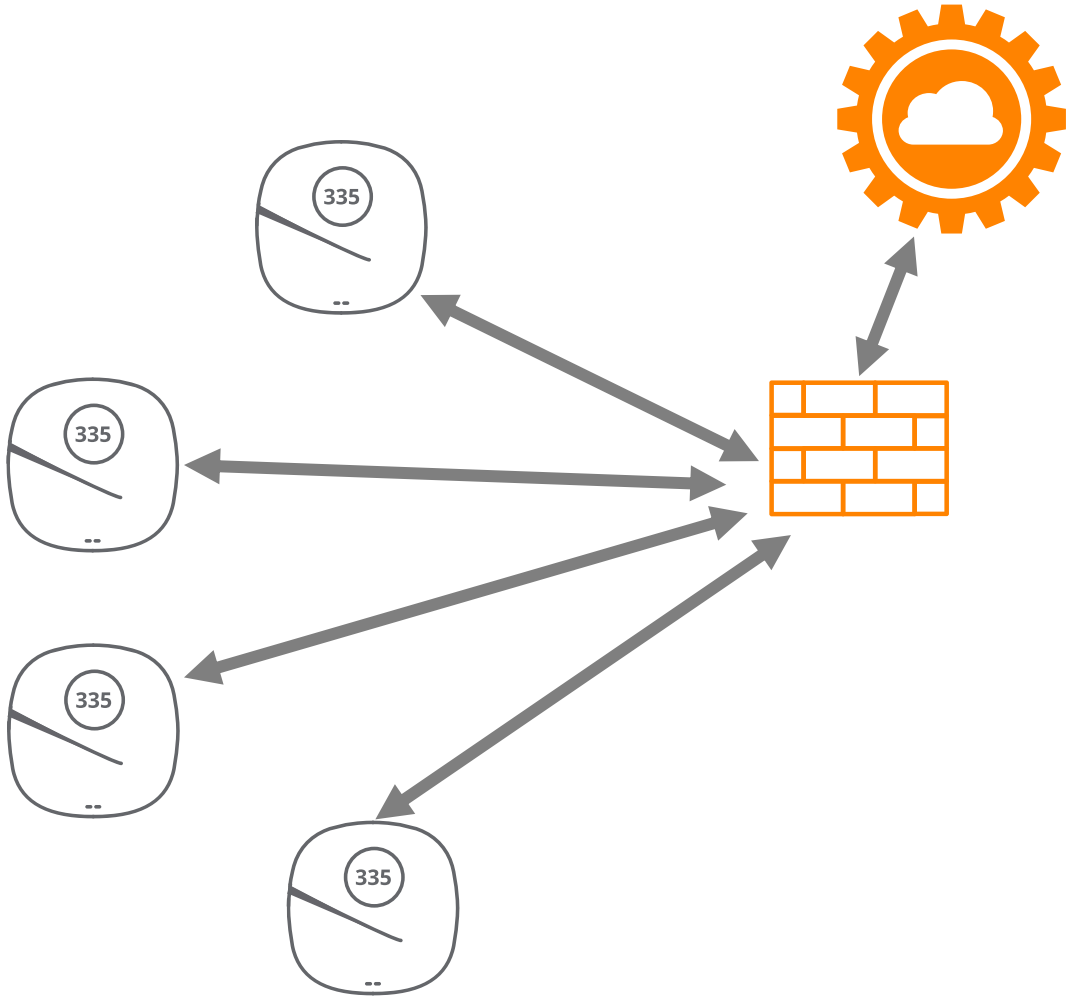
- IAP Virtual Controller
  - Configuration
  - Network Neighborhood

- Everything Aruba Central does is through the IAP VC
- If Airwave is involved IAP VC talks to Airwave

- AAA uses Dynamic RADIUS proxy

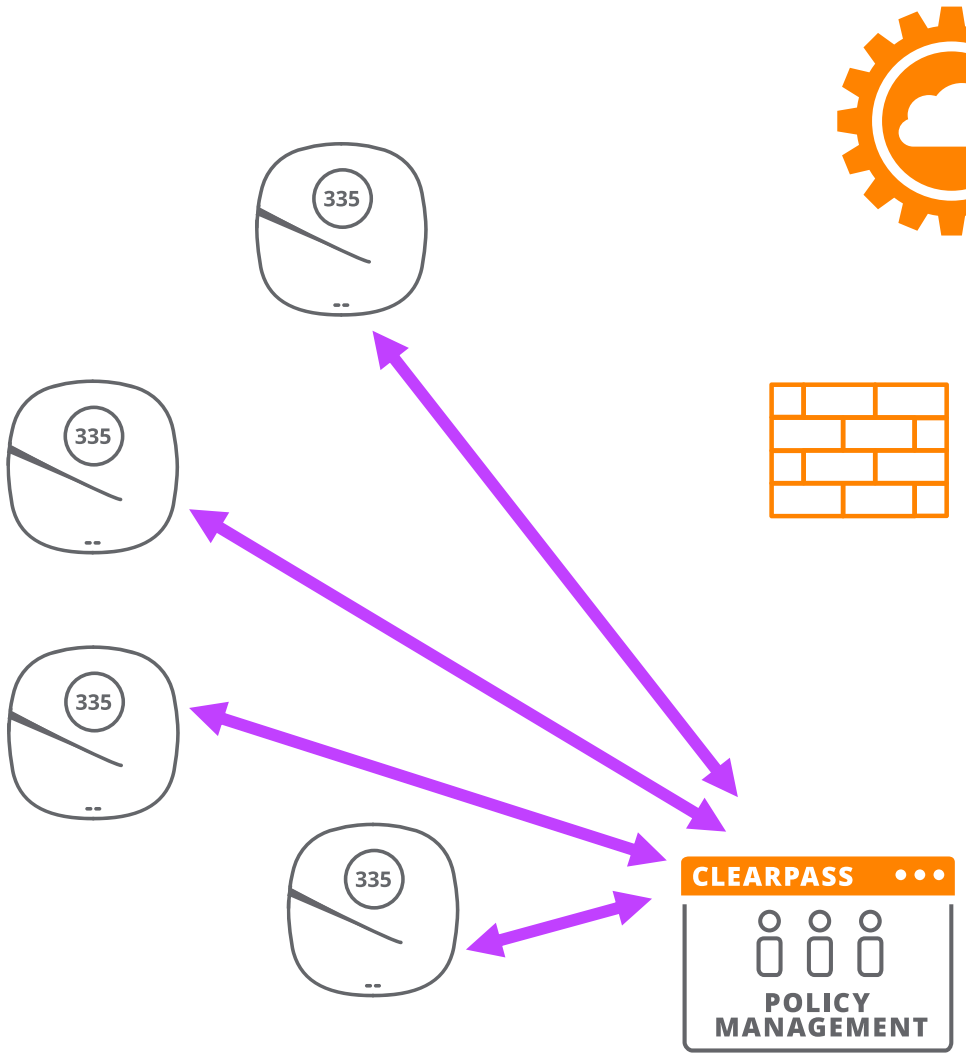
- User Traffic is bridged locally
- User Firewall applied at AP

AOS 10 - Device Communication - AP Only



- Management Communications
  - Each AP talks to Aruba Central
  - Each AP Operates Independently
  - Minimal communications between AP

AOS 10 - Device Communication – AP Only



- Management Communications
  - Each AP talks to Aruba Central
  - Each AP Operates Independently
  - Minimal communications between AP

- AAA
  - Each AP needs to be a known device in ClearPass

- User VLANs present on APs
- User Traffic is bridged locally
- User Firewall is applied at AP
- Switch port connected to APs are trunk ports

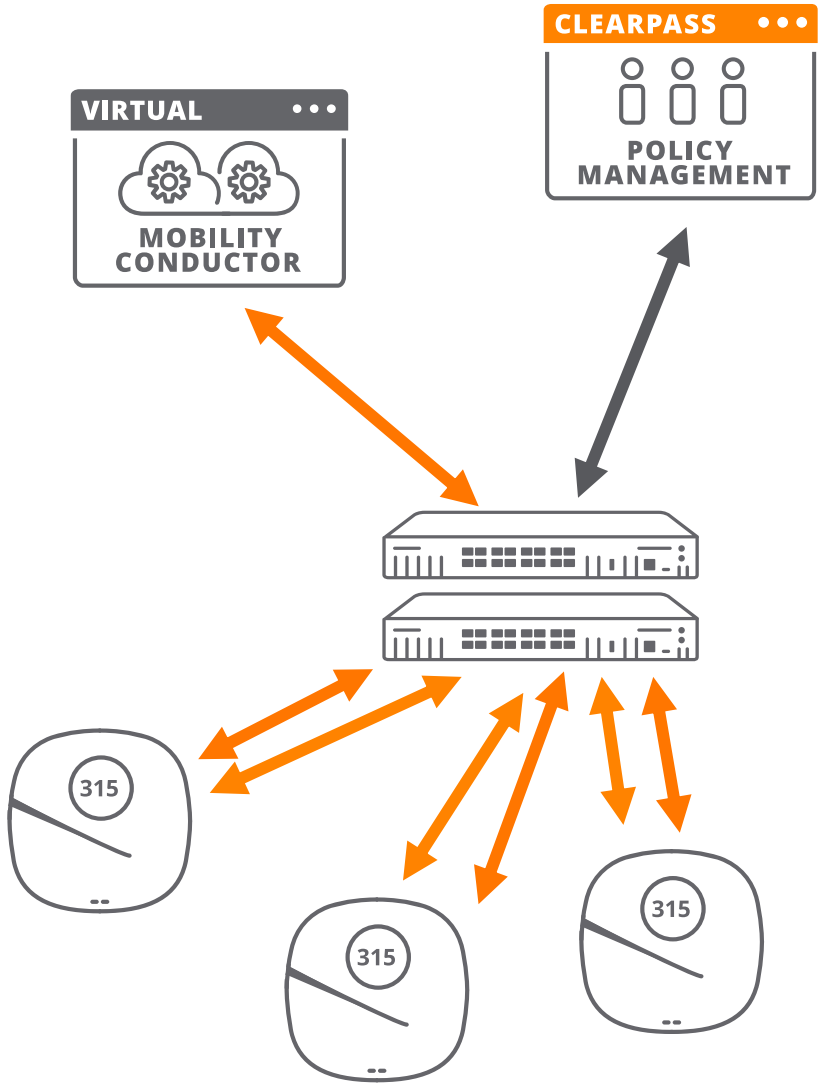
AOS 8 Campus - Device Communication

Mobility Conductor

- Configuration and Network Hierarchy
- AP management goes through the Local Controller

All AAA traffic goes through the Local Controller

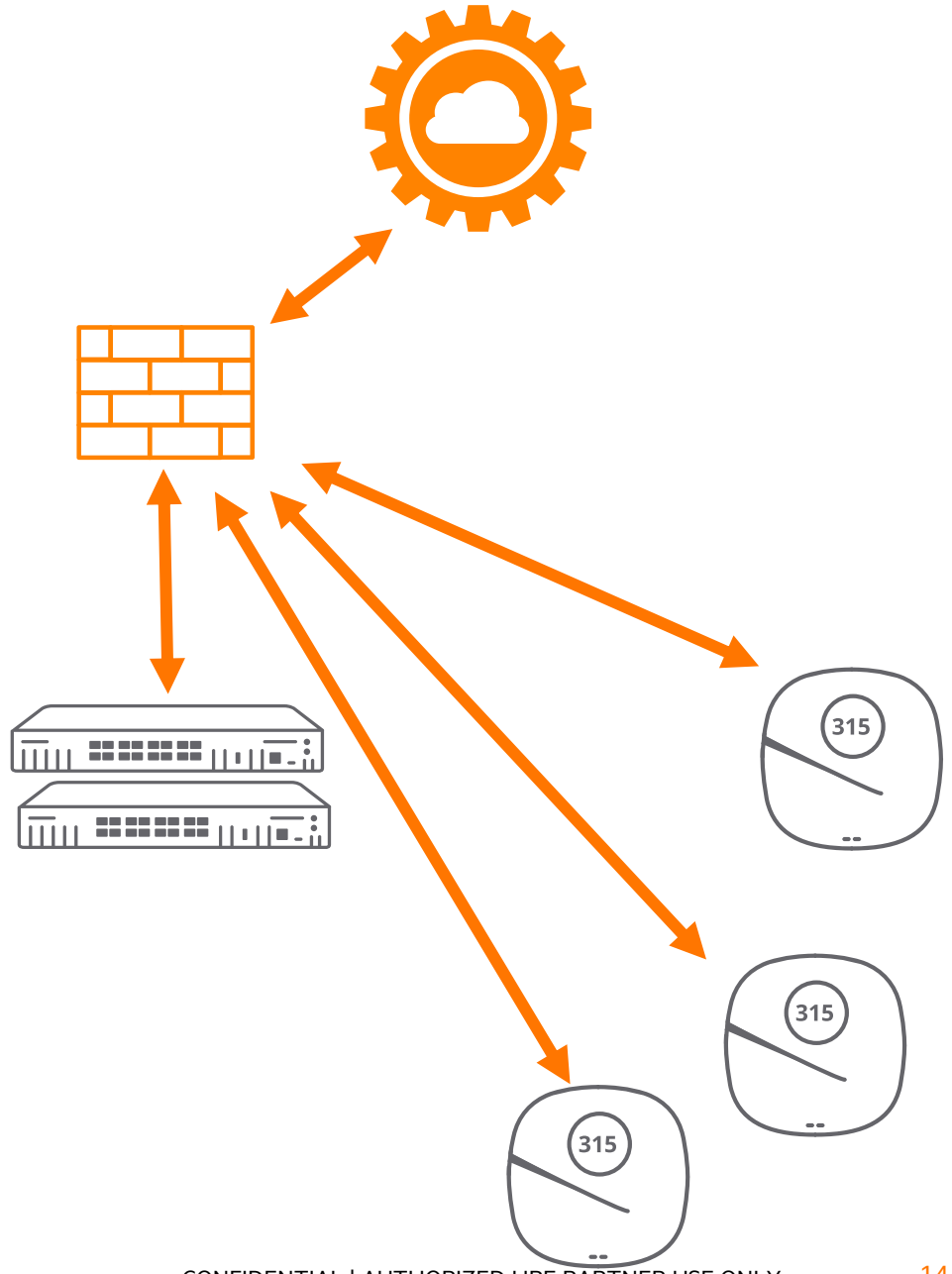
User Traffic is tunneled to the Local Controller
User Firewall is applied at the Local Controller



AOS 10 with Gateway - Device Communication

Aruba Central

- AP communicates Directly
- Configuration
- Control Services
- Monitoring, Reporting and Troubleshooting



AOS 10 with Gateway - Device Communication

AAA traffic will be proxied to ClearPass for Tunneled or Mix Mode

User Traffic is tunneled to the Gateway

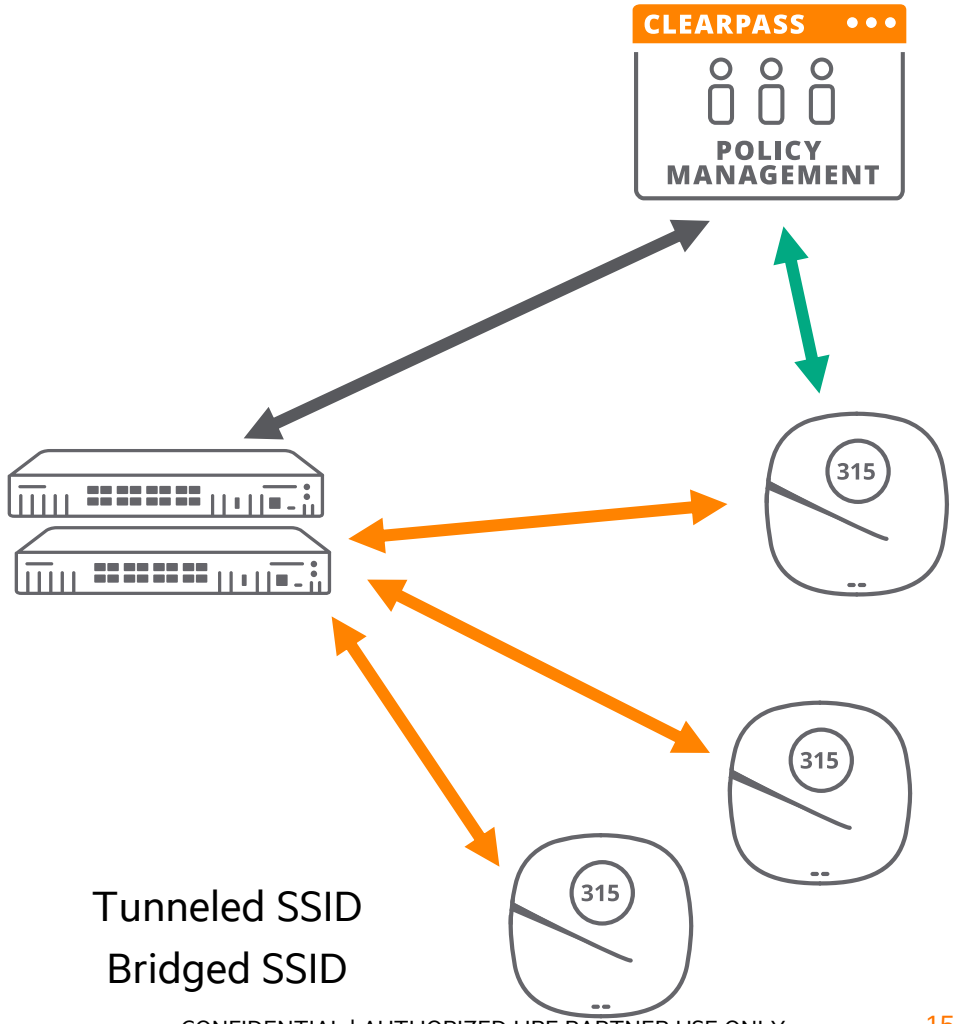
Firewall is applied at the Gateway

AAA traffic is individual AP for Bridged

Gateway can be IP Default Gateway for Bridged

For bridged user traffic

Firewall is applied at the AP



AP with Gateway deployment

Scaling & Targeted deployments

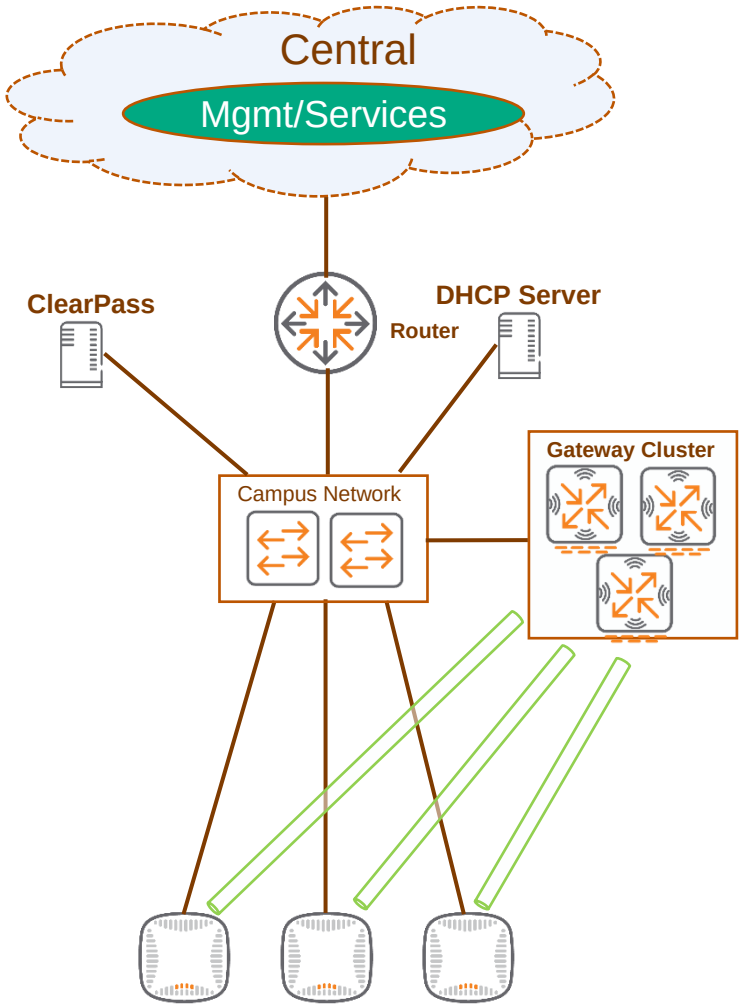
- >5000 clients
- >500 Aps
- Medium/Large/Enterprise campus
- SD-Branch

Security & Policy

- Dynamic Segmentation
- Segmentations of WLANs
- Centralized VLANs and broadcast traffic mgmt
- Roaming between APs in different subnets
- Centralized policy application, richer feature set
- Consistent policy for wired/wireless

Features

- Dynamic RADIUS Proxy
- Multizone
- Microbranch
- SD-WAN



Changes with Gateways

Bridge vs Tunnel

- An AP can have tunnel, mixed, or bridge mode SSIDs
- User traffic can be tunneled, bridged or split-tunneled (Microbranch)

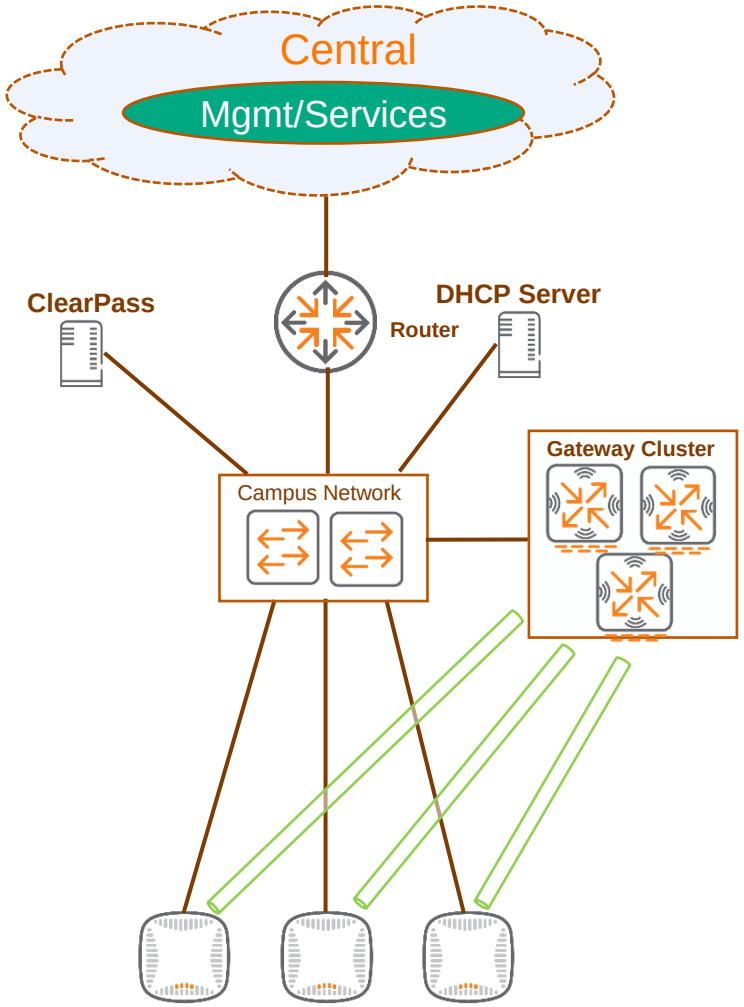
Loosely coupled AP-GW

- Interactions cut down greatly
- Gateway is RADIUS Proxy
- Version independent
- Always secured by IPsec

Auth

Crypto

- Policy enforcement at APs and/or Gateways
- Role/VLAN derivation on Gateway via RADIUS Proxy
- WLAN encryption handled at APs



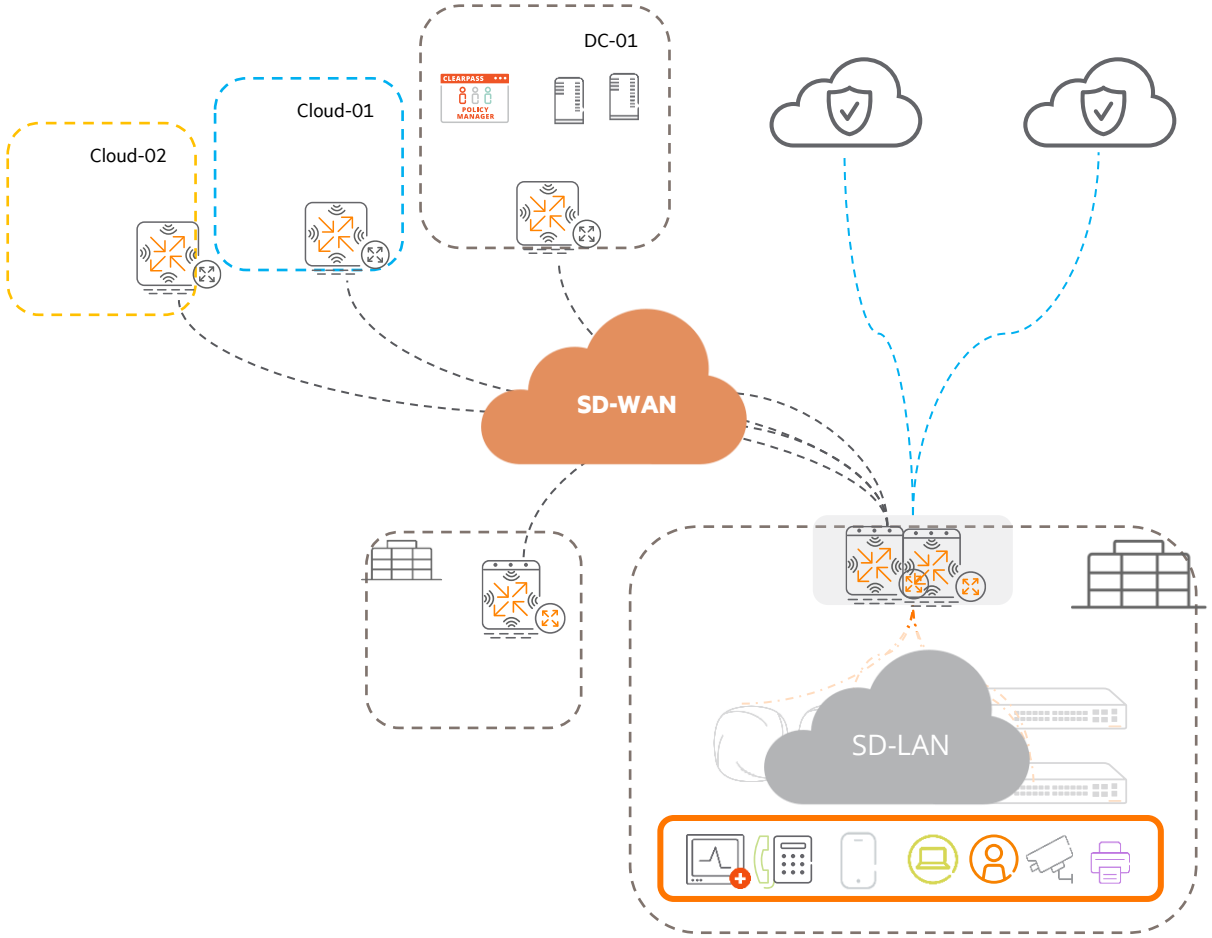
SD Branch and Microbranch

The Union of RAP and IAP-VPN

Integrated SD-WAN for seamless connectivity

EdgeConnect SD-Branch capabilities are embedded in AOS 10

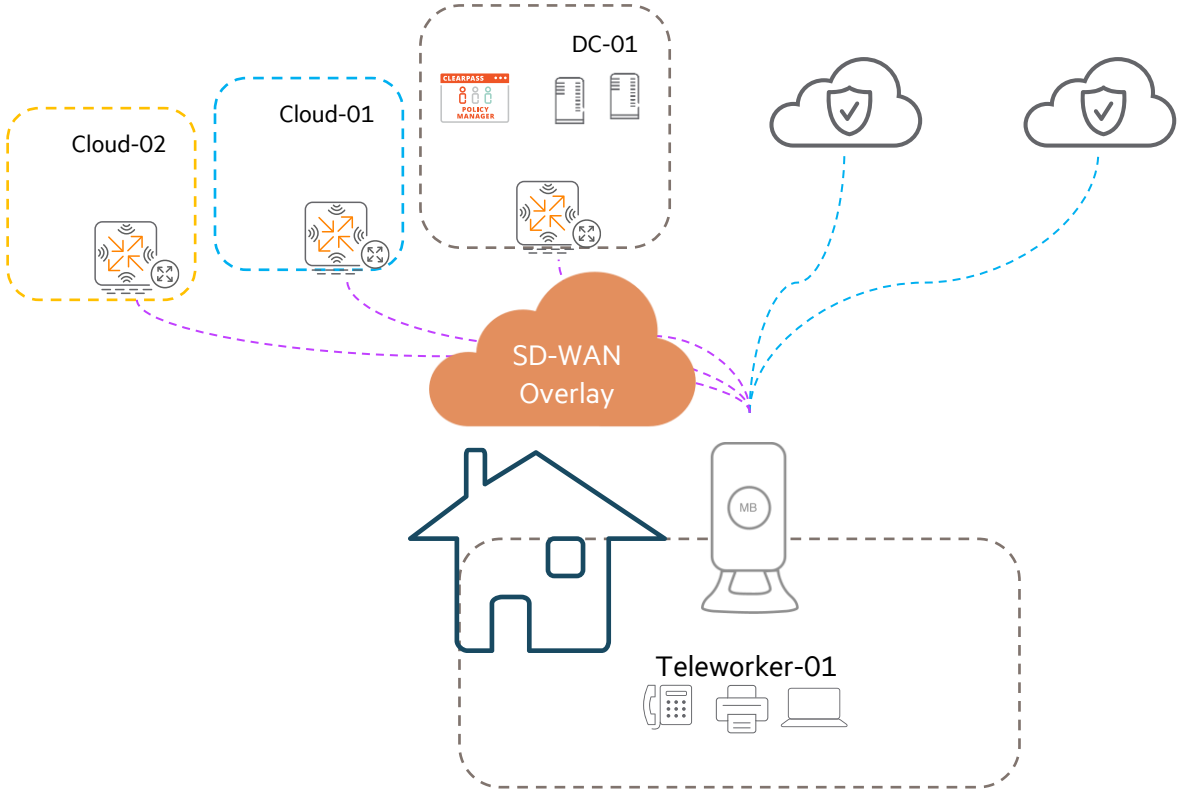
1. Orchestrated SD-WAN & SASE for transport-independent WAN Overlay
2. Orchestrated SD-LAN, with site-based auto-clustering and AP > GW Orchestrated tunnels
3. SD-LAN & SD-WAN converging into the same solution to simplify & secure the branch



Expand Remote AP functionality to include SD-WAN

EdgeConnect Microbranch enables a single AP to deliver integrated SD-branch functionality

1. SD-WAN + WiFi + PoE in a small cloud-managed form-factor
2. Orchestrated SD-WAN: shortest path to all resources!
3. Orchestrated SSE Integration to secure Internet traffic



IAP to AOS 10 Migration

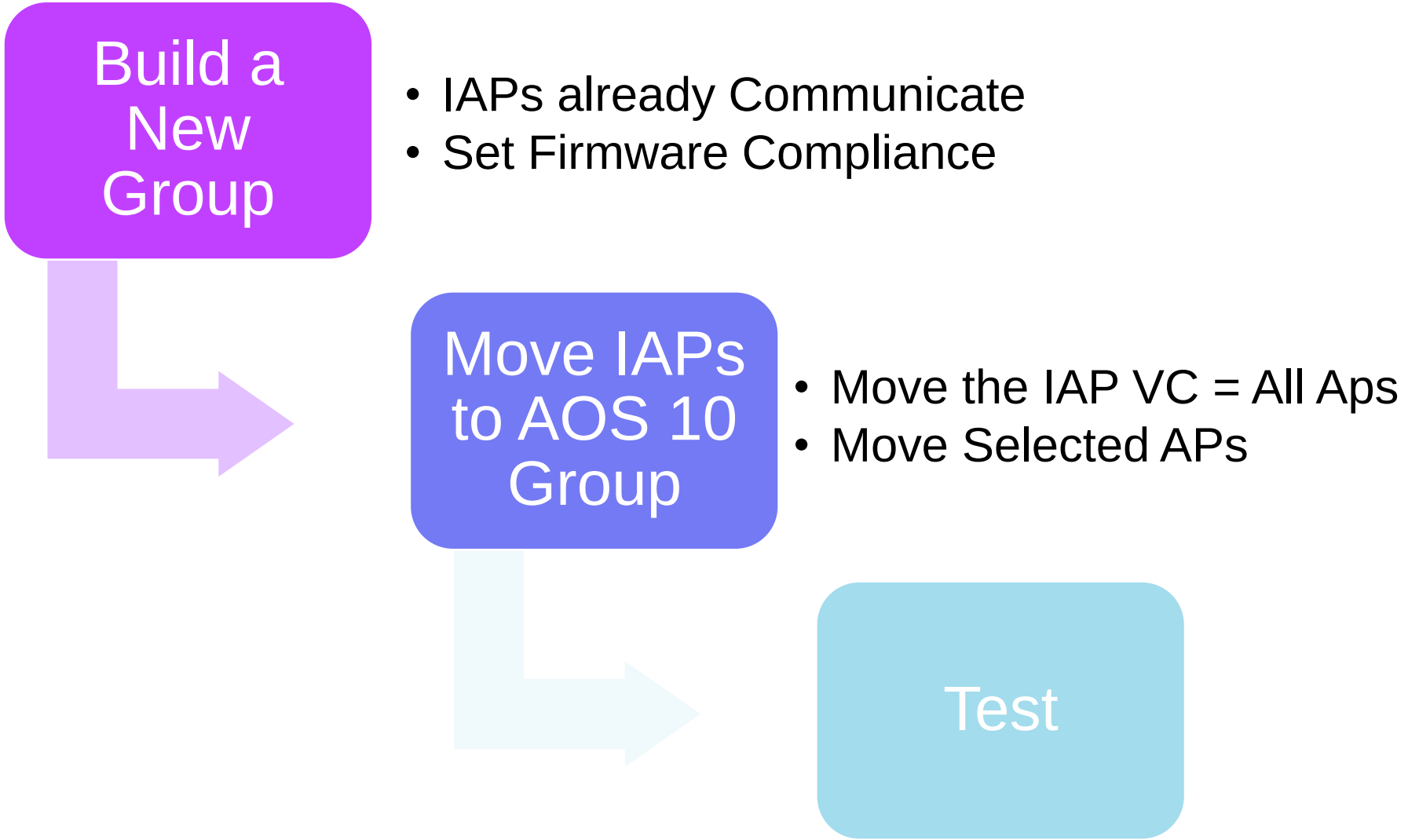
Methods

–Aruba Central Managed IAP Clusters

–Stand Alone IAP Clusters

–Airwave Managed Clusters

IAP Managed by Aruba Central



Stand Alone IAP Cluster

IAP managed in Airwave

– What Version of Airwave is Running?

Airwave Version 8.2.15.1

Above

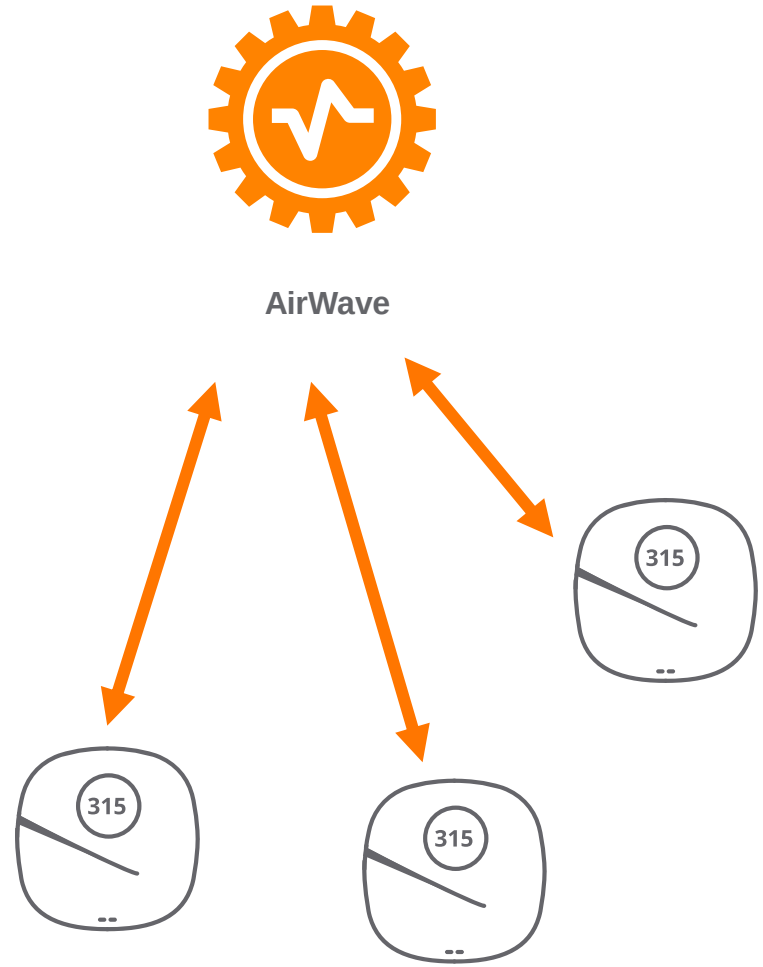
- Disconnect AP From Airwave
- Update Like Standalone IAP

Below

- Prep Airwave and Activate
- Upgrade the AP From Airwave
- Reboot APs

Airwave Below 8.2.15.1

1. Disable Airwave Discovery
   - DNS Discovery Zone
   - DHCP Options
   - Activate
   - Manual Options
2. Enable Firmware Updates
   - May be disabled
   - Consider Monitor-Only Mode
3. Upload the correct AOS 10 Image
4. Push the Upgrade Image to the Group

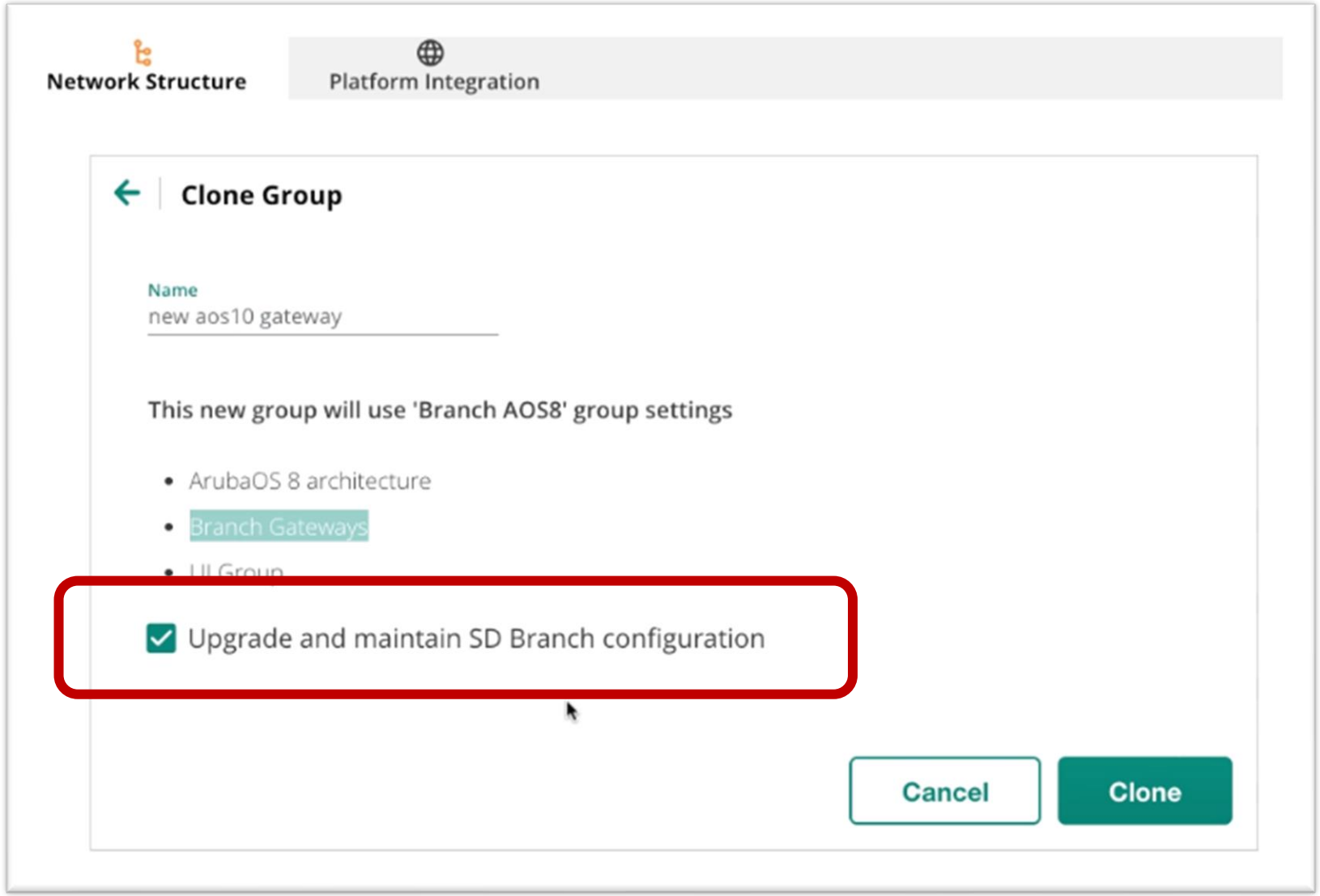


AOS 8 to AOS 10 Migration

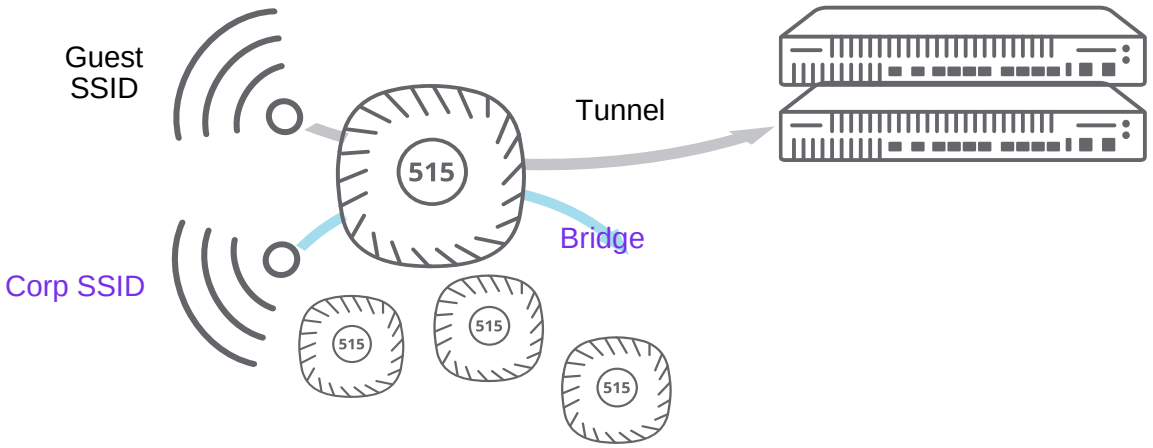
AOS 8 SD-Branch Gateways

- Simplest Update
  - Go into Aruba Central and update the firmware version in the Group.
  - Gateway will retain the config and AOS 8 Functionality
  - Licenses / Subscriptions are the same

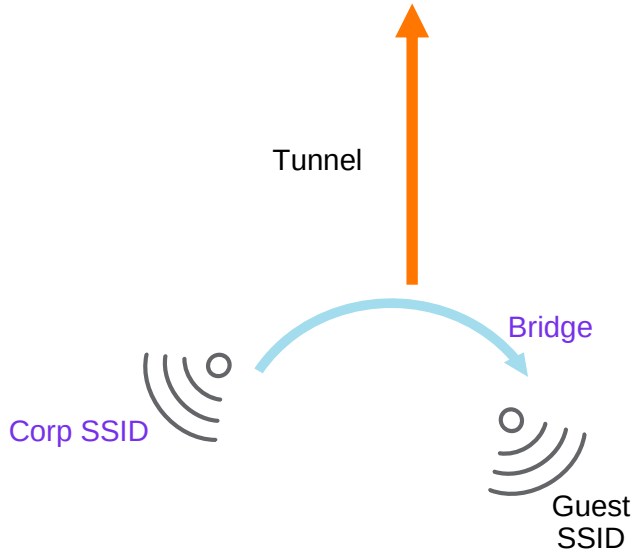
To Gain AOS 10 SD-Branch Features



AOS 8 Campus to AOS 10 with Gateway



AOS 8



AOS 10

Evolution of Network Services

Managing Cloud and On-Prem Campus deployment

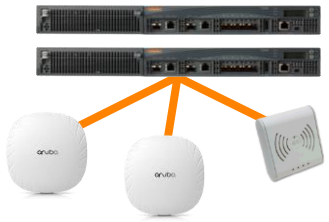
CURRENT AOS 8 DEPLOYMENT

On-Prem

ARUBAOS

AOS 8

MOBILITY CONTROLLERS



CAMPUS APs

CLEARPASS

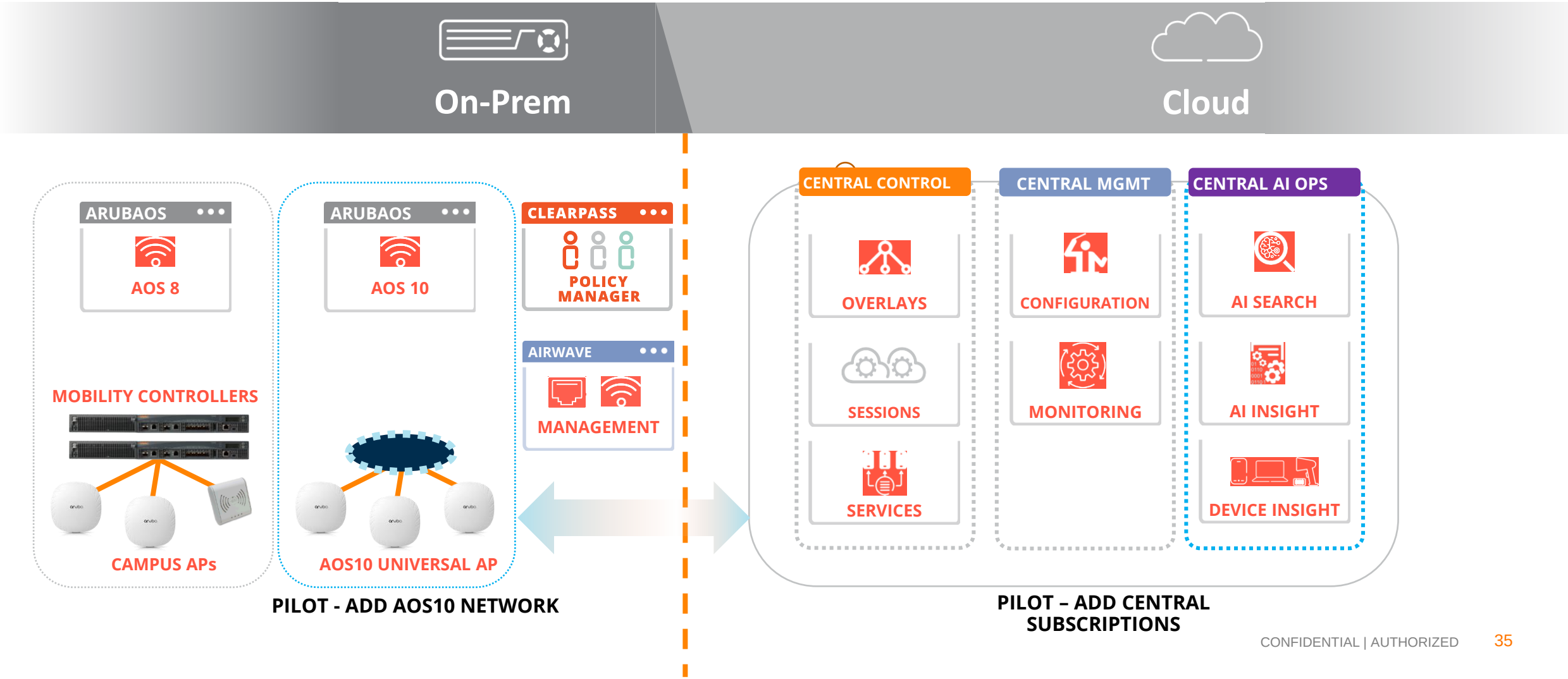
POLICY MANAGER

AIRWAVE

MANAGEMENT

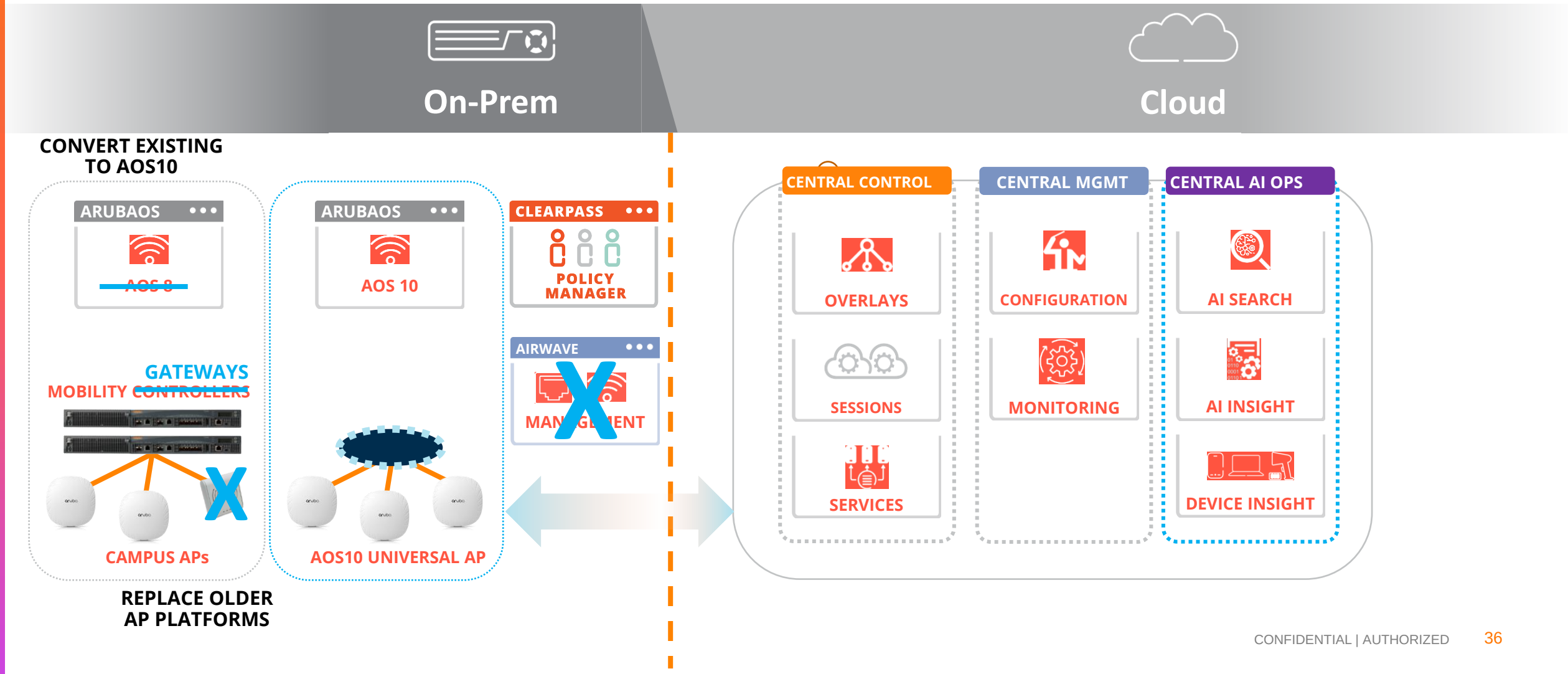
DEPLOY CENTRAL

AOS 10 Journey Step 1



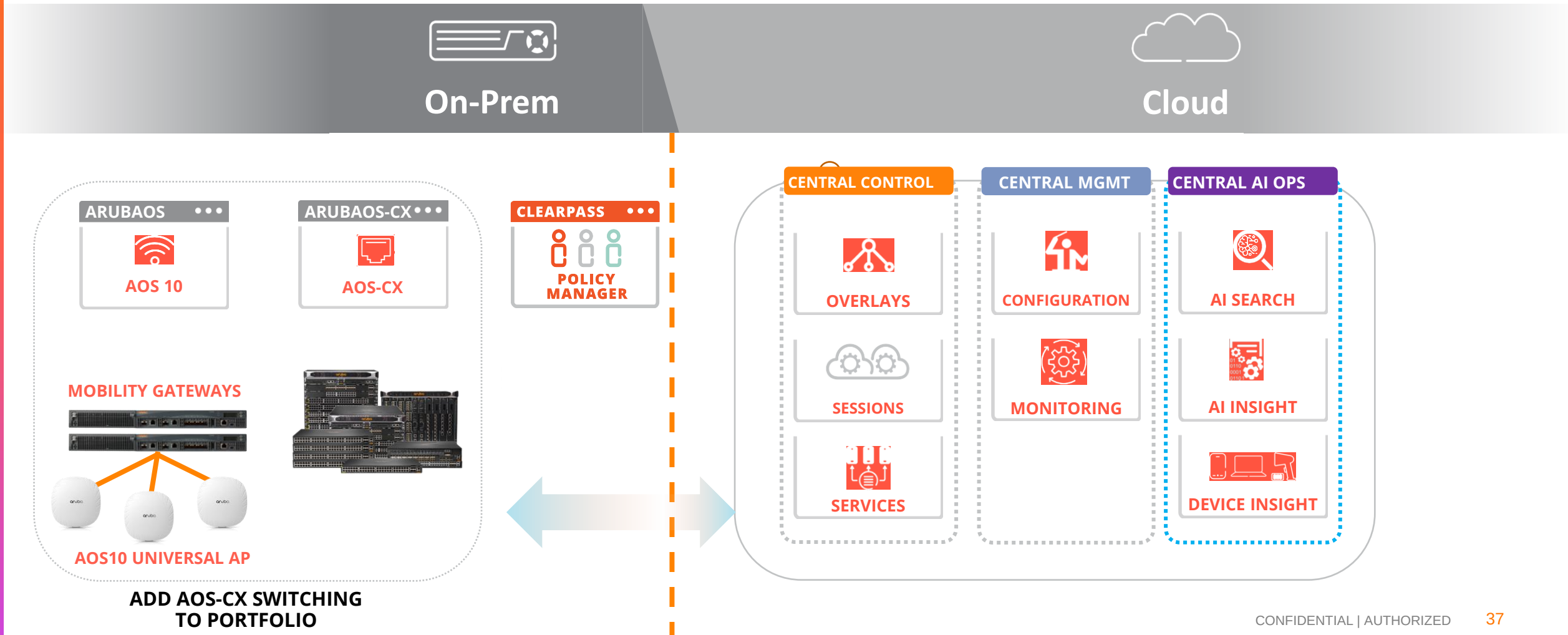
DEPLOY CENTRAL

AOS 10 Journey Step 2



DEPLOY CENTRAL

Unified AOS 10 & AOS-CX Infrastructure



Central On-Prem

Managing On-Prem Campus deployment

HPE Aruba Networking Central – Cloud and On-Premises

Enabling cloud-like scale and agility on-premises

Cloud Only

Programmability (Streaming APIs , Webhooks)	Scale Unlimited Scale Up to 25K devices	Full AI Insights AI Assist AI Insights* AI Search	Tighter Controls (SAML Auth/SSO GDPR Compliance RBAC)	Monitoring, Reporting and Troubleshooting	User Experience monitoring with UXI	SD-Branch Cloud Guest

Cloud-native Architecture | **Microservices-based** | **Streaming Telemetry** | **Consistent User Experience and Workflows**

CENTRAL PLATFORM

Controllers, Conductors, & Controller-based APs

Instant APs

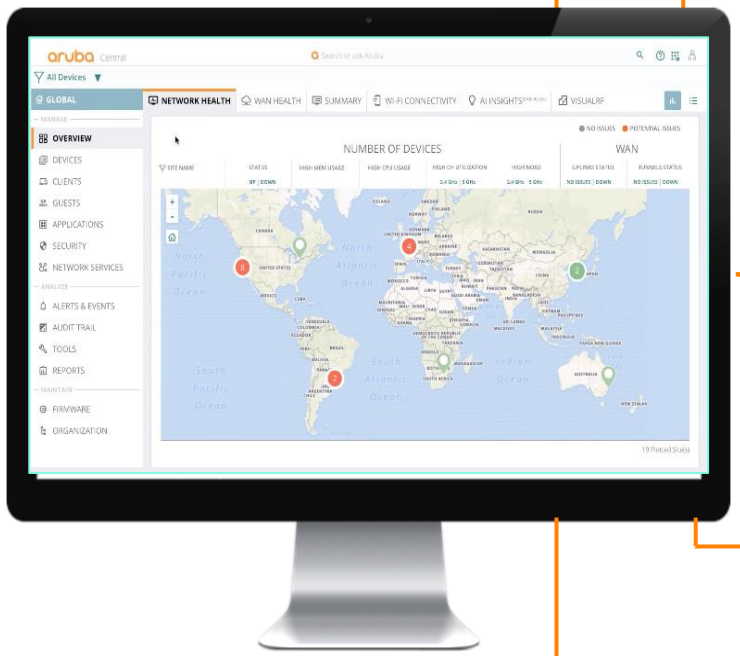
AOS-S and AOS-CX Switches

Central On-Premises for Campus Networks

Delivering cloud-like scale and efficiency for

AOS-S and AOS-CX Switches

Controllers, Conductors, & Controller-based APs, IAPs



Scale and consistency — Supports up to 25K network devices and easy transition to cloud

DC Redundancy — No loss of operations if the primary cluster fails

Programmability — APIs and webhooks to automate workflows with 3rd-party tools

Simplified/ease — Automated and unified role-based policies across wired and Wi-Fi networks

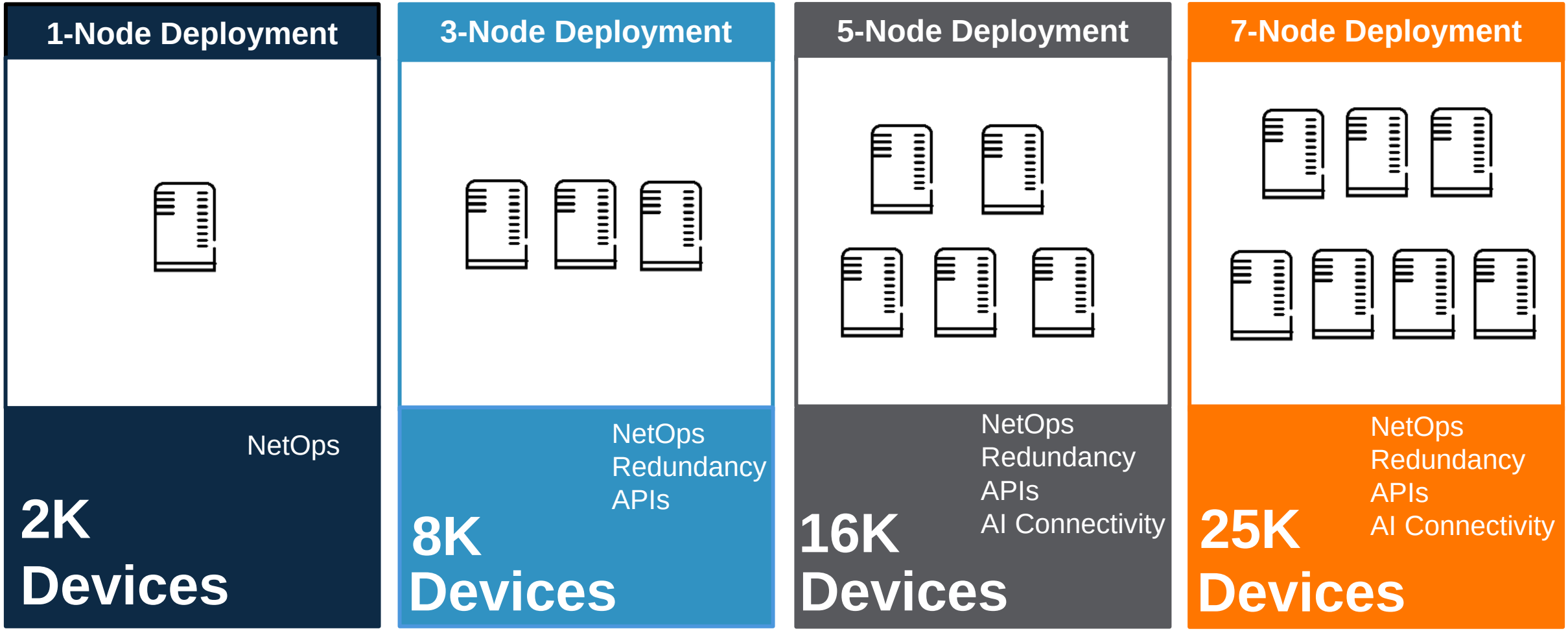
High Security — COP can operate without internet access and is FIPS 140-2 certified (SKUs in Govt OG)

Deployment flexibility — COP can be deployed in bare-metal mode by using DL360/ DL380 /DL560

Optimize End-user Experience — Integration with UXI to proactively monitor and improve the end-user experience.

Central On-Premises Architectures

- Powered by server appliances with versatile deployment options



Getting Started

Some Initial Considerations for Moving to AOS 10 (Cloud)

Getting Started

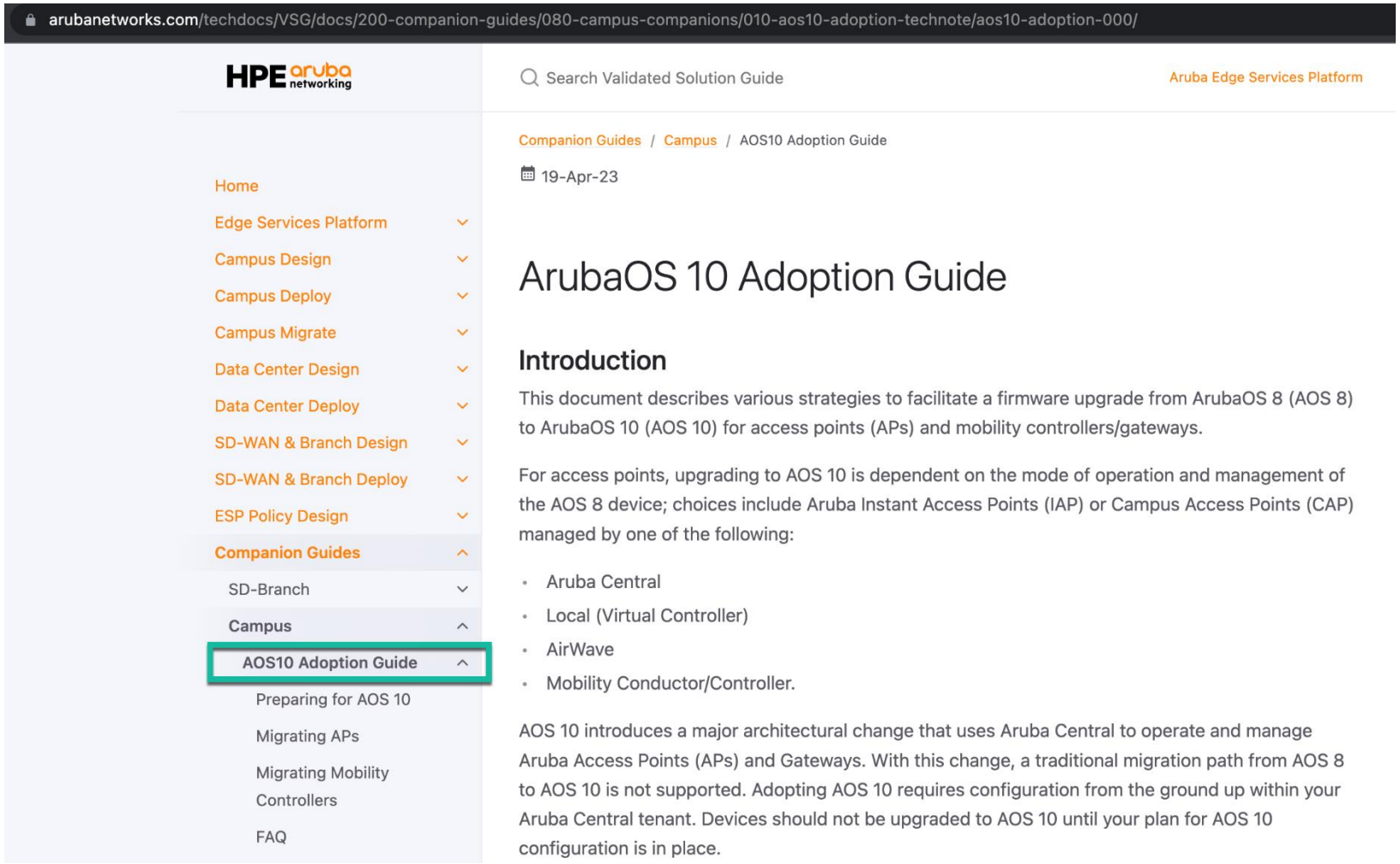
1. Make sure all devices are on the compatibility list.
2. HPE GreenLake account is ready with HPE Aruba Networking Central Application
3. Foundation or Advanced Licenses
4. Devices need to be onboarded into HPE GreenLake.

Devices capable of being upgraded to AOS 10 include:

- AP 3xx series (320, 330, and 340 series, and the AP-387 all parked in AOS 10.4)
- AP 5xx series
- AP 6xx series (minimum of AOS 10.4)
- 7xxx Gateways
- 9xxx Gateways
- Virtual Gateway (Cloud or On-Premises)
  - The VGW is currently only supported in the VPN Concentrator (VPNC) role

Validated Solution Guide – Adopting AOS10

- https://www.arubanetworks.com/techdocs/VSG/



Thank You