THE BRANCH CHALLENGE

WAN COMPLEXITY

USER EXPERIENCE

BRANCH SECURITY

LIMITED IT RESOURCES

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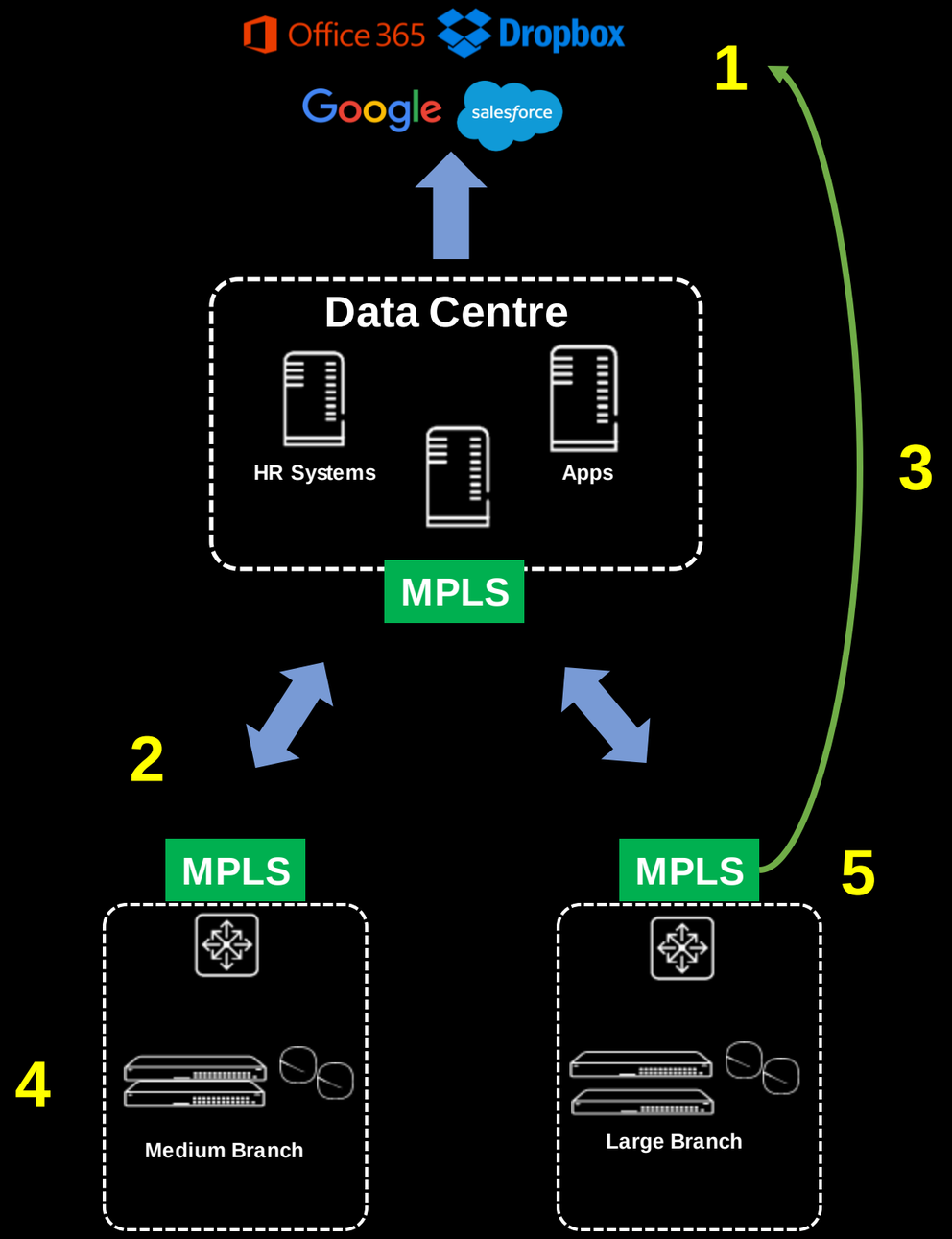
Architecture challenges

1. Saas Applications from DC
2. Expensive BW on Private WAN
3. Performance and reliability tradeoffs
4. Complex branch infrastructure and ops
5. Security challenges due to IoT, Mobility, etc



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SD-WAN Only Solves Part of the Problem

Private WAN is complex and expensive

SaaS applications are backhauled to the data center

WAN Challenges

Increased security risk from the rise in IoT

Device sprawl and static configurations

BRANCH Challenges

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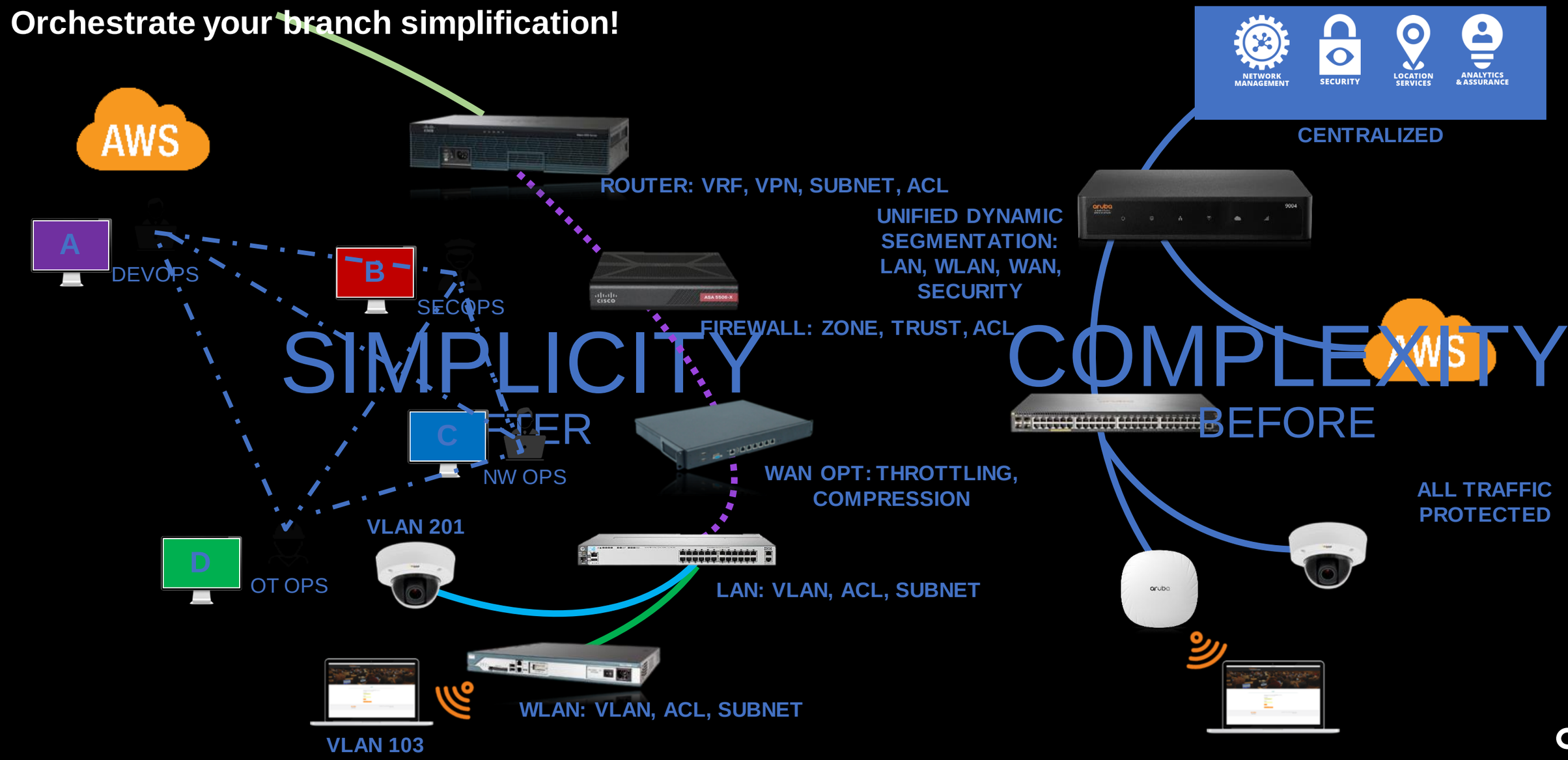
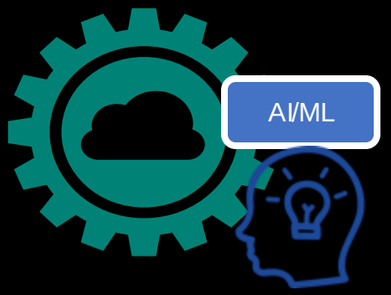
Branch Transformation

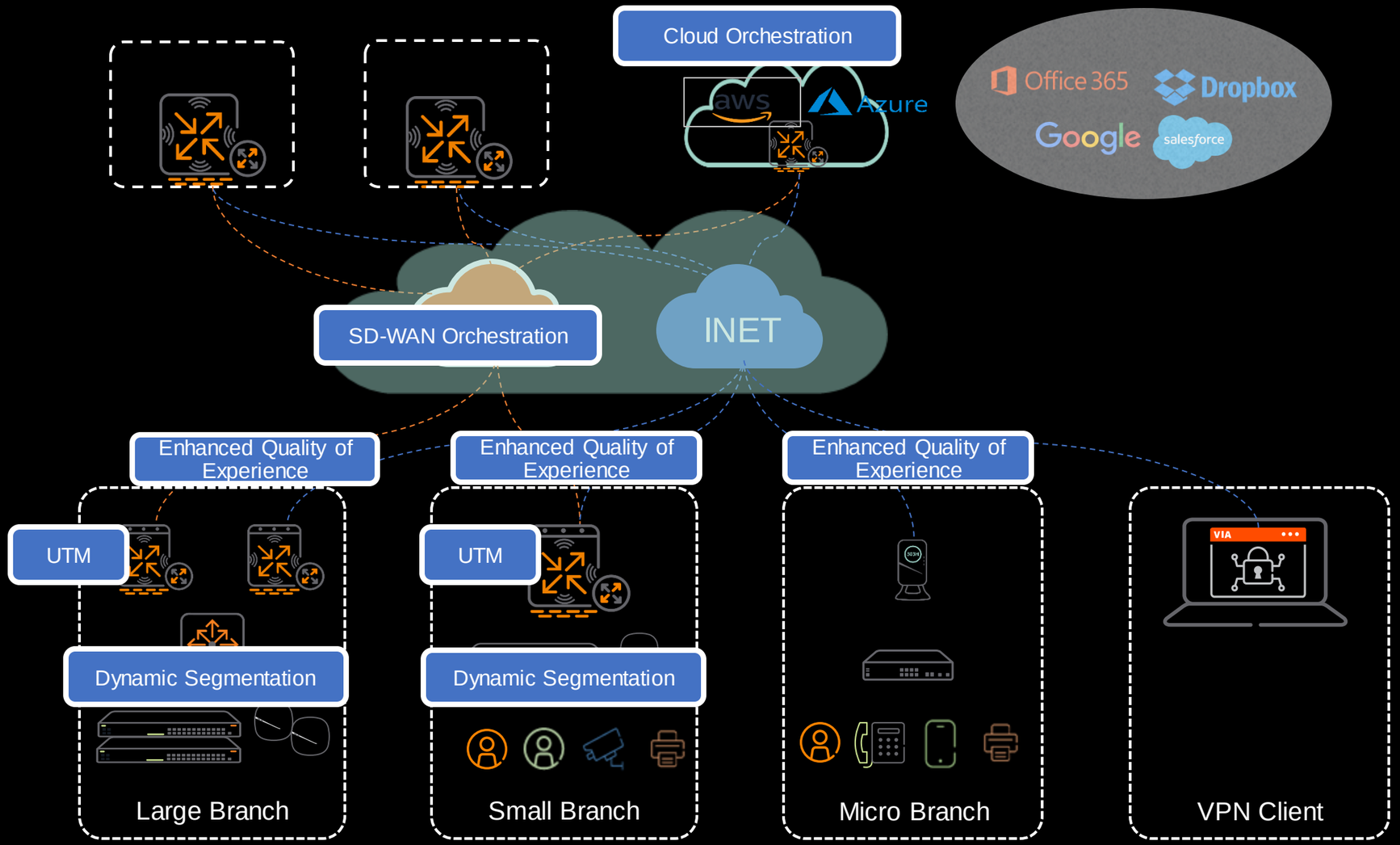
Orchestrate your branch simplification!



SD-Branch Solution Overview

Aruba Central
Management and
Control





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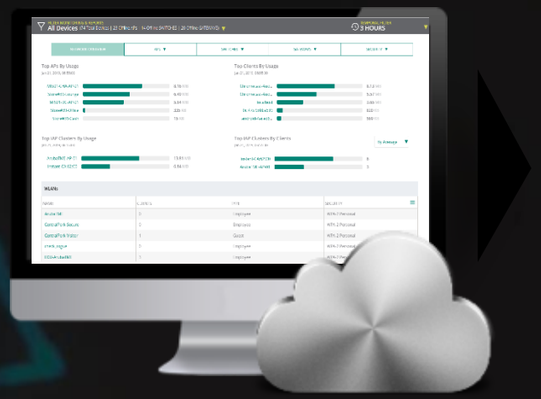
Aruba Central – End to end Network Service

Experience-First Management



LAN / WAN / WLAN

Aruba-OS Switches | Security Gateways | Instant Access Points

Value Added Services

Guest Wi-Fi | Presence Analytics | Connectivity Health | SD-WAN | Security

Extensibility via REST APIs

(Configuration, Monitoring, Alerts and Secure Access)

- Streamlined provisioning & workflow-driven usage models
- Comprehensive management & intelligent automated insights
- Platform integrated mobile and IoT device profiling
- Built-In APIs for integration with 3rd party software solutions

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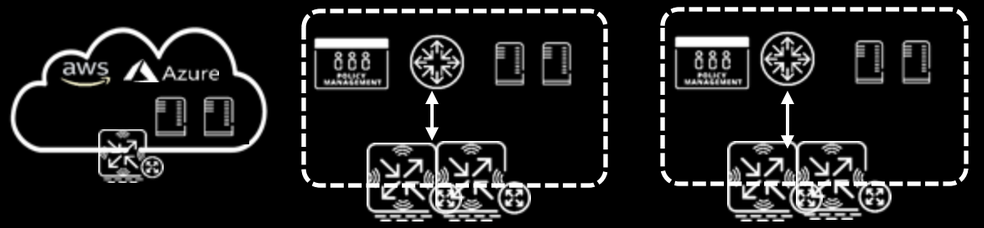
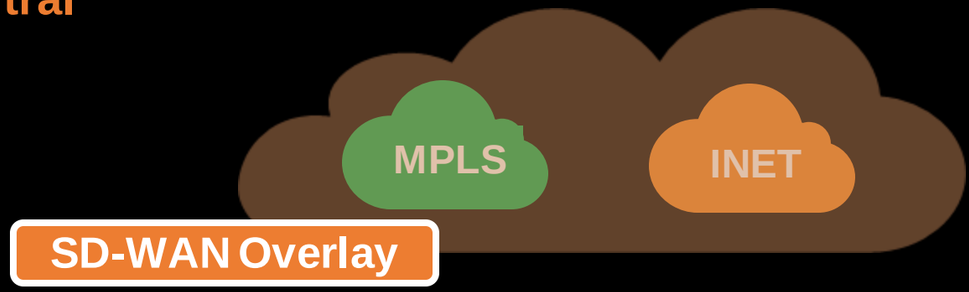
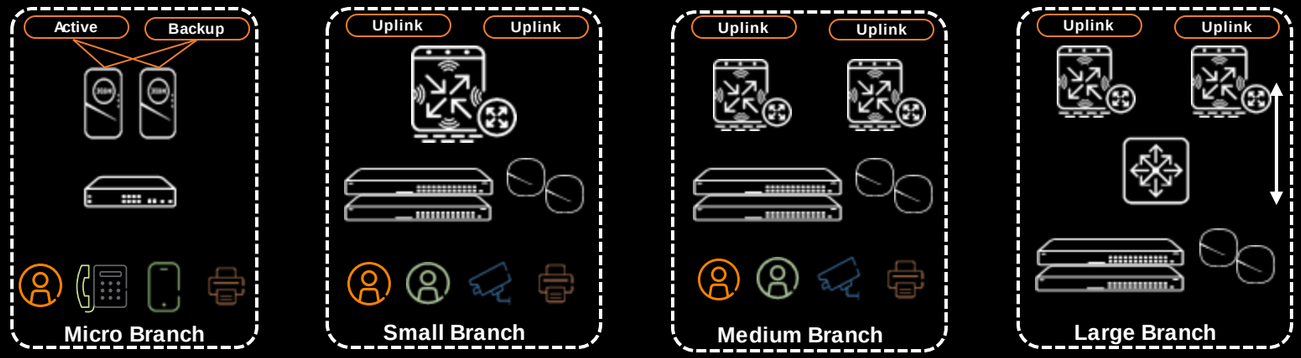
SOFTWARE DEFINED BRANCH



1. Streamlined Branch Operations with Aruba Central
2. Cloud-Native SD-WAN Orchestration
3. User Experience Optimization
4. End to end Visibility and Security





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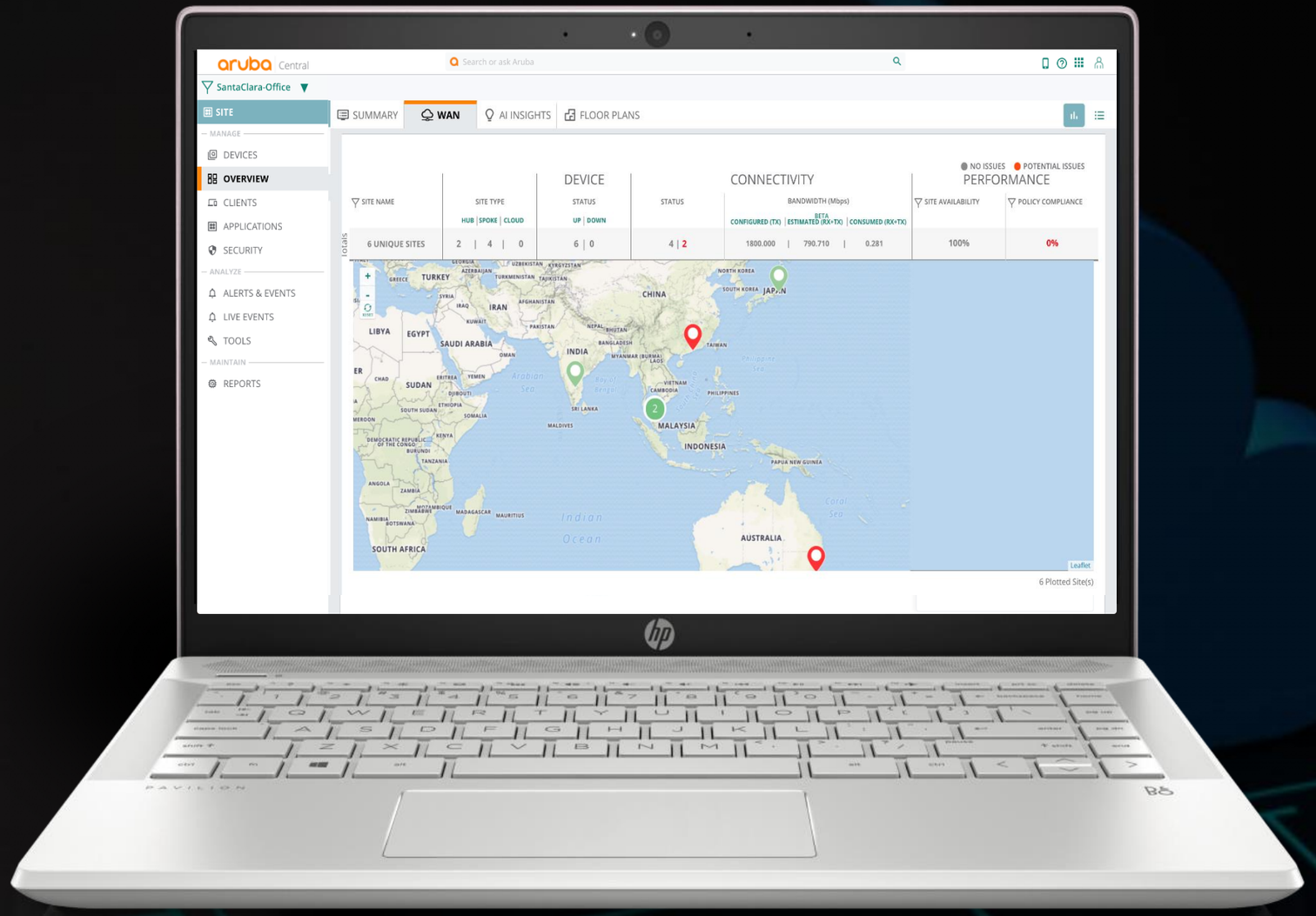
ARUBA CENTRAL – BRANCH NETWORK END-TO-END



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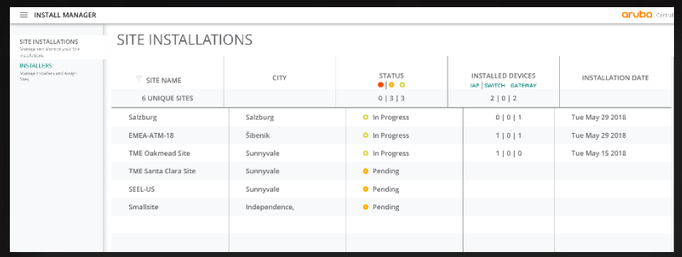
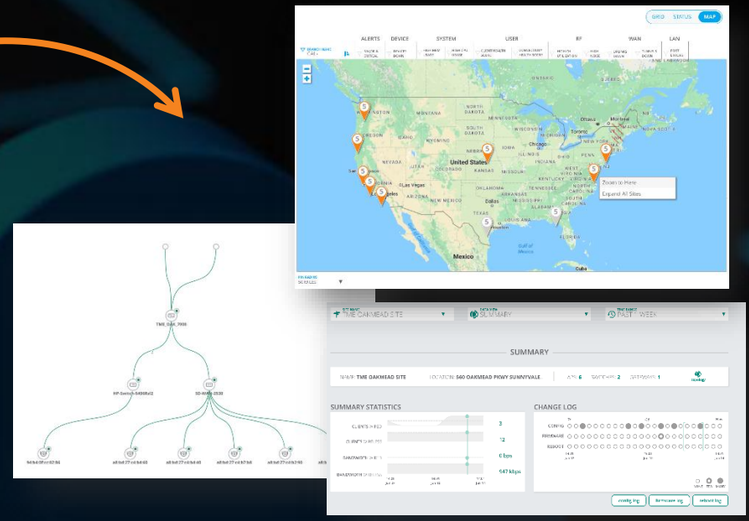
STREAMLINED OPERATIONS

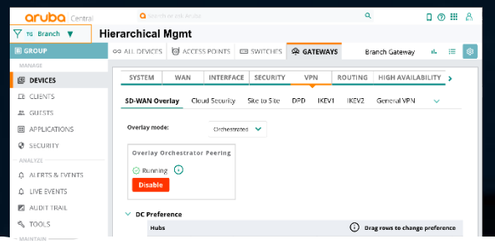
1 New Site Job



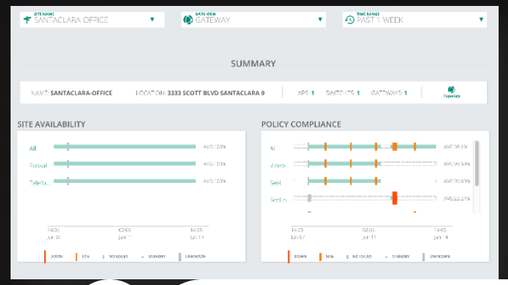
2 Installer scans devices



3 Devices geotagged to Branch site



4 Hierarchical config pushed Auto SW upgrade



Report

Alert

slack

now

5 Proactive alerting/reporting on a site/group basis

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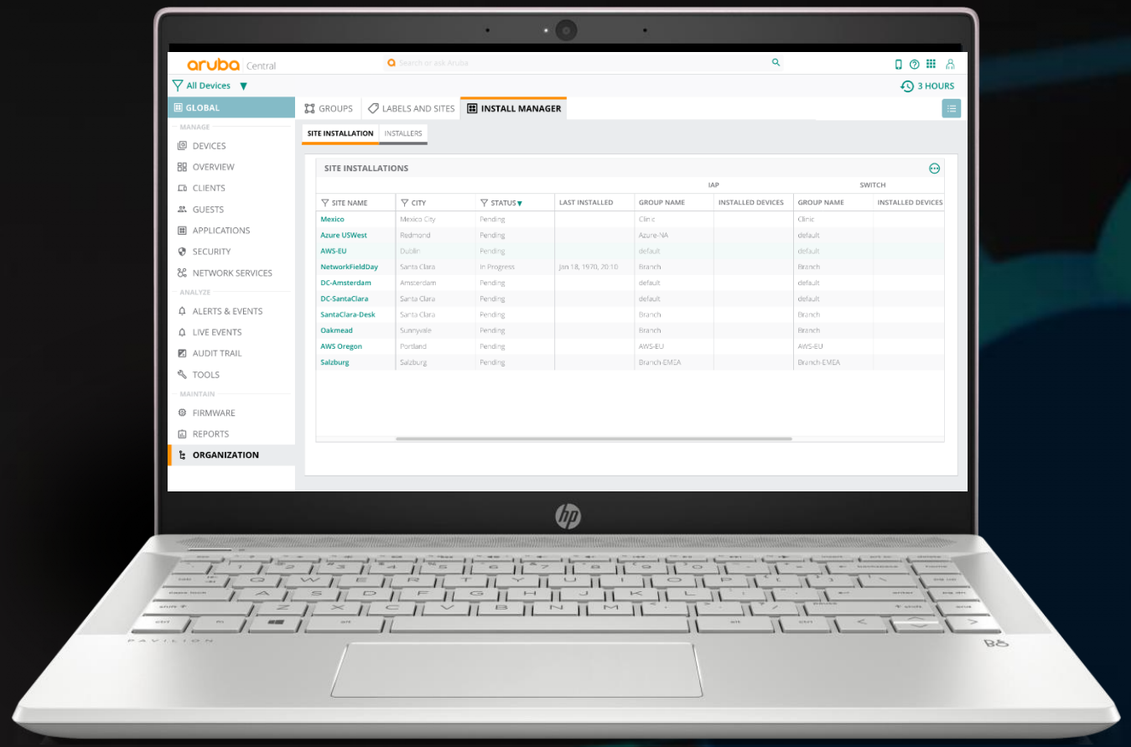
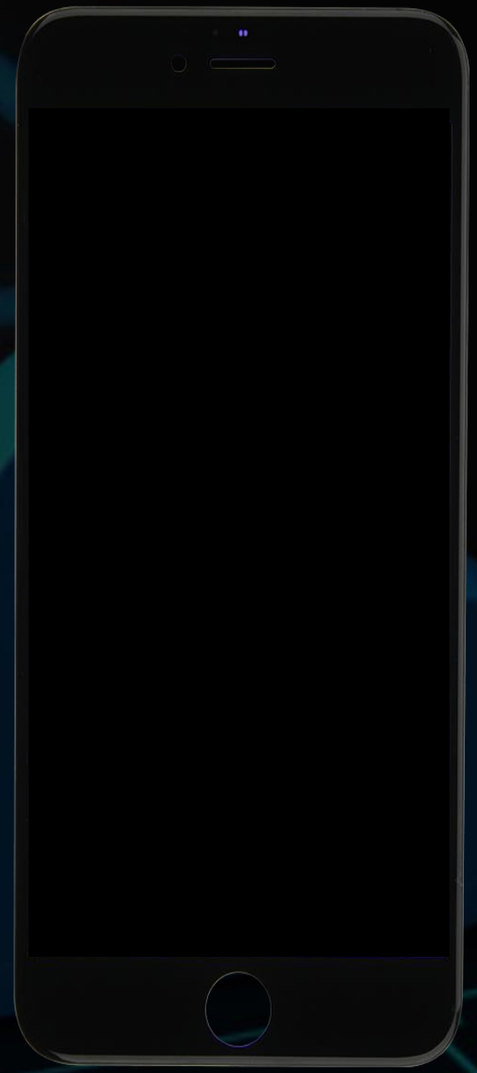
DEMO – STREAMLINED OPERATIONS





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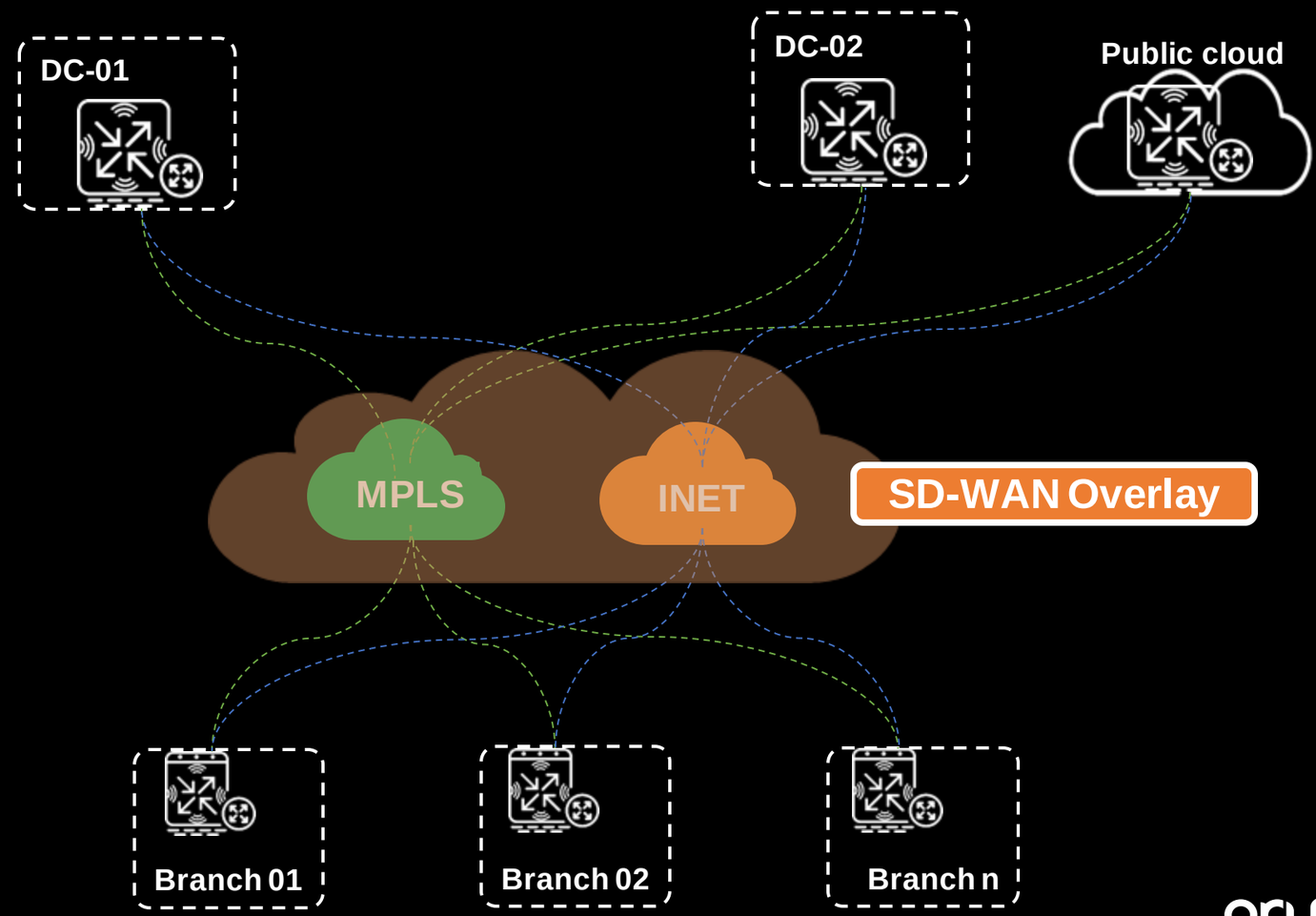
SD-WAN ORCHESTRATION

Cloud-Native
SD-WAN Orchestrator

- Centralized, cloud native Control Plane
  - Centralized key management
  - Horizontally scalable
- Policy driven SD-WAN overlay
  - Auto-discovers WAN links across the network
  - Orchestrates overlay routes and tunnels based on topology needs
- Orchestrated virtual Gateway for IaaS



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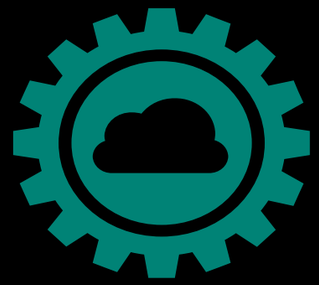
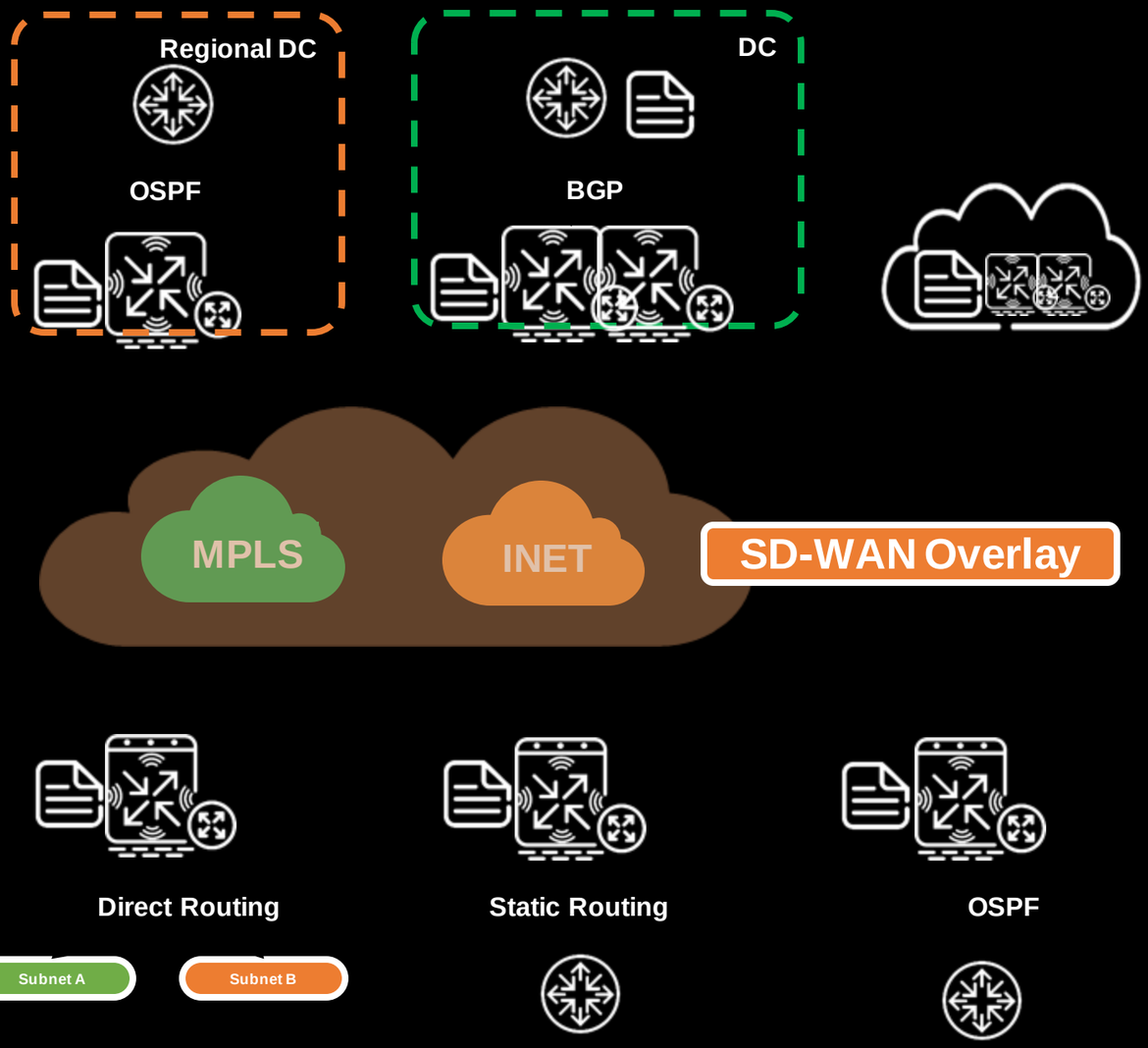
SD-WAN ORCHESTRATION

- Complete ”router as a service”
  - Path symmetry, routing attributes, route filtering…



GW	Network	NextHop	Attribs…
BGW-01			
BGW-01			
BGW-01			
…			



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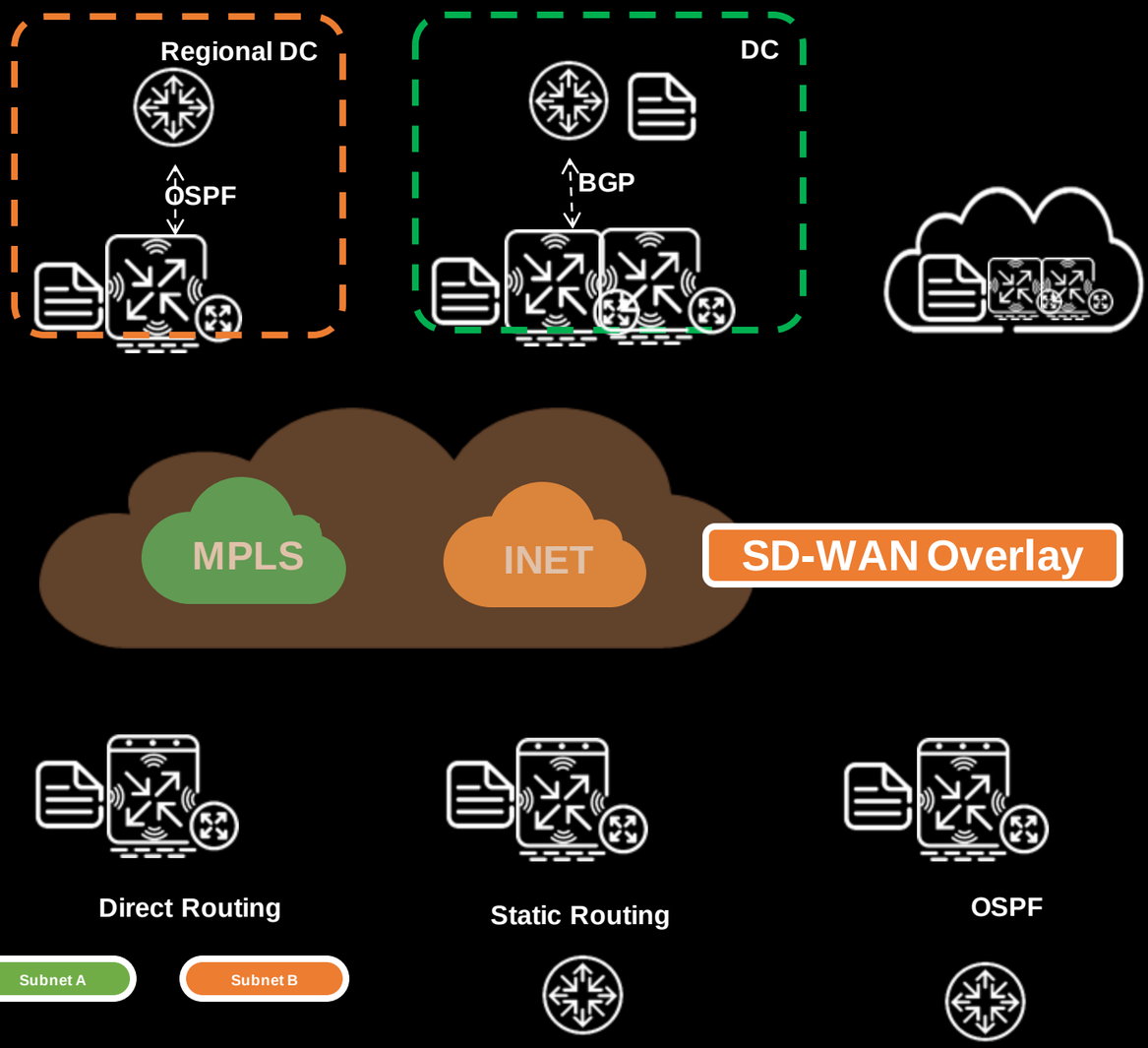
SD-WAN ORCHESTRATION

- Complete ”router as a service”
  - Path symmetry, routing attributes, route filtering…

SD-WAN Orchestrator

GW	Network	NextHop	Attribs…
BGW-01	10.96.0.0/16 (branches)	R-DC	Community AS-Path…
BGW-01	10.0.0.0/8 172.16.0.0/12 (summary-global)	Main-DC	Community AS-Path…
BGW-01	10.127.0.0/16 (AWS-VPC)	Cloud	Community AS-Path…
…	…	…	



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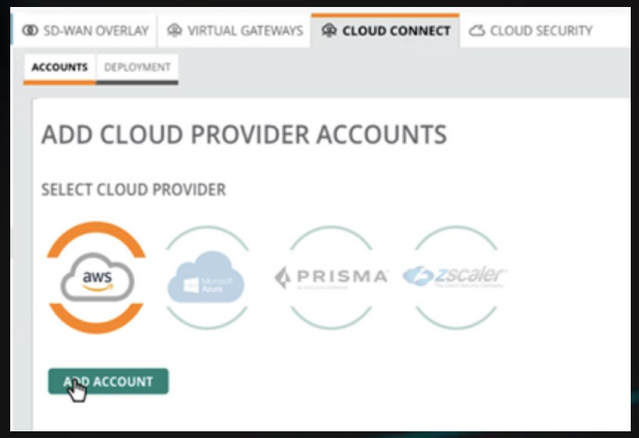
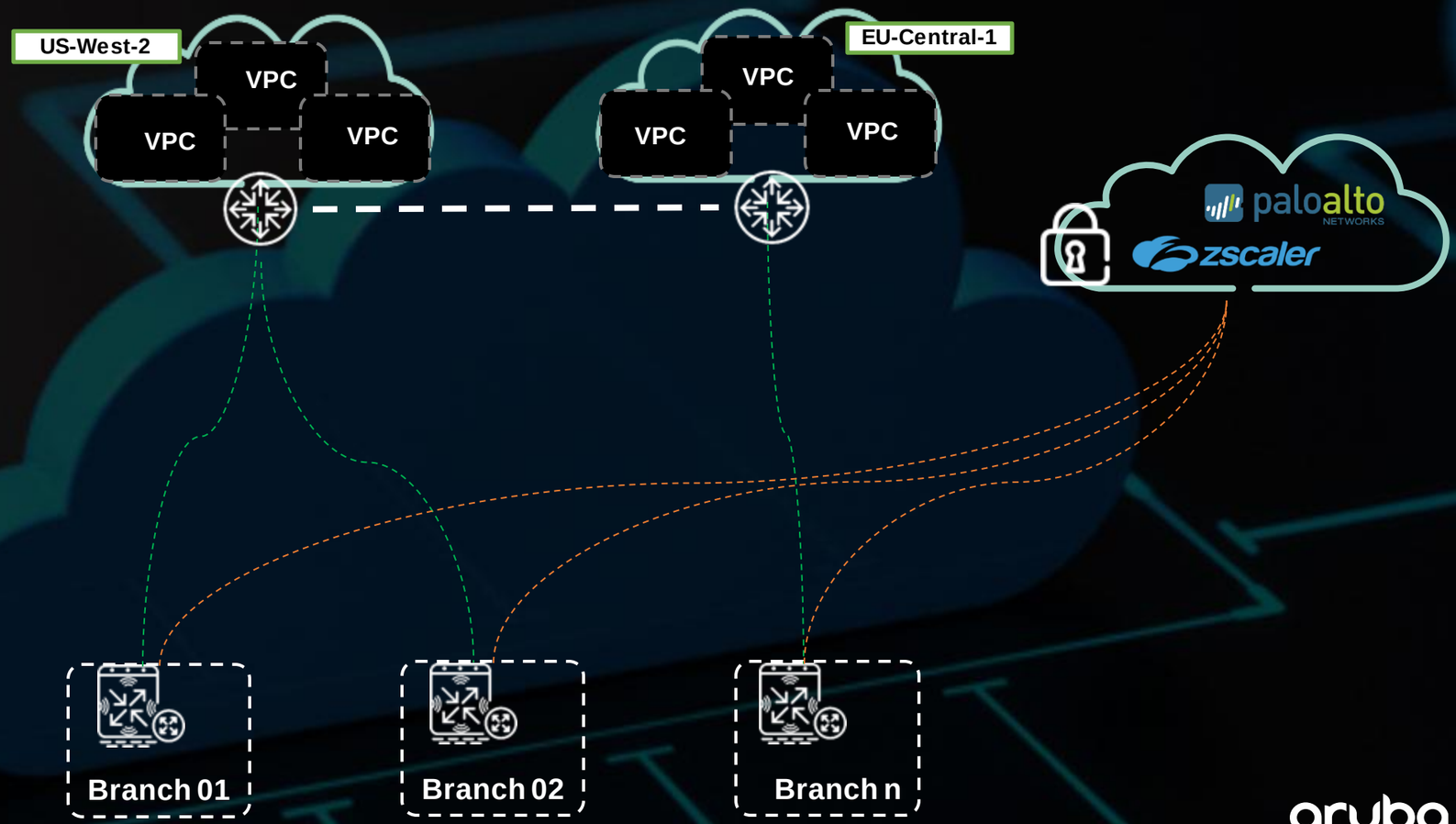
SD-WAN CLOUD-CONNECT

Cloud-Native
SD-WAN Orchestrator

- Cloud IaaS connectivity Orchestrated by Aruba Central
  - Orchestrated tunnels
  - Intra-region connectivity
- Cloud Security Orchestration
  - Orchestrated tunnels
  - Tunnel to closest node





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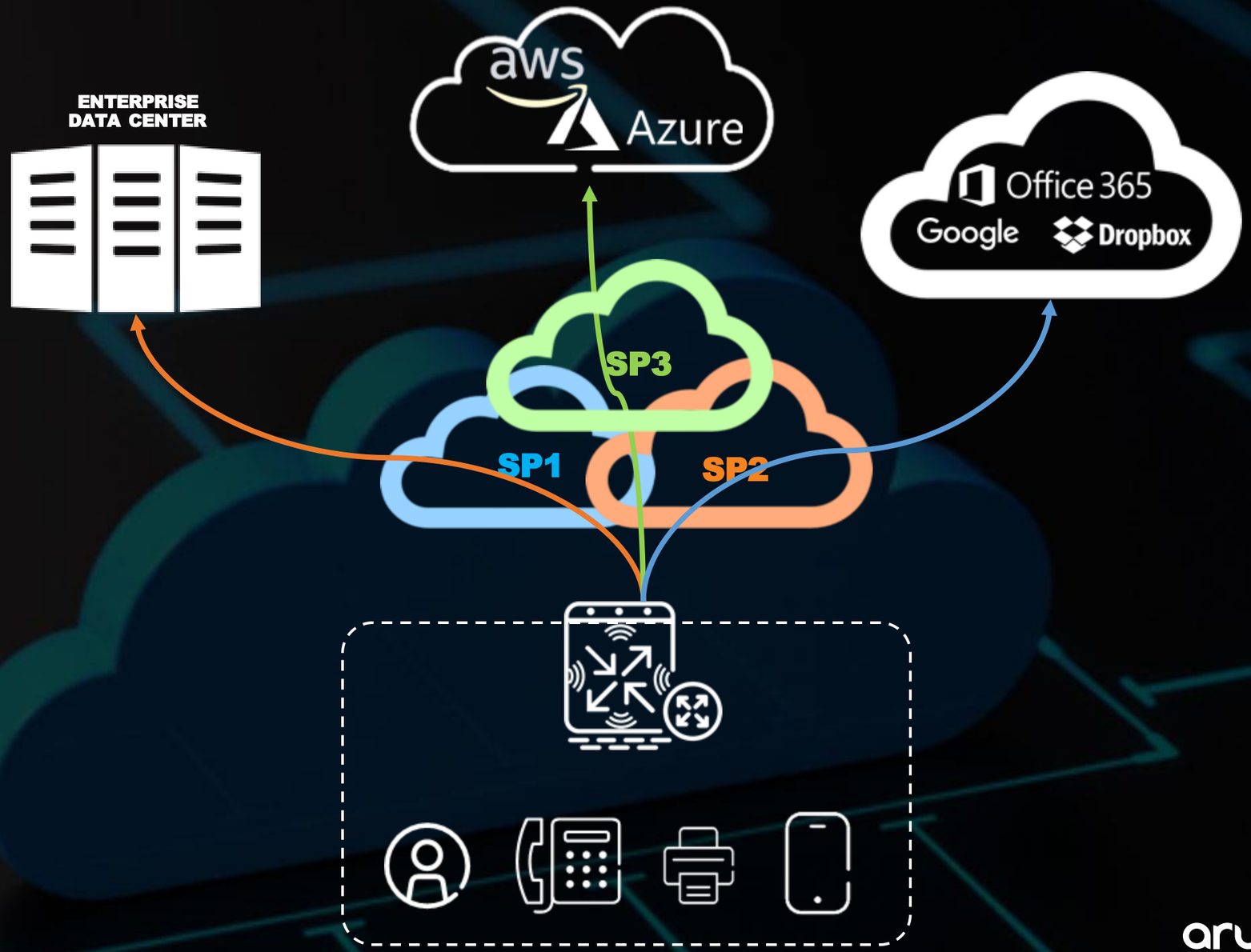
DEMO – CLOUD CONNECT

https://youtu.be/U2MDvXfgSXU?t=1793

USER EXPERIENCE

- Dynamic Path Steering
  - User, Application, Destination
  - SLA (latency, jitter, loss, utilization)
- Critical SaaS apps
  - HTTP Probes to the app
  - Select best path
  - First packet classification



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UNIFIED BRANCH SECURITY

- App-User Aware Firewall
- App Classification
- Deep Packet Inspection
- Web content & URL filtering
- App & URL reputation
- Intrusion Detection & Prevention System
- Cloud Security

Threat Visibility

- Sliceable threat trending overtime
- Overlay with app/user launch and network direction
- Threat source and impact

Policy driven enforcement

- Out of box IDS / IPS policies
- User defined whitelisting
- False Positive Management flow

Correlate to Manage Incident

- Externalizable events streamed to SOC
- Alert and notifications based on business impact
- Stream events to REST endpoints

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DEMO – UTM

- Threats Over Time
  - User/App Launch & Network Traffic vs Threat
  - Threat Trend
- Threat Metrics
  - By category, type and severity
  - Threat prevalence
  - Impacted users / devices
  - Source and level of impact
- Drilldowns
- SIEM integration (splunk 1st)

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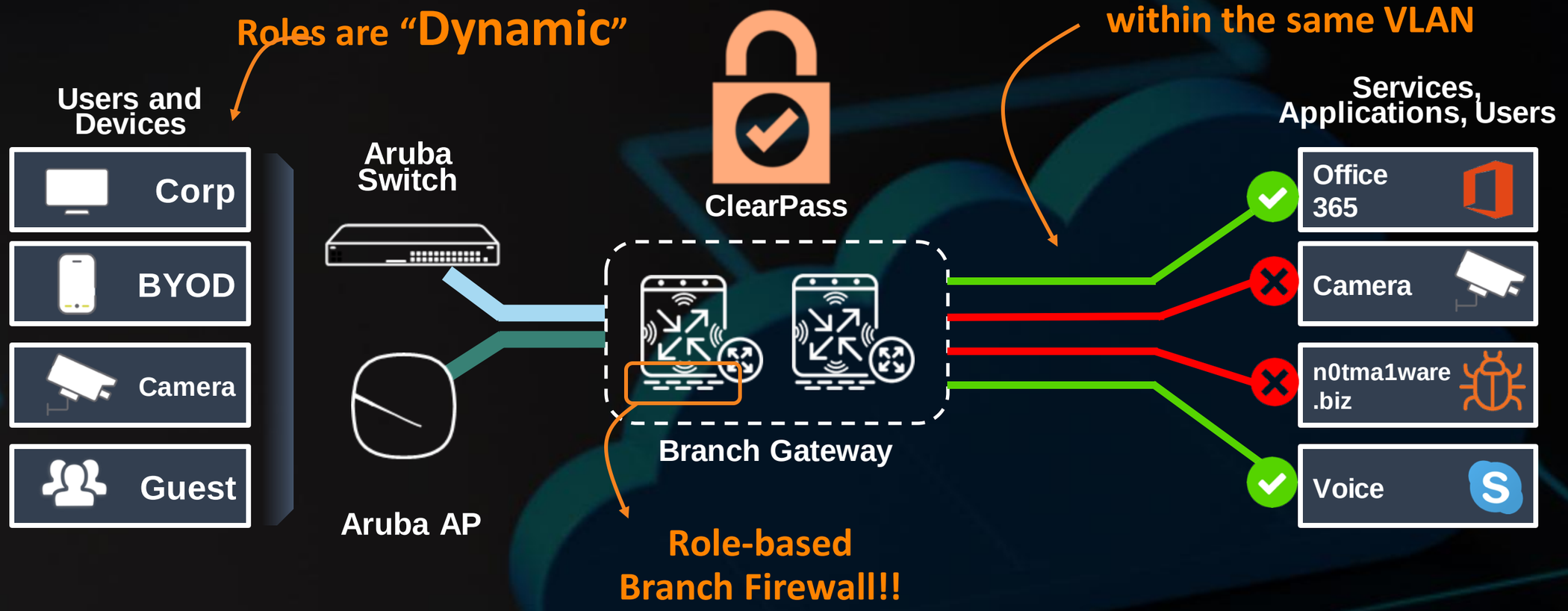
DYNAMIC SEGMENTATION



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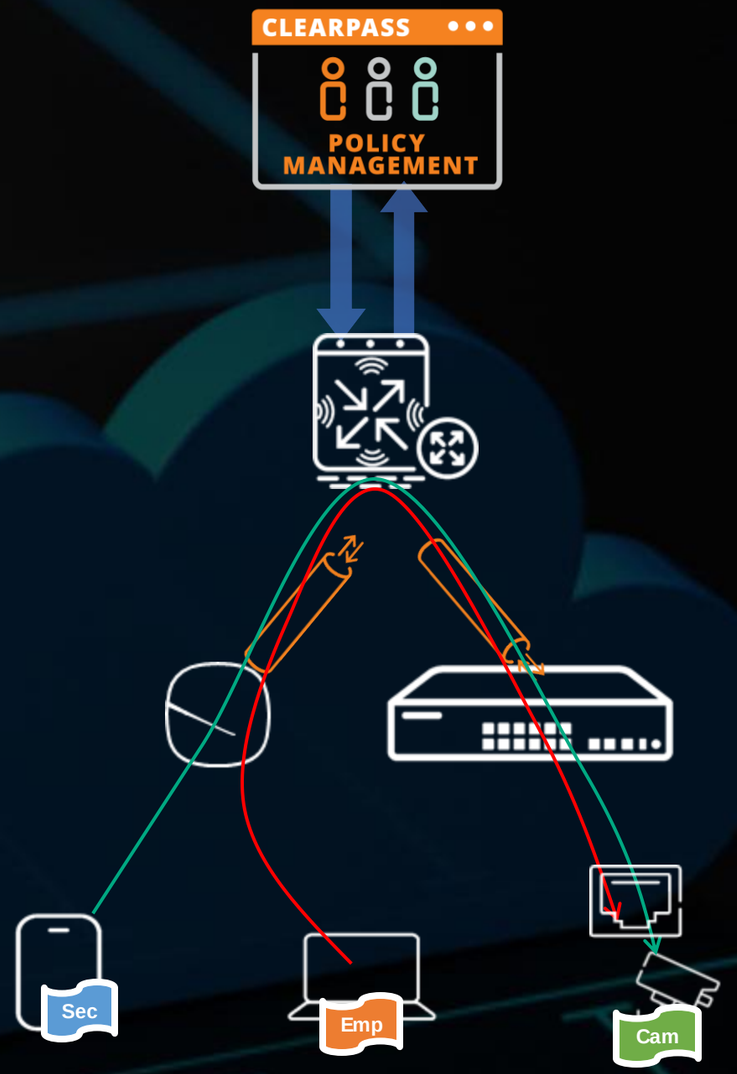
USER-CENTRIC SECURITY

1. ClearPass identifies roles based on credentials or profile
2. Wired and wireless clients in the same subnet
3. Wired and wireless client tunneled to firewall
4. Security policies control intra-VLAN communication
5. Users and policies just use dynamic objects



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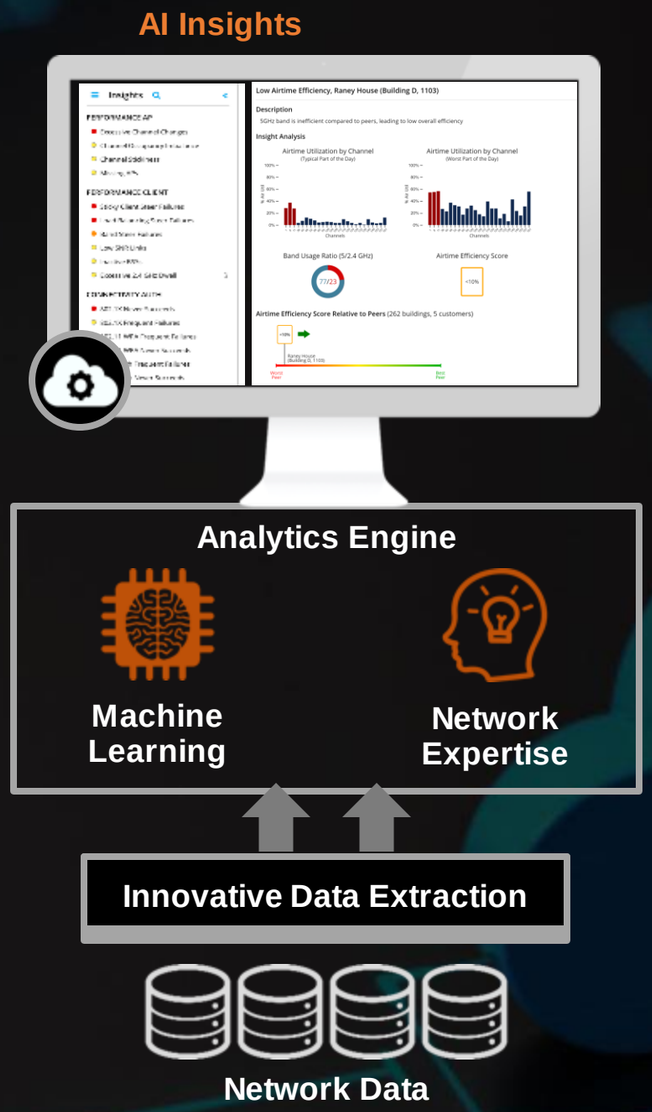
AI/ML POWERED TROUBLESHOOTING



Insights for improving network performance & user experience

Leveraging **Machine Learning**, Aruba **network expertise** & latest **Cloud** technologies to transform existing network data into advanced **network analytics**

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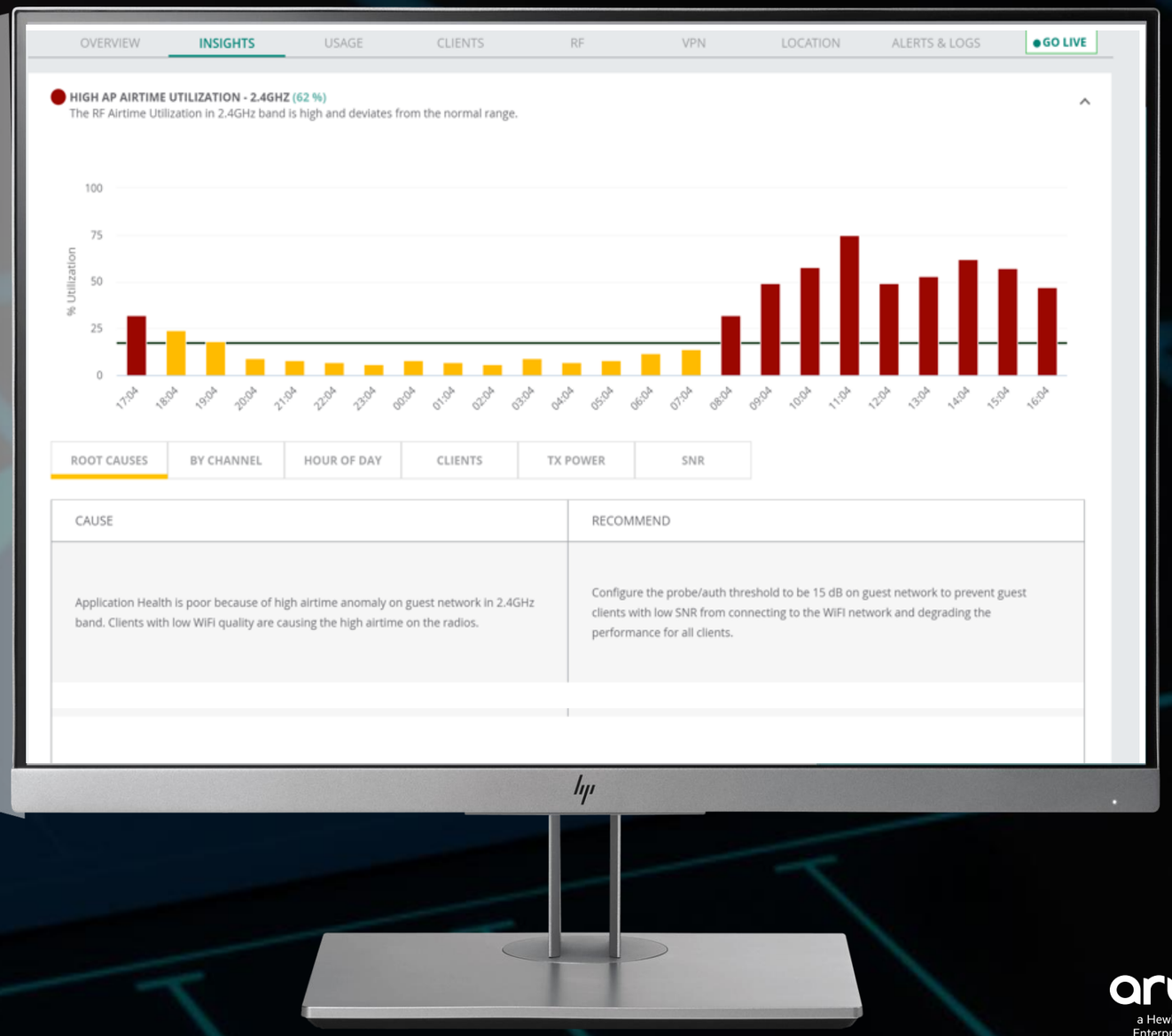
AI/ML POWERED TROUBLESHOOTING

NETINSIGHT MACHINE LEARNING ENGINE



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BENEFITS OF

ARUBA SD-BRANCH

CLOUD-NATIVE ORCHESTRATION

MANAGE EXPERIENCE

END-TO-END SECURITY

SIMPLIFIED OPERATIONS

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