



a Hewlett Packard
Enterprise company

Software Defined Branch

Evolution of the Branch & SD-WAN

Challenges with Current Branch Architectures

Solve the Branch problem, not just the WAN problem

LAN Side Challenges

- Complexity caused by increasing number of devices, VLANs connected at branch
- End points going mobile requires wireless refresh
- Poor visibility into clients/devices connected at the branch
- Lack of authentication of clients/devices connecting to the network
- Lack of common policy for users connecting to network via wired or wireless



WAN Side Challenges

- Limited capacity & long setup times for MPLS transport, motivating upgrades with less expensive Internet
- Lack of control and visibility into WAN traffic
- Complex management of the WAN and routing policy
- More SaaS traffic (O365, Box, SFDC, ...) directed over Internet.
- Lack security measures and control to safeguard the network

Operation Challenges

- Multiple management platforms, Multiple operating models, Multiple vendors, Policy is distributed

Aruba SD WAN Goals



Simple

Drive simplicity and fewer boxes in branch solution



Transport independency

Own your WAN policy



Common Policy and Management
for Wired, WLAN and WAN



Flexible Branch Deployment Options with Aruba

Micro Branch with RAPs

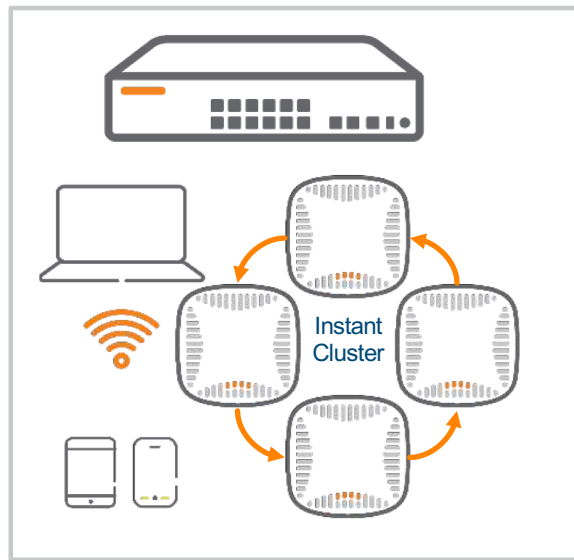
Basic WAN



RAP connected to WAN uplink

Small to Mid Branch with IAPs

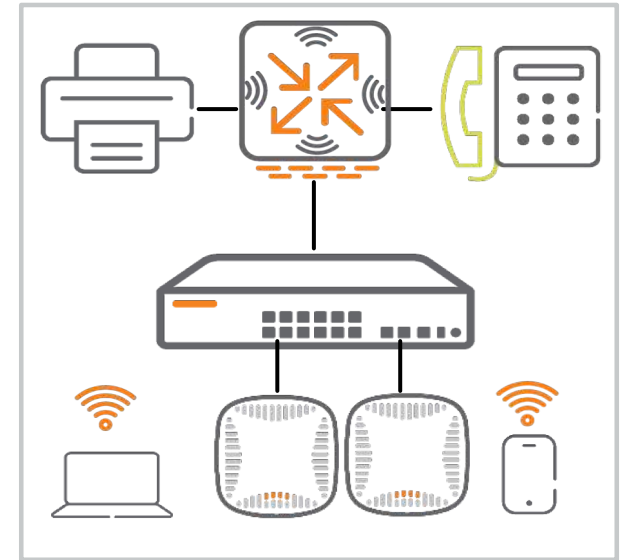
Basic WAN



Instant AP cluster connected to a
Aruba access switch

Large to Mid Branch with Gateway

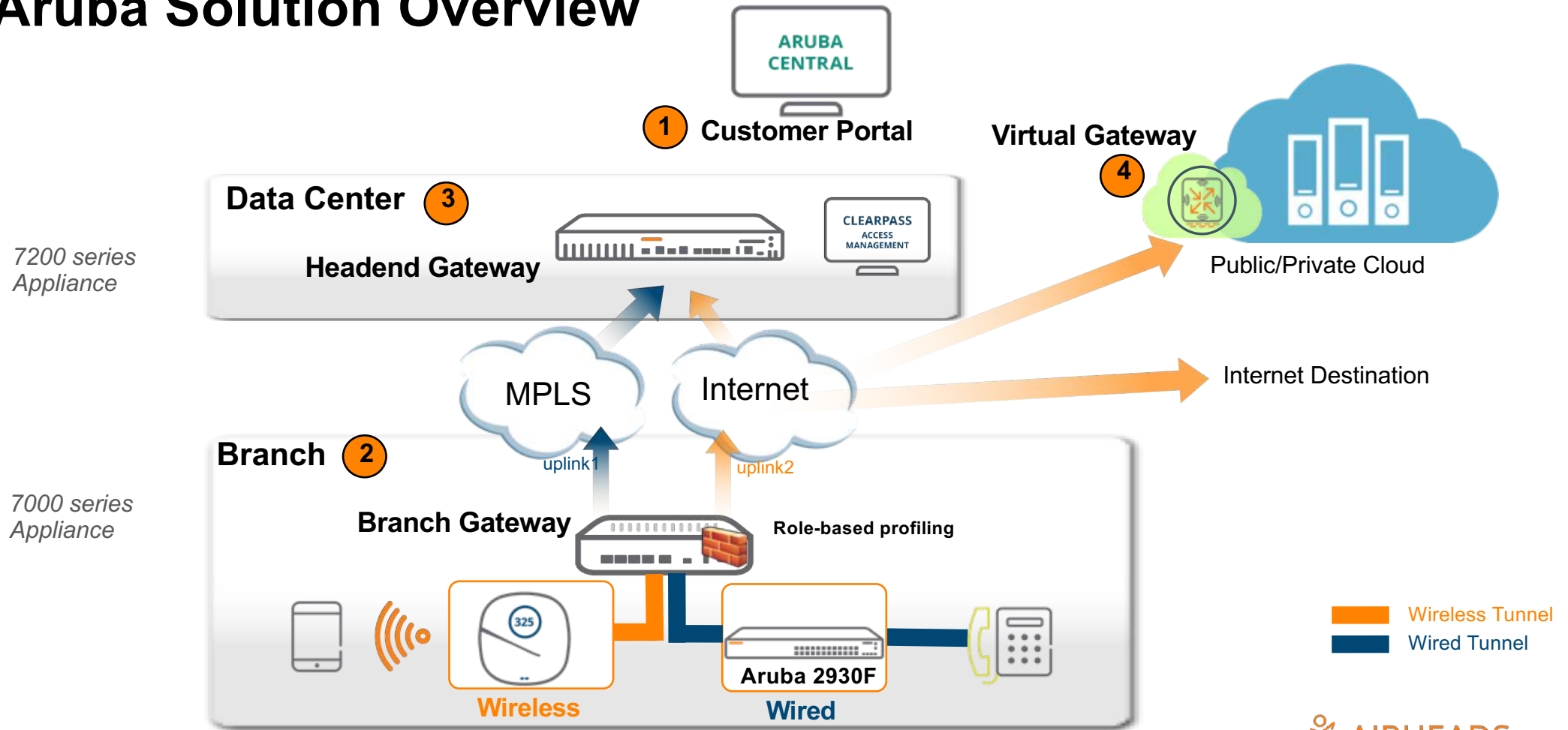
Advanced WAN



7000 Branch Controller connected to
WAN uplinks, with Aruba switch and AP's

Enterprise Class, One Network and Policy Management Platform

Aruba Solution Overview



Simple Onboarding

Provisioning tools for AP/Switch/Gateway

Installer App

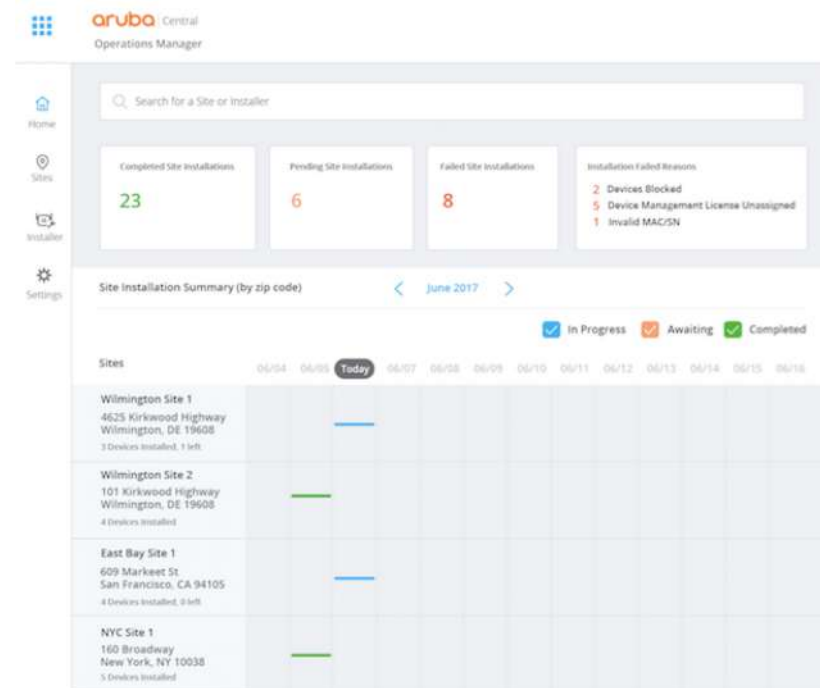


1. Scan

2. Power-on

3. Connect

Ops Manager Dashboard



Site Health Dashboard

System Health Indicators

- Devices Disconnected
- CPU Utilization
- Memory Utilization

RF Health Indicators

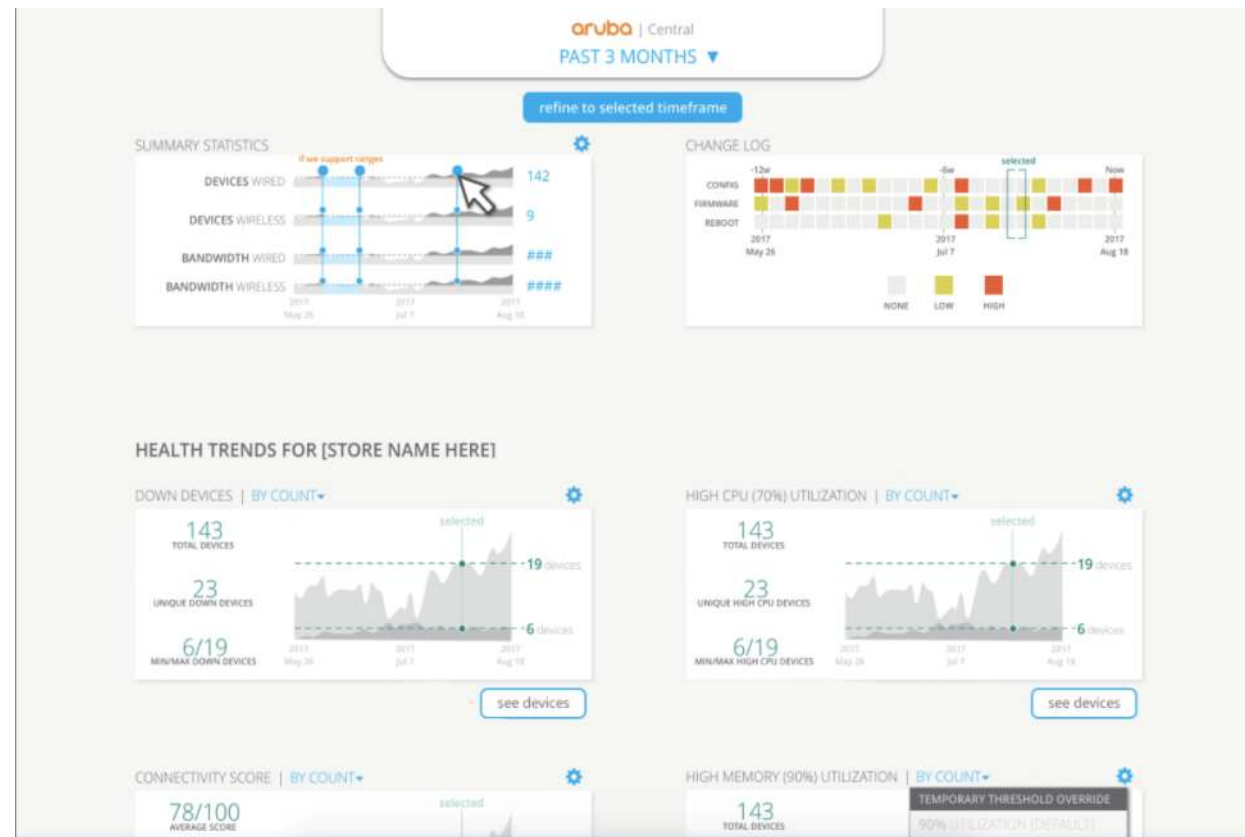
- Channel Utilization (5/2.4Ghz)
- Noise Floor (5/2.4Ghz)

Client Health Indicators

- Client Health Score
- Connectivity Health Score

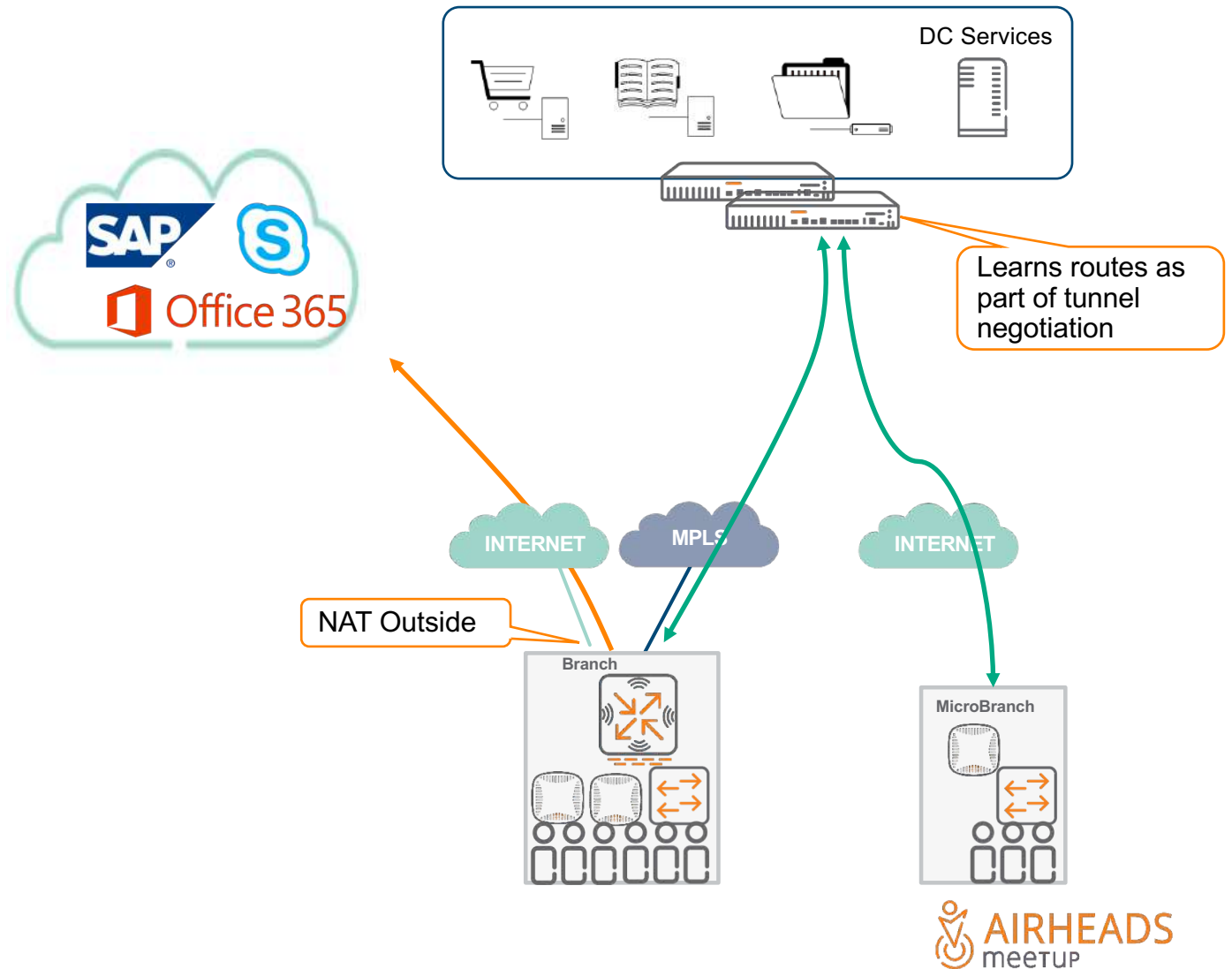
WAN Health Indicators

- Network Latency, Loss
- Speedtest



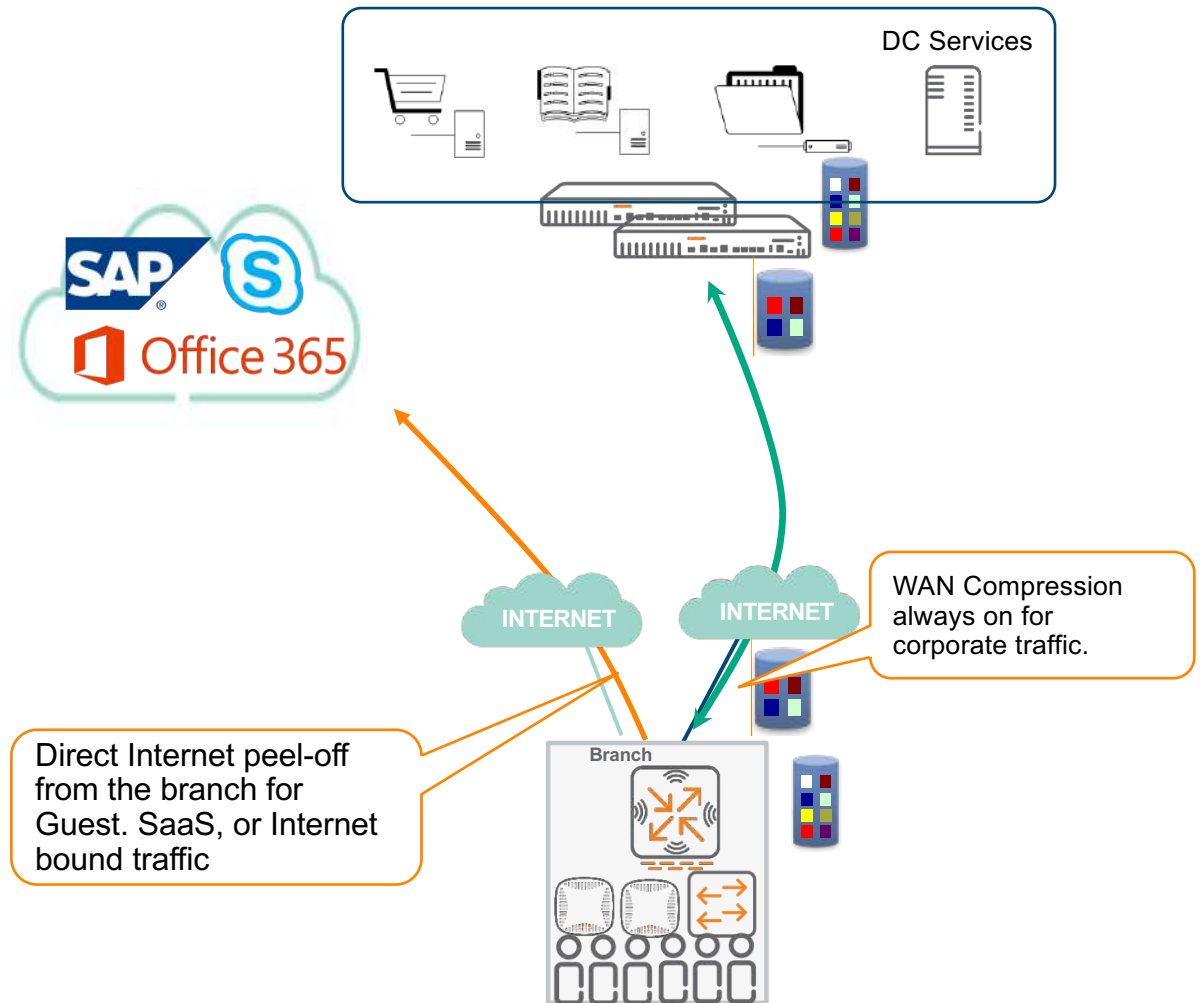
SD-WAN

- ✓ Simple, Scalable routing



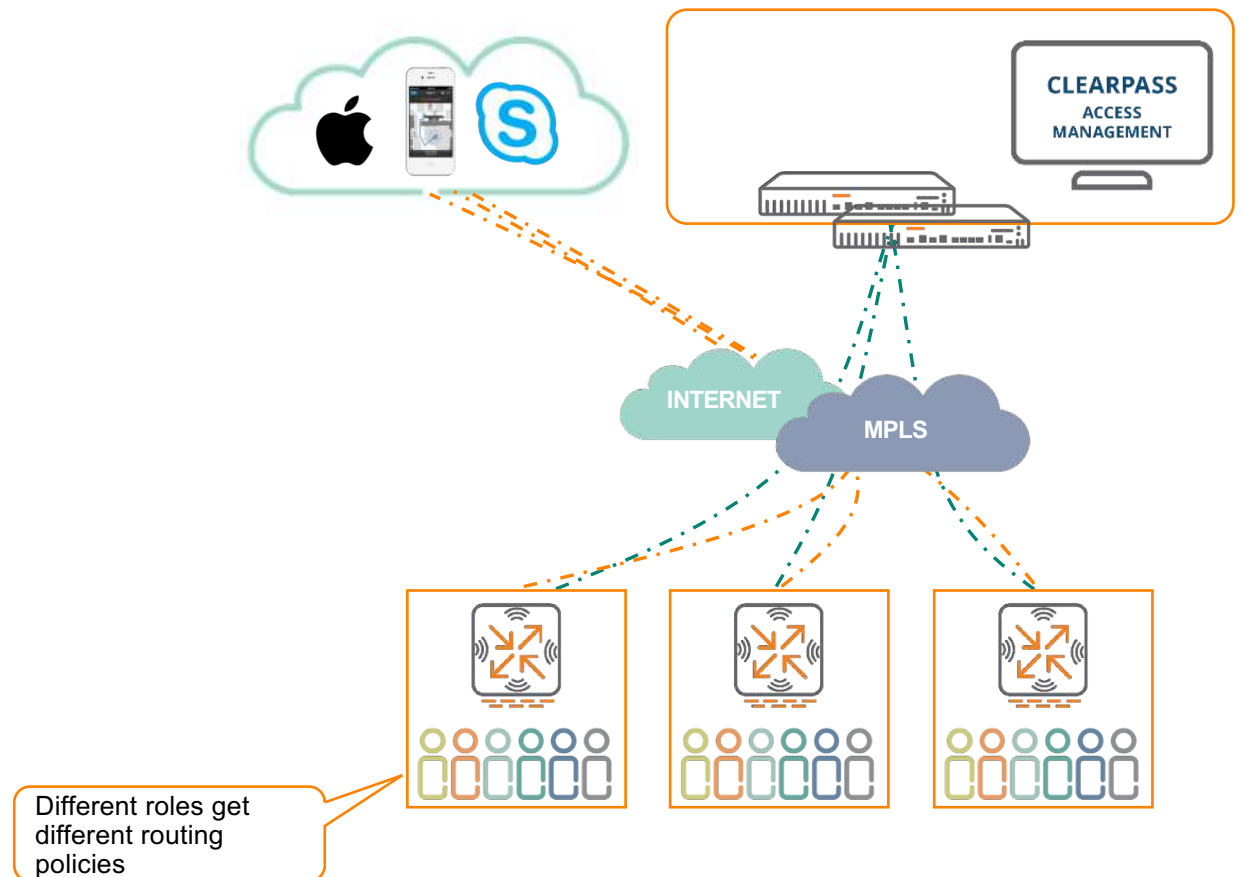
SD-WAN

- ✓ Simple, Scalable routing
- ✓ **Optimizing WAN usage**
 - ✓ WAN Compression
 - ✓ Role based routing



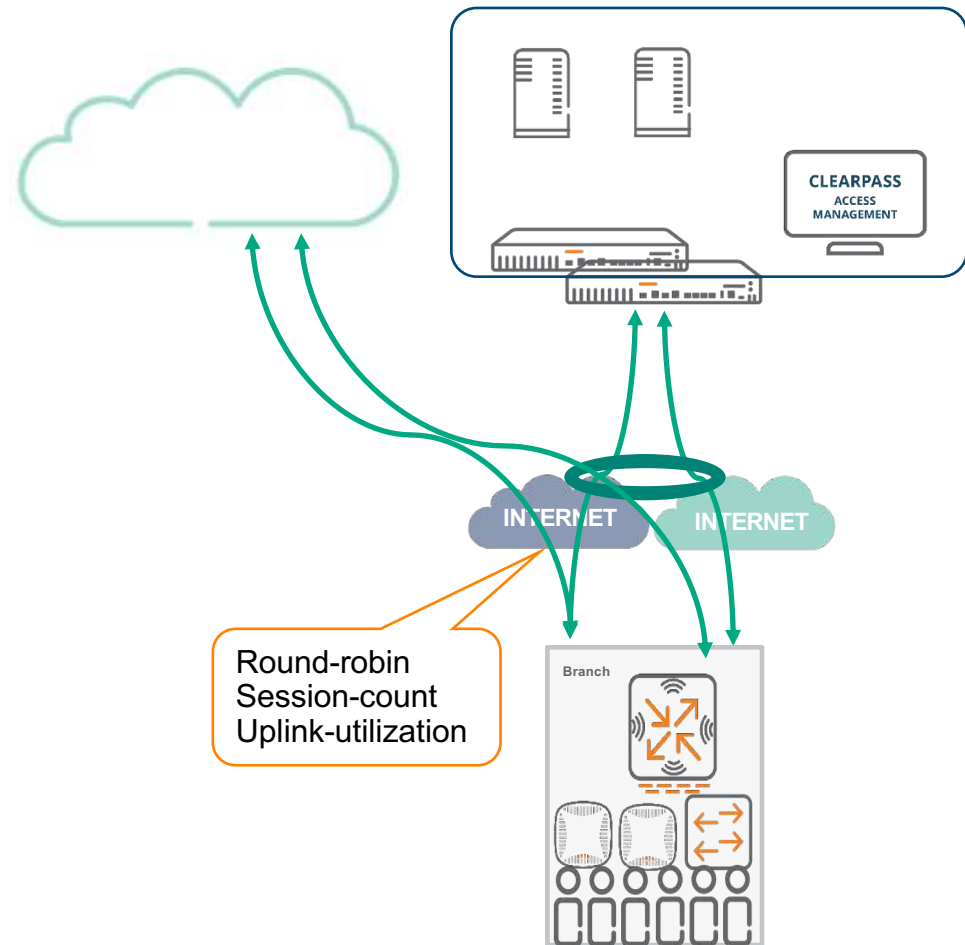
SD-WAN

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- ✓ **User Centric Security and routing policies**



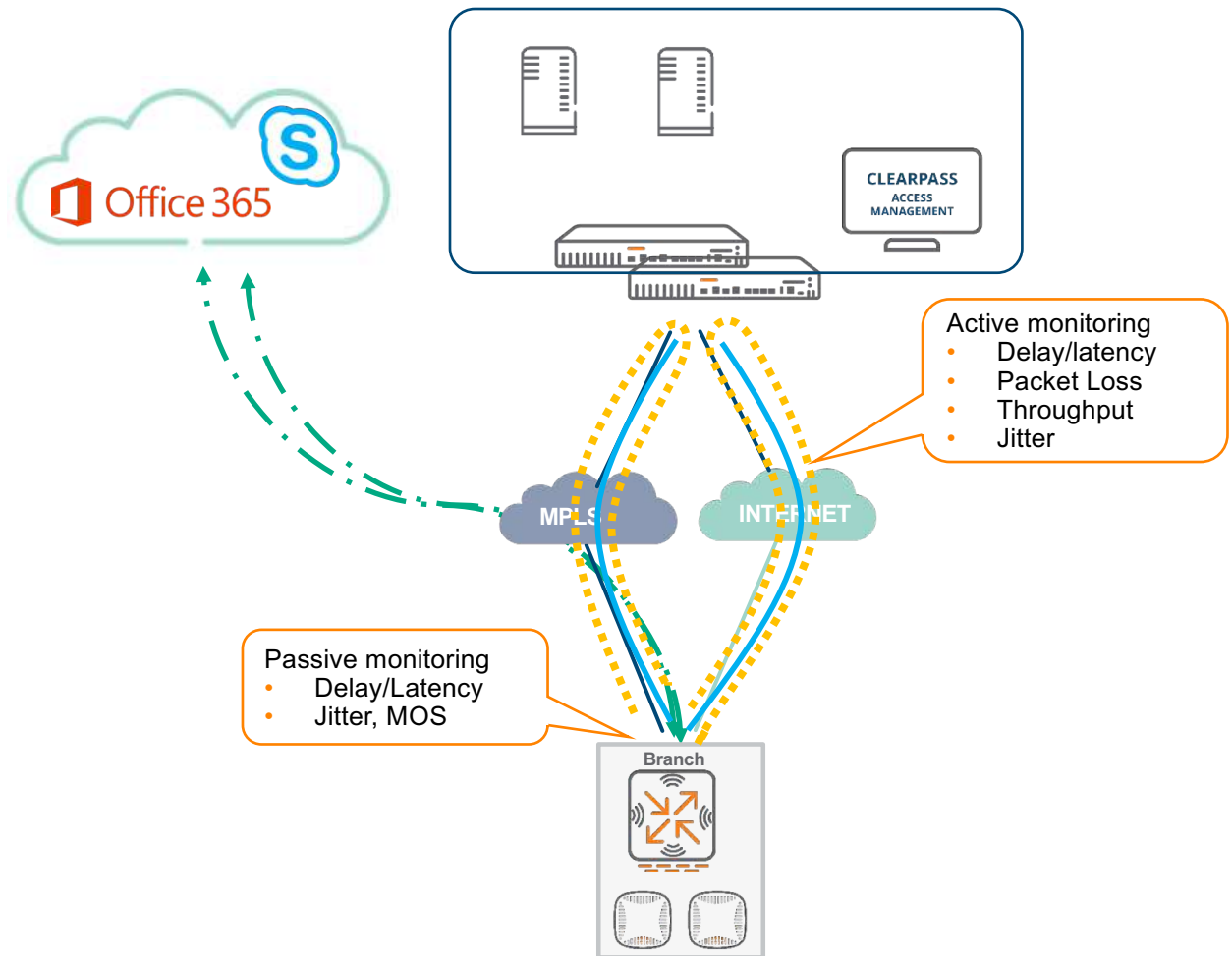
SD-WAN

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- ✓ Uplink aggregation (4 +1)



SD-WAN - NEW!

- ✓ Simple, Scalable routing
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- ✓ Uplink aggregation (4 +1)
- ✓ Context-aware Dynamic Path Steering



DPS Monitoring

Is the WAN link compliant to the application SLA?

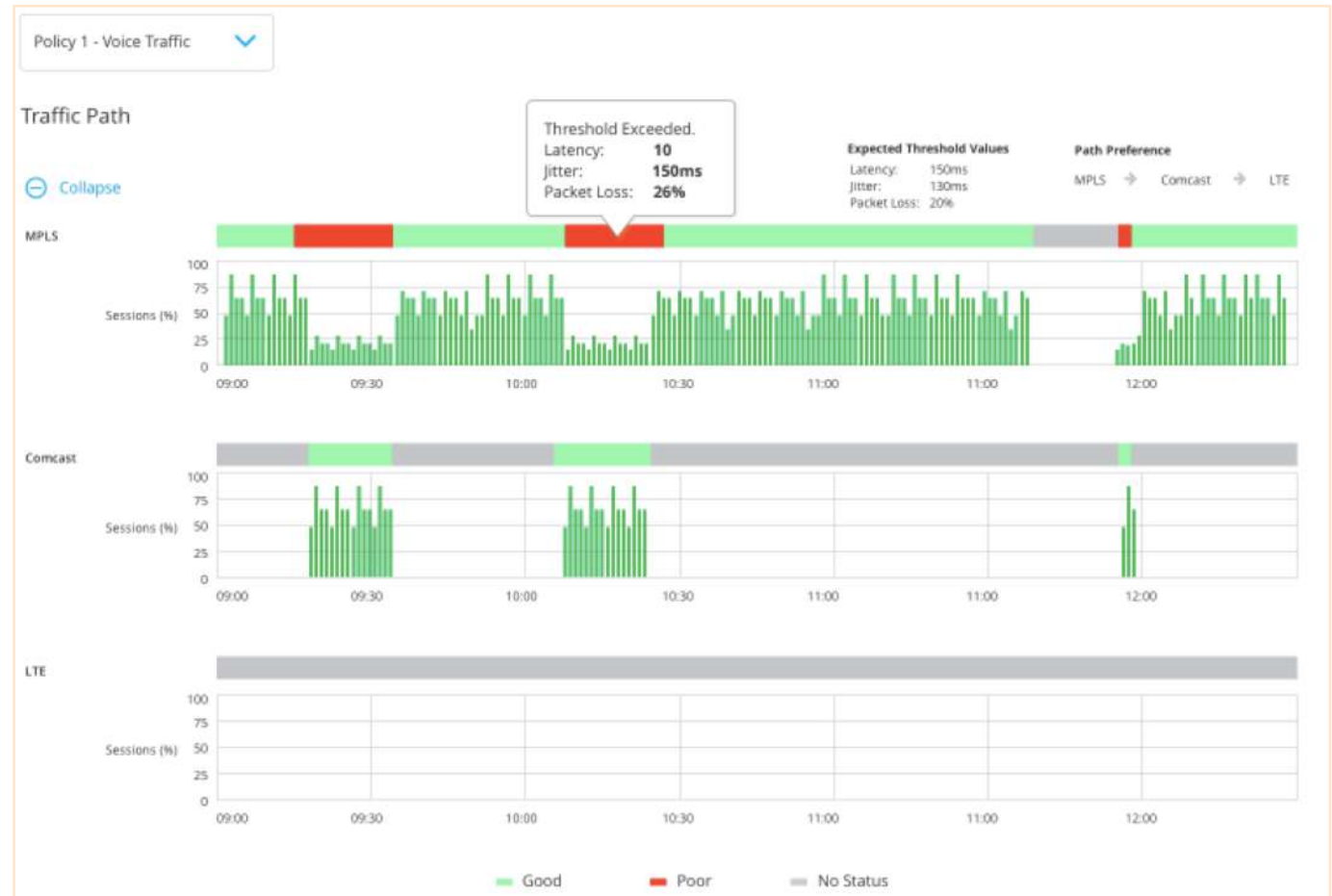
- View compliance per WAN link
- Highlight violations with specific reasons

Is the policy honoring path preference?

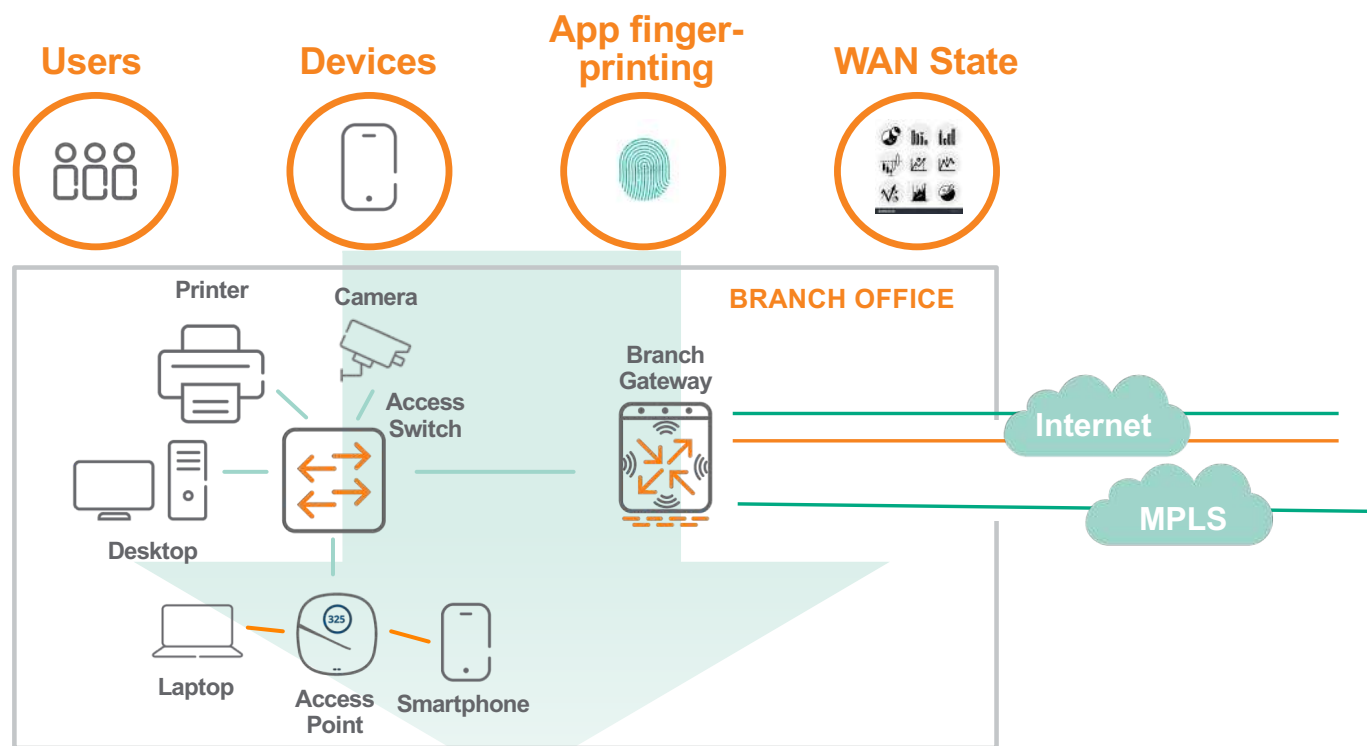
- View session distribution across active links

Is DPS kicking in when there are WAN link SLA violations?

- Quickly identify session movement between WAN links



Role Based Policies for LAN, Security, WAN



LAN Policies

WLAN and wired switching policies applied per role.
E.g.: Guest SSID, QoS for PCI traffic

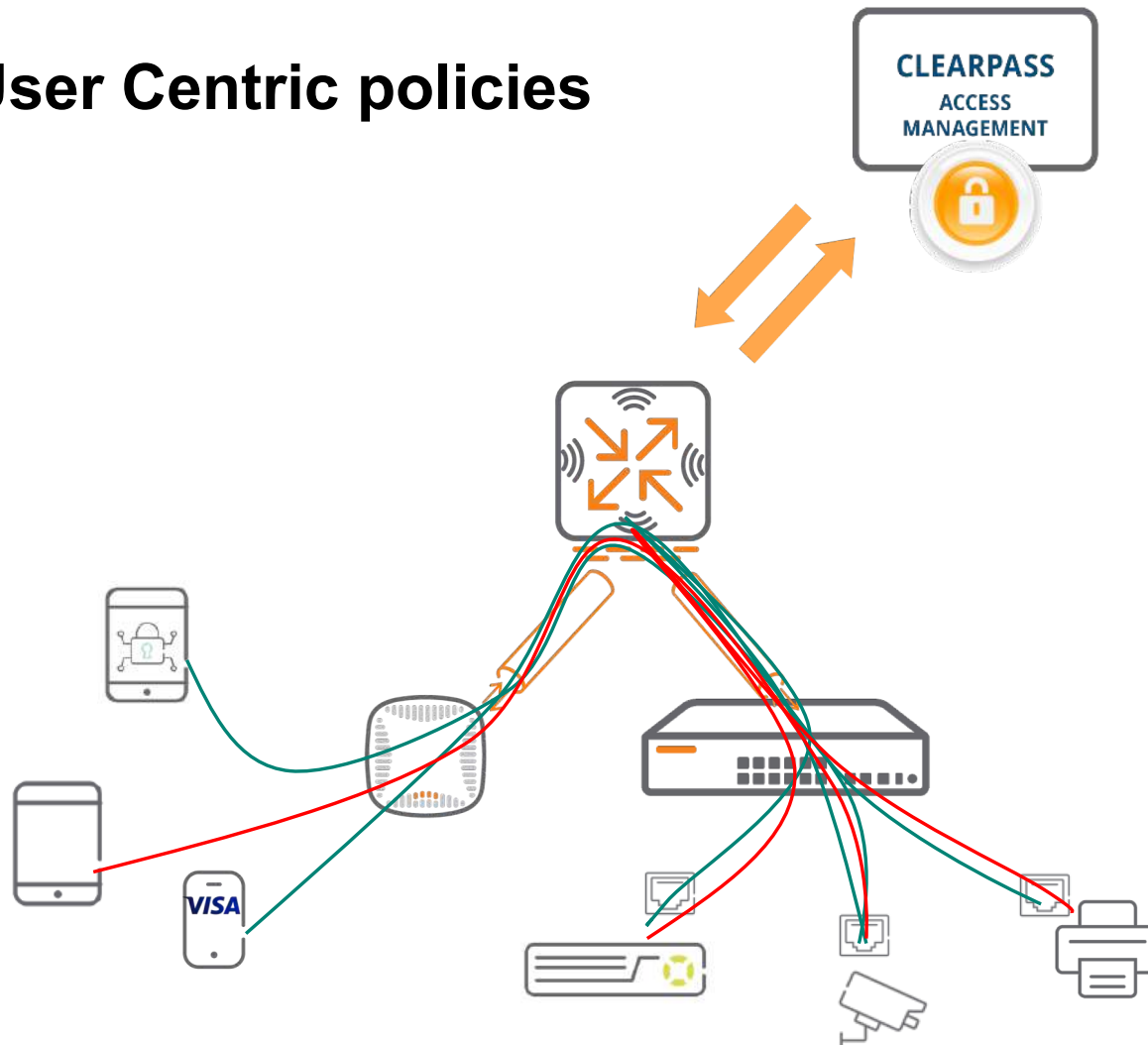
Security Policies

Firewall and WebCC policies applied per role.
E.g.: WebCC for Guest, PCI traffic isolation

WAN Policies

Path steering policies applied per role.
E.g.: Guest to Internet, PCI traffic to MPLS

User Centric policies



- 1 Device associates to initial role
- 2 ClearPass profiles device
- 3 Clearpass places device in its role
- 4 **Every frame** goes through the firewall. Including inter-vlan traffic. Hence, only needs a single vlan.

7000 Series Branch Gateways



- L4-L7 Firewall CC EAL4+
- Routing – Dynamic Path Selection
- WAN compression
- Web Filtering
- WAN QoS
- WAN PBR (Policy Based Routing)
- AAA Survivability
- Crypto Engine (IPsec VPN)
- Application visibility and analytics

Branch Gateway Portfolio

| Features | 7005 | 7008 | 7010 | 7024 | 7030 |
|--------------------------|--------------------|-------------------------|--------------------------|--------------------------|---------|
| Firewall throughput | 2Gbps | 2Gbps | 4Gbps | 4Gbps | 8Gbps |
| Encryption throughput | 1.2Gbps | 1.2Gbps | 2.4Gbps | 2.4Gbps | 2.4Gbps |
| GE ports | 4 | 8 | 16 | 24 | 8 |
| PoE support | Can be PoE powered | 8 Ports can provide POE | 12 ports can provide PoE | 24 ports can provide PoE | No |
| Concurrent IPSec Tunnels | 512 | 512 | 1024 | 1024 | 1024 |
| Active Firewall sessions | 16K | 16K | 32K | 32K | 64K |

Headend/ VPN Concentrator Portfolio

| Features | 7205 | 7210 | 7220 | 7240 |
|----------------------------|--------------|--------------|--------------|--------------|
| IPSec Tunnels | 4096 | 16384 | 24576 | 32768 |
| Encryption throughput | 4.5Gbps | 5.9Gbps | 20Gbps | 30Gbps |
| Firewall throughput | 12Gbps | 20Gbps | 40Gbps | 40Gbps |
| GE ports | 4 (1G Combo) | 2 (1G Combo) | 2 (1G Combo) | 2 (1G Combo) |
| SFP/SFP+ | 2 10G SFP+ | 4 10G SFP+ | 4 10G SFP+ | 4 10G SFP+ |
| Redundant Power Supply/Fan | No | Yes | Yes | Yes |



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Thank You.