Remote Networks with Aruba Instant

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Agenda

Key Applications & Verticals

Requirements & Challenges

Aruba Instant for Remote Networking
Applications & Verticals
Who should care?

Branch office / Remote teleworker

Retail

K-12

Healthcare
Requirements & Challenges
The Challenge of Mobility

Complex to deploy and manage

Unreliable connection & poor app performance

Lack of security for employee & guest personal devices
Remote Networking Requirements

- Few components on-site
- No special expertise on-site
- Full functionality
- Resiliency
- Centralized management and debug-ability
The Instant advantage
Instant – VPN Solution Architecture

- **Central Management**
  - AirWave Network Management

- **BYOD and Guest Services**
  - ClearPass solution

- **Aruba Mobility Controller**
  - VRRP Link
  - Master Active
  - Master Standby

- **Instant Cluster**
  - Fast Failover

- **Internet / WAN**
  - Uplink options

- **VPN**
  - Aruba Activate for zero touch deployment.

- **Branch 1**
  - Firewall
  - Instant Cluster
  - RF
  - Mobility
  - IAP for indoor extension
  - Mesh Link
  - IAP-175 outdoor extension
  - Application Awareness
  - L3 branch

- **Branch 2**
  - Instant Cluster
  - Self-organizing network
  - Zero-touch provisioning
  - L2 branch

- **Datacenter**
  - DMZ

**Key Features**:
- **RF**
- **Mobility**
- **Application Awareness**
- **Central or local AAA & IP Management**
- **Zero-touch provisioning**
- **Fast Failover**
- **Self-organizing network**
- **BYOD and Guest Services**
Instant – VPN Solution Components

- Access Points
- AirWave
- Activate

Optional
- VPN – Aruba Mobility Controllers
- Whitelist Management - ClearPass
- Switching – Mobility Access Switches
Zero-Touch Provisioning IAP + VPN

Campus Network

- ClearPass automatically downloads whitelist from Activate
- Controller authenticates APs against ClearPass
- AirWave

Home/Remote Location

- Aruba Instant AP
- IAP contacts AMP
- Cloud Responds:
  - Sends: Shared Secret, Org
  - AirWave IP, Shared Secret, Org
- Additional IAPs discover initial AP and download image and config

Remote L2 Network Segment

Access Point 2

Access Point 5

Access Point 2

Access Point 5
Centralized Management

- New device-NMS communication model
- NMS Scalability
- Bulk configuration
- Remote troubleshooting
Key Features

- Zero-touch (remote) VPN configuration
- Automatic whitelisting
- No controller licensing required
- Single IPSec tunnel per IAP network
- Scalability
- Site survivability
802.1x Authentication
- Dynamic RADIUS Proxy
- External RADIUS & load-balancing
- Role-derivation
- Authentication Survivability

Guest Authentication
- Centralized guest management – ClearPass Guest
- RADIUS accounting
Instant VPN – client IP & data flow

• Local
  – User traffic NATted, virtual-controller assigned IP
• Centralized Layer-2
  – User traffic bridged, IP assignment from datacenter
• Distributed Layer-2
  – User traffic bridged, IP assignment locally managed
• Distributed Layer-3
  – Layer-3 subnet on-site, routed to datacenter, IP assignment locally managed
Instant VPN – Fast Failover

- **DMZ**
- Aruba Mobility Controller
- **VRRP Link**
- **Master Active**
- **Master Standby**

Data Center A

Data Center B

- **Internet / WAN**

- **Primary Tunnel**
- Traffic in Tunnel A
- Traffic switched to Tunnel B

- **Backup Tunnel**

- **Instant Cluster**

Demo

Instant VPN – Fast Failover Demo
Advantages over conventional solutions
Advantages of Instant-based solution

**Platform**
- Independent regulatory domains
- Phased firmware upgrades
- Requires minimal head-end resources
- Local control-plane

**Traffic engineering**
- Enables mobility in multi-AP branches
- Enables full site survivability
- Constrained broadcast domains

**Management**
- Centralized troubleshooting
- Investment protection as branch grows into campus
Roadmap
Direction

- Uplink intelligence
- Secondary role-derivation
- Bandwidth management
- Aruba switch integration
- Cloud services
Thank You