OmniAccess Stellar Wlan
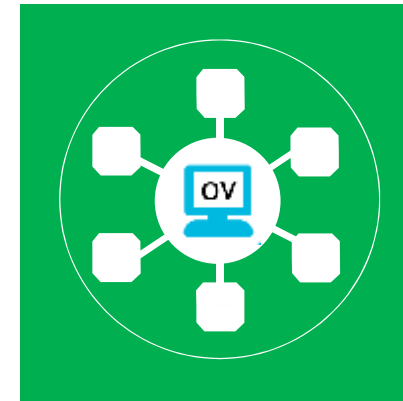
OmniAccess Stellar Solution

Stellar WLAN Deployment methods
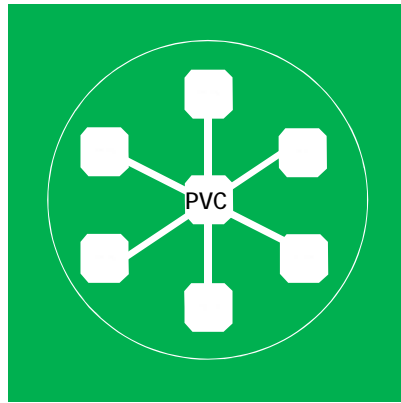
WiFi Express

Standalone mode, Easy deployment
up to 64 APs

WiFi Enterprise

Managed mode, Central unified
management for larger deployments
up to 512 APs

Evolutive design grow your WiFi at your own pace

WiFi Express - Standalone cluster deployment

- **n** Self managed standalone cluster
- **n** Integrated secure Web managed
- **n** Wizard driven configuration
- **n** Integrated Guest captive portal
- **n** VoWLAN support
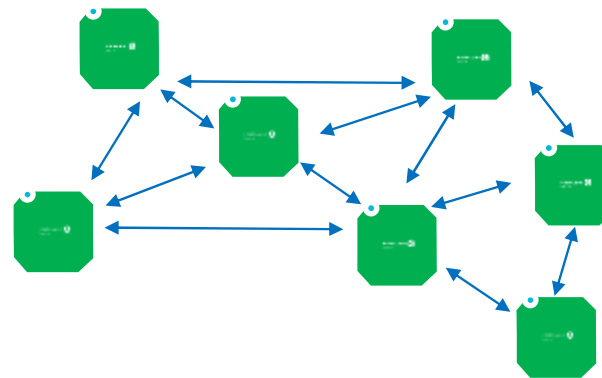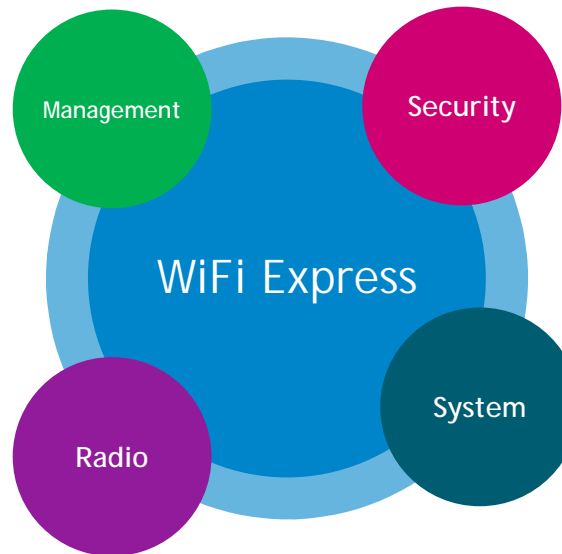

- **n** Distributed intelligence
  - **l** Distributed Control Plane
    - o Auto-discovery of APs in cluster
    - o AP coordination
    - o Management
    - o Smart Load Balancing
    - o DRM: Distributed RF Management
    - o L2 Roaming
  - **l** Distributed Data Plane
- **n** Self configured AP cluster
- **n** Up to 64 APs
- **n** Optimal RF management

Alcatel·Lucent
Enterprise

Wifi Express – Features List

- Guest Operator **Restricted Role** GUI
- **HTTP** and Secure Access via **HTTPS**
- English, simplified Chinese, German, French, Spanish, Korean, Turkish **Language Support**
- **OXO Connect** R2.1 **ZTP** integration using secure HTTPS
- Scale up to **32 Aps**
  - AP1101 ONLY Cluster
- Scale up to **64 APs** in mixed AP Cluster
  - minimum: 4x AP12xx

- **Authentication** 802.1X, WPA, WPA2
- **Encryption** WEP, TKIP, AES
- Built-in **User Database**
- **External Radius Server** Support
- **ACL**s per SSID
- **Disconnect**/ Blacklist Clients
- **WIPS** protection

Management

Security

WiFi Express

System

Radio

- **Dynamic Frequency Selection**
- **Transmit Power Control**
- Extensive **Country Code** list
- Channel & Transmission power manual assignment

- **Daylight-Saving** time
- **Syslog** support
- **NTP** Client

STELLAR WLAN

Alcatel·Lucent
Enterprise

Wifi Express – Management interface

Create WLAN SSID

Manage AP configuration and soft in the AP group

Monitor WLAN usage

Monitor and manage WLAN clients

Access to advanced features and system configuration

WiFi Enterprise – Central managed deployment

n OmniVista 2500
- **l** Cloud ready (future release)
- **l** Unified wired-wireless
- **l** Access Management (Guest/BYOD)
- **l** Role based policy enforcement

n Smart Analytics Advanced wireless features
- **l** WLAN topology on a map and heat map
- **l** Wireless security (wIDS/wIPS)
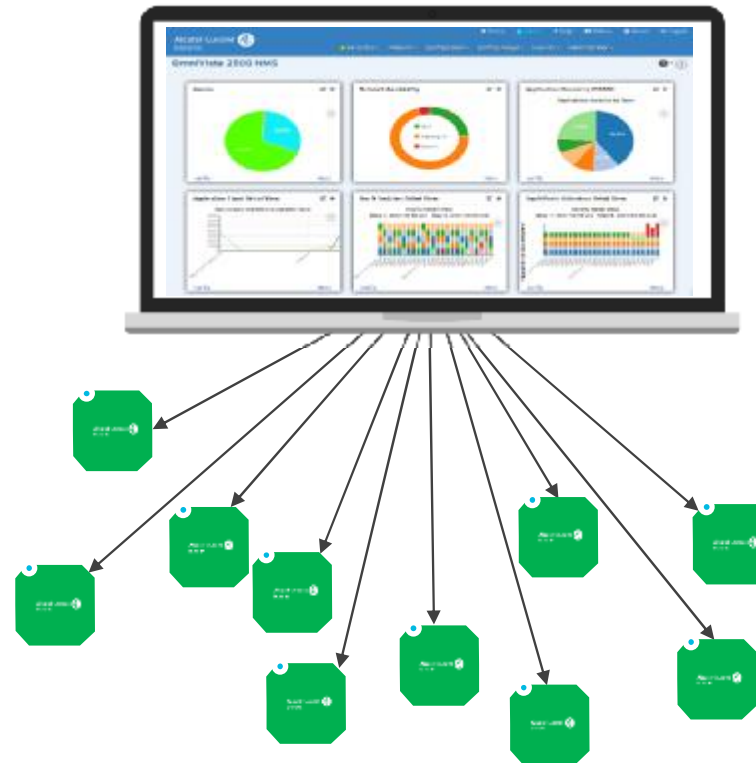
n AP managed by OmniVista 2500

n Distributed intelligence
- **l** Distributed Control Plane
  - **o** AP coordination
  - **o** DRM: Distributed RF Management
  - **o** L2/L3 Roaming
  - **o** Distributed User profile
- **l** Distributed Data Plane

n Scalable
- **l** Up 512 APs right now
  - **o** 1000+ (future release)

Wifi Enterprise – Features List

- **Controller-less** Architecture
- OmniVista integrated Unified Policy Authentication Manager (**UPAM**)
- **Simplified Management** of AP Groups
- **No limit** on AP Group Count
- Max **512 APs** spread across one or more AP Groups

- **Secure NAC** with Unified Access AG 2.0 Integration
- **Automated** deployment with ALE OmniSwitch Integration
- **Smart Analytics** Application Monitoring & Enforcement/ DPI
- UPnP/ Bonjour **Service Sharing**

Management

Security

WiFi Enterprise

Radio

System

- **RF Management**
- **wIDS/ wIPS** - Rogue Containment/ Attack Detection
- **Floor Plan/ Heatmap** - Planning & deployment tools to simplify deployment while improving QoE
- **Reports** - Uptime, Usage, etc. Reports

- Unified Policy Authentication Manager
- Employee - Supplicant/ Non-supplicant **secure authentication**
- **Guest Access** - Self Registration/ Employee sponsored/ Social Login
- **BYOD**
- Strategy based **Policy Enforcement**
- Extensive Captive Portal **Customization**

Unified network management
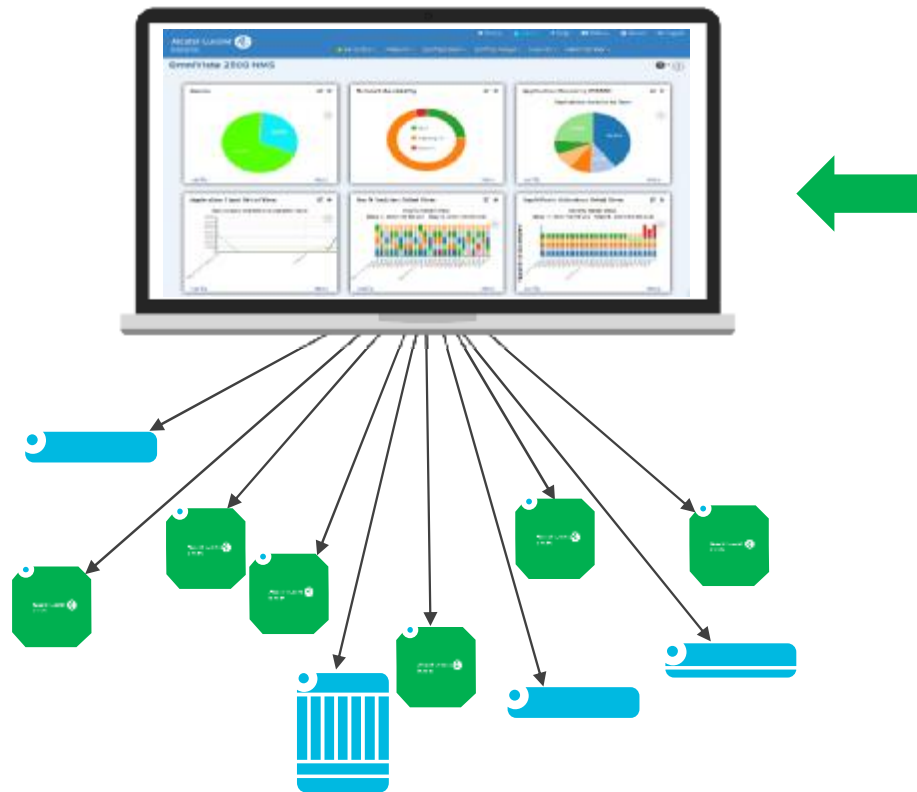
- **n** Single Point Of Management
- **n** LAN and WLAN Unified management system
- **n** Unified access policy management for user and IoT
    - **l** Unified network role
    - **l** Consistent QoS
- **n** Embedded authentication server
    - **l** Corporate credentials for single sign-on
- **n** Integrated Captive Portal
- **n** L7 App Analytics (LAN & WLAN)
- **n** Wireless security (wIDS/wIPS)
- **n** GUEST Management
- **n** BYOD Management

Portfolio description

OMNIACCESS STELLAR AP

MAIN CHARACTERISTICS

Controller-less architecture
Deployment methods
    OmniVista 2500 managed (up to 512 Aps)
    Web managed Cluster architecture (up to 64 Aps)
Distributed control Wi-Fi architecture
Plug-and-play deployment
IEEE 802.ac dual radio models
Internal or External antennas
Models with 2x2 and 4x4 MIMO, 2 or 4 spatial streams
Indoor and outdoor models
RF Radio Dynamic Adjustment
High throughput and seamless user experience
Integrated guest management
Built in application intelligence and analytics (DPI)
Integrated Trusted Platform Module (TPM)

TYPICAL DEPLOYMENT

Mid to large Enterprise
Indoor and outdoor coverage
Cluster or OV managed deployment

OMNIACCESS STELLAR AP

AP1101
802.11ac: Wave 1
2 radios
2x2:2SS
1.2 Gbps throughput

AP1221/1222
802.11ac: Wave 2
2 radios
2×2:2 @ 2.4GHz, 4x4:4 @ 5GHz
2.2+ Gbps throughput

AP1231/1232
802.11ac Wave 2
3 radios
4×4:4 @ 2.4GHz, dual 4x4:4 @ 5GHz
4.2+ Gbps throughput

AP1251
802.11ac Wave 2
2 radios
2×2:2 @ 2.4GHz, 2x2:2 @ 5GHz
1.2 Gbps throughput

OmniAccess Stellar AP1101

n OAW-AP1101

- **l** Entry level AP
- **l** Wave1 802.11ac

OAW-AP1101

n Dual radio, 802.11ac 2x2:2SS VHT80

- **l** 2.4GHz and 5GHz band support
- **l** 1.2 Gbps throughput
  - o Up to 867Mbps 5 GHz
  - o Up to 300Mbps 2.4 GHz
- **l** Up to 16 SSID (8 SSID per radio)
- **l** 128 client devices per AP
- **l** 1xGbE network interface, RJ-45 console, reset
- **l** 802.3af POE / 48V DC
  - o 10 W (802.3at PoE or DC)
- **l** Enterprise temperature range, plenum rated
  - o Operating Temp: 0°C to 45°C
- **l** Built-in antenna
- **l** No BLE

OmniAccess Stellar AP1220 Series

n OAW-AP1221/1222
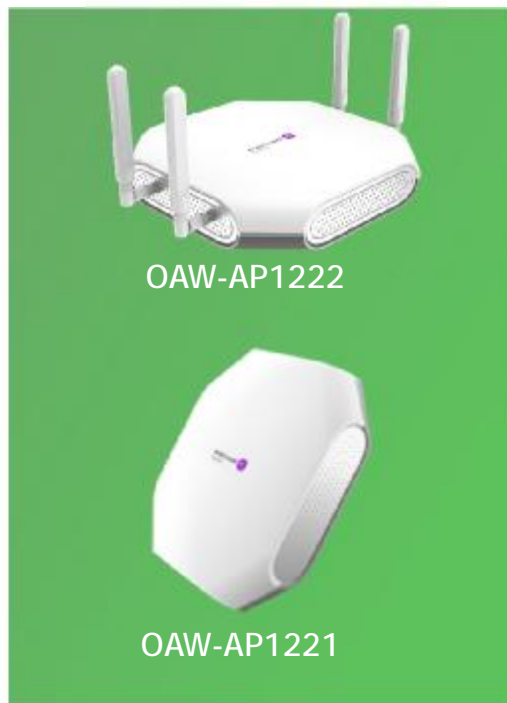
- Mid-range AP
- Wave2 802.11ac
- 802.11ac 4x4:4SS VHT160

OAW-AP1222

OAW-AP1221

n Dual radio

- 5GHz radio: 1,733Mbps (with 4SS/VHT80 clients or 2SS/VHT160 clients)
- 2.4GHz radio: 400Mbps 2.4GHz (2SS/VHT40)
- MU-MIMO
- Optional BLE radio through USB port
- 512 client devices per AP
- 1xGbE network interfaces, RJ-45 console, USB port, reset
- 802.3at POE compliant/ 48V DC (function reduced when powered by 802.3af source)
  - <18.5W (802.3at 2pair PoE or DC)
- Enterprise temperature range, plenum rated
  - Operating Temp: 0°C to 45°C
- Built-in antenna (OAW-AP1221)
- External antenna connectors (OAW-AP1222)

STELLAR
WLAN

Alcatel·Lucent
Enterprise

OmniAccess Stellar AP1230 Series

n OAW-AP1231/1232

- High-end AP
- Wave2 802.11ac
- 802.11ac 4x4:4SS VHT160 and Integrated BLE

OAW-AP1232

OAW-AP1231

n Tri radio

- First 5GHz radio: 1,733Mbps (with 4SS/VHT80 clients or 2SS/VHT160 clients)
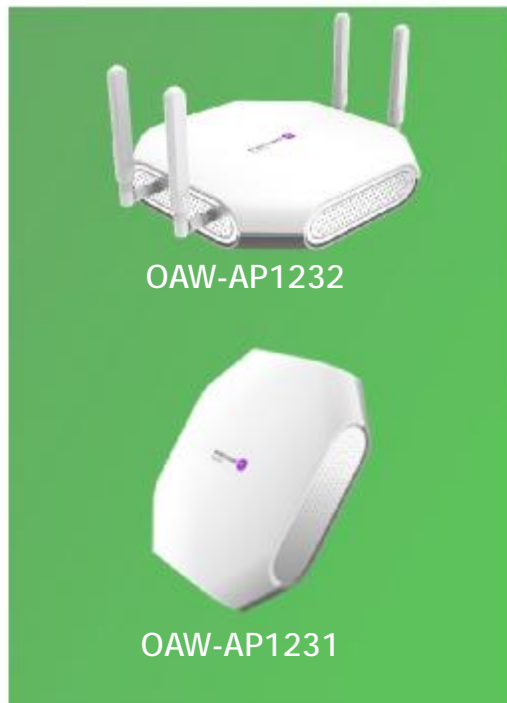- Second Multiband radio: 1,733Mbps (with 4SS/VHT80 clients or 2SS/VHT160 clients)
- Third 2.4GHz radio: 800Mbps 2.4GHz (4SS/VHT40)
- MU-MIMO
- Integrated BLE radio
- 768 client devices per AP
- 1xGbE + 1x2.5GbE network interfaces, RJ-45 console, USB port, reset
- 802.3at POE (4pair - 60W) compliant/ 48V DC (function reduced when powered by 802.3at 2 pair source)
- Enterprise temperature range, plenum rated
  ○ Operating Temp: 0°C to 45°C
- Built-in antenna (OAW-AP1231)
- External antenna connectors (OAW-AP1232)

Alcatel·Lucent Enterprise

OmniAccess Stellar AP1251

n OAW-AP1251

- Outdoor AP
- Wave2 802.11ac
- 802.11ac 802.11ac 2x2:2S

OAW-AP1231

n Dual radio

- 5GHz radio: 867 Mbps (with 2SS/VHT160 clients)
- 2.4GHz radio: 400Mbps 2.4GHz (2SS/VHT40)
- MU-MIMO
- 2xGbE network interfaces, micro-USB console, reset
- 1xGbE uplink
- 1xGbE for connecting downstream device (IoT)
- 802.3af POE compliant/ 48V DC
- IP67/66
- Temperature range -40 to +65 degree C
- Built-in Omni Directional antenna

Omniaccess Stellar Accessories

n Indoor Mounting kits (All White)

n Can be applied to all AP models

- o OAW-AP1101
- o OAW-AP1221
- o OAW-AP1222
- o OAW-AP1231
- o OAW-AP1232

OAW-AP-MNT-B (Standard Shipping)
Ceiling Mount
(for T-shaped rail mounting)

Default mounting kit

OAW-AP-MNT-W
Wall Mount

OAW-AP-MNT-C
Ceiling Mount
(for all other rail mounts)

Alcatel·Lucent
Enterprise

Outdoor AP Mounting Kits

n Outdoor Mounting kit

n Ships by default with AP OAW-AP1251

AP-MNT-OUT
Pole or Wall mount
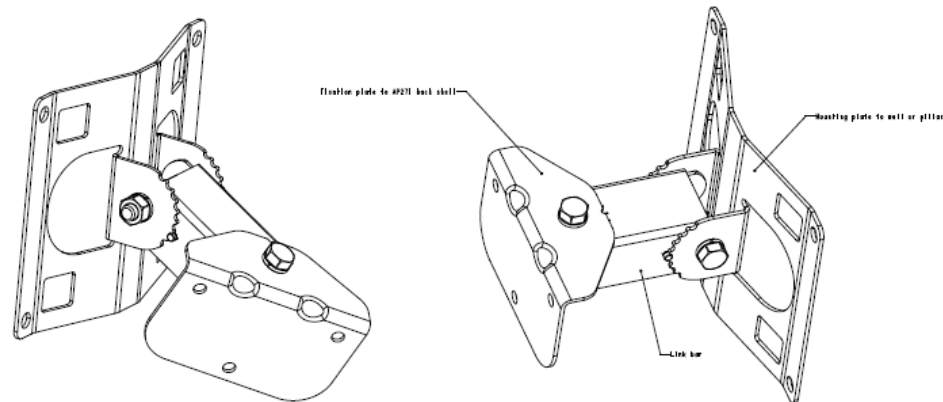
PoE Injectors

	PD-3501G/AC Indoor	PD-9001GR/AT/AC Indoor	PD-9501-GR/AC Indoor * No support for 2.5GE	PD-9001GO/AC Outdoor
Applicable To	OAW-AP1101	OAW-AP1221 OAW-AP1222 OAW-AP1101	OAW-AP1231 OAW-AP1232 OAW-AP1221 OAW-AP1222 OAW-AP1101	OAW-AP1251
Watts	15.4W	30W	60W	30W
Operating Temp Range	32 to 104 °F (0 to 40 °C)	-4 to 104 °F (-20 to 40 °C)	14 to 113 °F (-10 to 45 °C)	-40° to 131 °F (-40 to 55 °C) for 30W
Standard	802.3af	802.3at	802.3at *60W hasn't standard	802.3at compliant with Surge Protection, IP66, Up to 6,560 ft. (2000 m)

Indoor AP
Power Adapters

n ADP-30HRBD
- AC100-240V input, 48V DC output, 30W
- Compatible with 802.3af/at
- Applicable to
  - OAW-AP1101
  - OAW-AP1221
  - OAW-AP1222

n ADP-60GRBC
- AC100-240V input, 48V DC output, 60W
- Compatible with 802.3af/at
- Applicable to
  - OAW-AP1101
  - OAW-AP1221
  - OAW-AP1222
  - OAW-AP1231
  - OAW-AP1232

Indoor AP
Antenna & Cables

n Omnidirectional antenna that can be mounted directly on AP

n Omnidirectional ceiling mount antenna

n Directional antenna with 60 degree sector coverage

ANT-O-6	Dual band 2.4/5GHz, 1-element, direct mount , omni-directional, 6dBi (4x)
ANT-O-M4-5	Dual band 2.4/5GHz, 4-element, Ceiling-mount , Downtilt omni-directional antenna, >5dBi (1x); includes 4* 30-35in RF cable
ANT-S-M4-60	Dual band 2.4/5GHz, 4-element, Wall-mount, sector antenna , >5dBi, 60°Hx60°V (1x); includes 4* 30-35in RF cable
ANT-S-M4-90	Dual band 2.4/5GHz, 4-element, Wall-mount, sector antenna , >5dBi, 90°Hx90°V (1x); includes 4* 30-35in RF cable
ANT-S-M4-120	Dual band 2.4/5GHz, 4-element, Wall-mount, sector antenna , >5dBi, 120°V (1x); includes 4* 30-35in RF cable

Ceiling Antenna

OAW-AP1222

8 * ANT-O-6

OAW-AP1232

4 * ANT-O-6

ANT-O-M4-5 OR ANT-S M4-60

ANT-O-M4-5

ANT-S-M4-60

OAW-AP1232
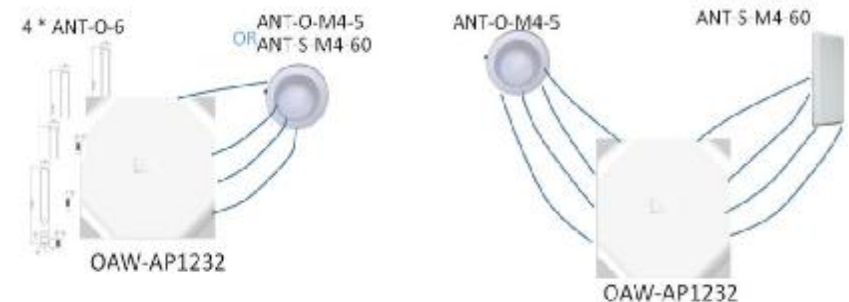
OAW-AP1232

OmniAccess Stellar - AP Summary

	ALE OAW-AP1101	ALE OAW-AP1220	ALE OAW-AP1230	ALE OAW-AP1251
# of Radios	2	2	3	2
Technology	802.11ac Wave1 2x2:2	802.11ac Wave2 4x4:4 (5GHz) 2x2:2 (2.4GHz)	802.11ac Wave2 2x 4x4:4 (5GHz) 1x 4x4:4 (2.4GHz)	802.11ac Wave2 2x2:2
Throughput	1.2 Gbps	2.2 Gbps	4.2 Gbps	1.2+ Gbps
Associated Clients	256	512	768	512
Ethernet Ports	1x GE	1x GE	1x GE + 2.5 GE	1x GE uplink 1x GE downlink
BSSID	16	16	24	16
BLE	No	Optional (USB)	Yes	No
Client per AP	256	512	768	512
Client per Band/Radio	128	256	256	256
DPI	No	Yes	Yes	Yes
Power	802.3af, <10W	802.3af/at, <18.5W	802.3at(2p/4p),36 W	802.3af,<12W
Operating Temp	0C to 45C	0C to 45C	0C to 45C	-40C to 65C

STELLAR WLAN

Alcatel·Lucent Enterprise

OmniVista 2500

MAIN CHARACTERISTICS

Configure, monitor and troubleshoot networks
Available as Virtual Machine / Virtual Appliance for all HyperVisors
Simplified and Unified management for LAN and WLAN
    Configuration
    Alarms
    Unified Access
    Authentication
    User based network role profiles
    Network Analytics for Wired/Wireless including predictive analysis & reporting
    Network-wide bulk configuration and firmware management
Portfolio support
    AOS OmniSwitch families
    Stellar AP
    Third-party management

TYPICAL DEPLOYMENT

Private Local Network management
Extended 3rd party element management

OMNIVISTA 2500 NMS

Stellar WLAN

* Next release

Alcatel·Lucent Enterprise

OmniAccess Stellar Wlan

Stellar WLAN Network Design and Deployment

Stellar WLAN Deployment methods
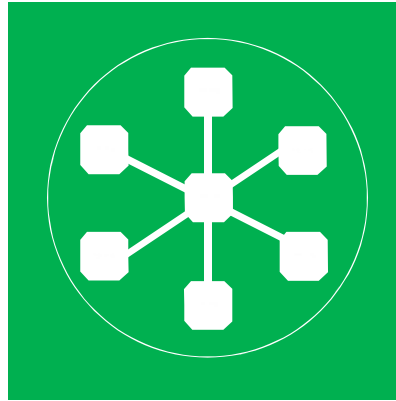
WiFi Express

Standalone mode, Easy deployment
up to 64 APs

WiFi Express - Standalone cluster
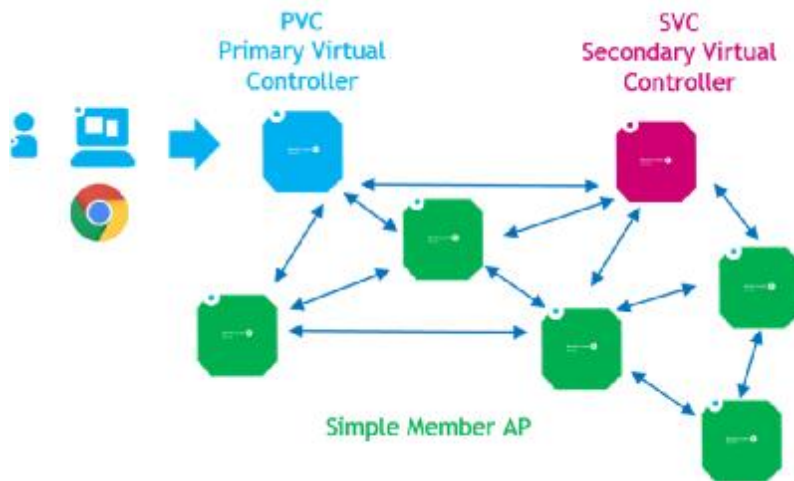
- n "Mono" Site access points
- n Single point of management
- n Self-organized and centrally managed
- n Centralized Image Management
- n Effortless sizing from a single access point to 64 APs
- n Enterprise class functionality
- n Can Evolve to Wifi Enterprise
- n Wifi Express and Enterprise Modes mutually exclusive

WiFi Express – Access Group

Another AP is responsible for rescuing the centralized management role. It is called Secondary Virtual Manager (SVM)

An AP-Group consists of several APs connected via the LAN in "overlay" mode and without infrastructure modification

PVM
Primary Virtual Manager

SVM
Secondary Virtual Manager

In an AP group, one AP supports the role of centralized management. It is called PVM (primary virtual Manager)
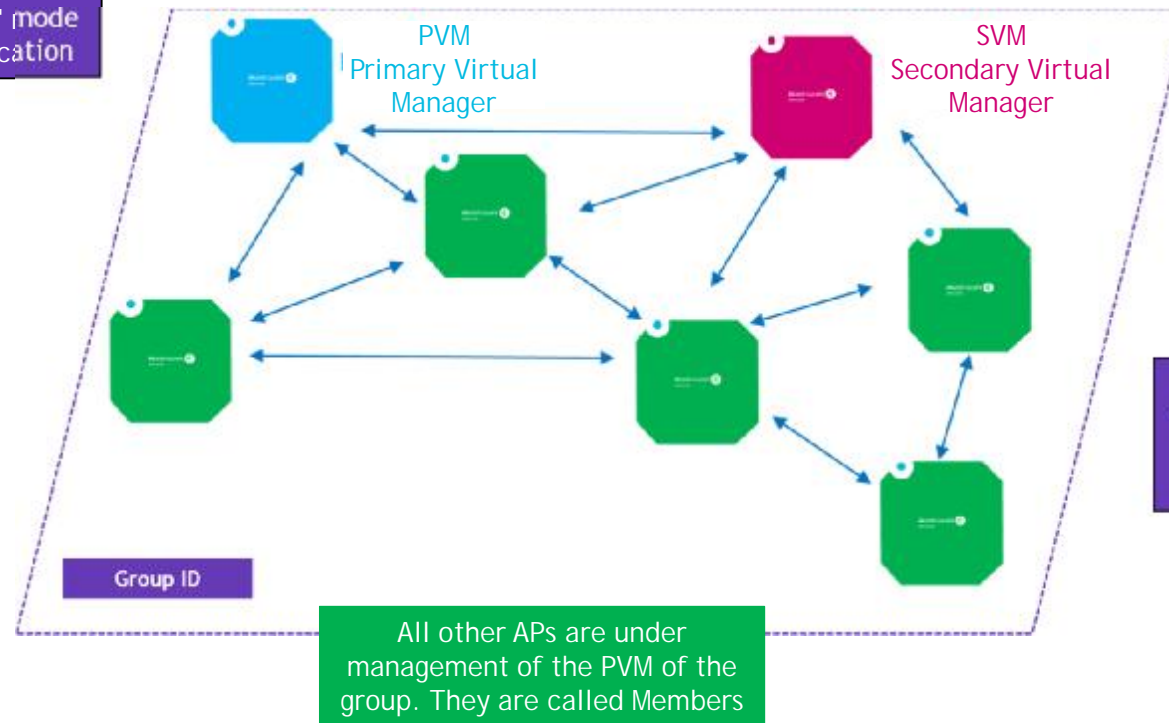
The group is identified by an "group ID" and all APs that have or will have the same ID are put under management of the PVM.

Group ID

All other APs are under management of the PVM of the group. They are called Members

STELLAR WLAN

Alcatel·Lucent Enterprise

WiFi Express – Access Group PVM election

In the case of a VLAN with several APs started at the same time an election process is perform to select the PVM

⬇

Highest Model Type

⬇

Highest MAC address

AP with the second highest MAC is designated as the SVM

PVM
Primary Virtual Manager

SVM
Secondary Virtual Manager

All other APs become members of the group with up to 64 APs in a group.

mywifi-0102

Once the PVM is designated, it sends an SSID for the configuration of the AP-group

01:07

01:06

01:05

01:03

01:02

01:04

01:01

Groupe ID

STELLAR WLAN

Alcatel·Lucent
Enterprise
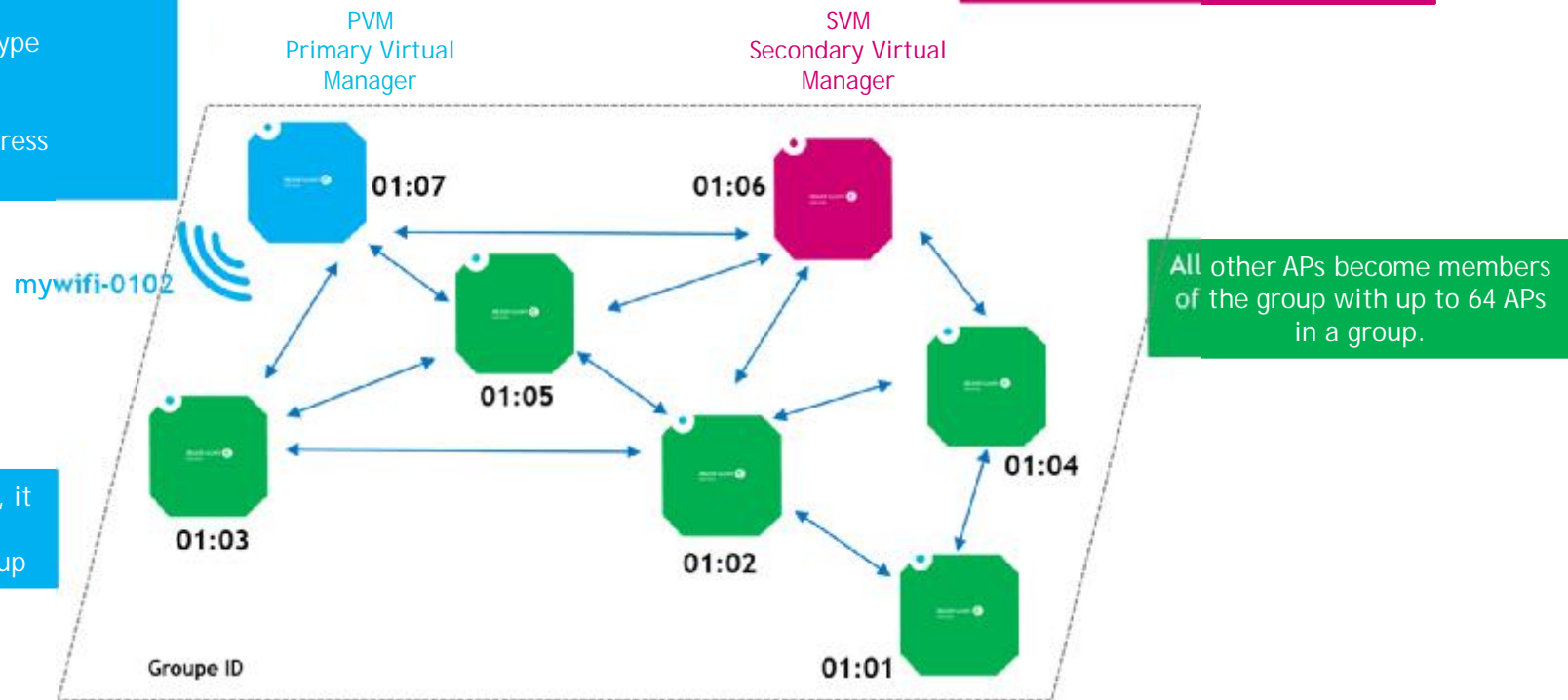
WiFi Express –Scaling

A Group can not contain more than 64 APs
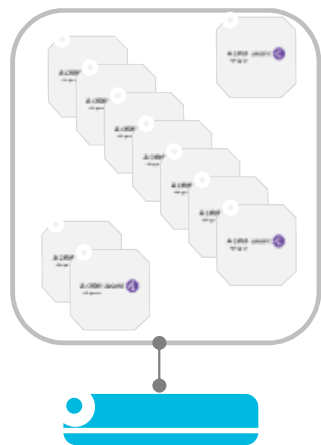
The 65th AP is not taken into account
Will stay in "joining" mode

To have more than 64 APs on a network it is necessary to configure several Group-ids or to configure two separate VLANs

AP	Working:1 Down:0 Joining:1	
Primary Name	Status	Clients
AP_MAC_40	Working	0
AP_MAC_30	Joining	0

VLAN X OU GROUP ID X

VLAN Y OU GROUP ID Y
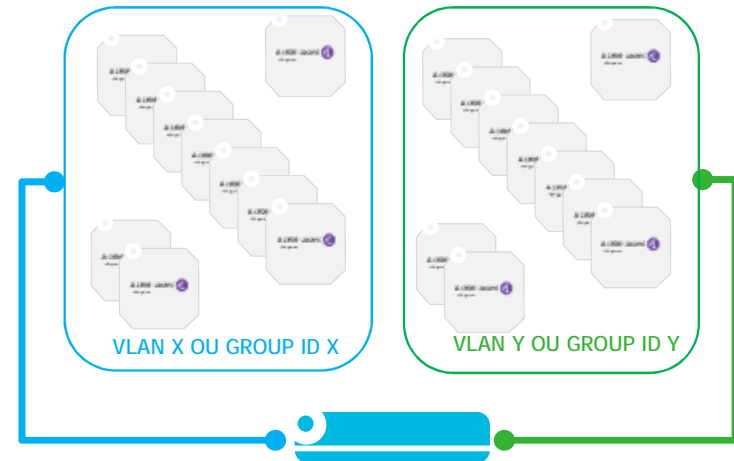
HAN R3.0: UP TO 64 AP

WiFi Express –Scaling

CLUSTER
R3.0: 32*AP1101
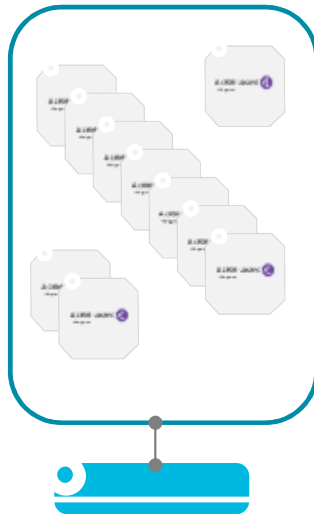
MIXED CLUSTER
WITH AP1101

R3.0: 4*12XX + 60AP
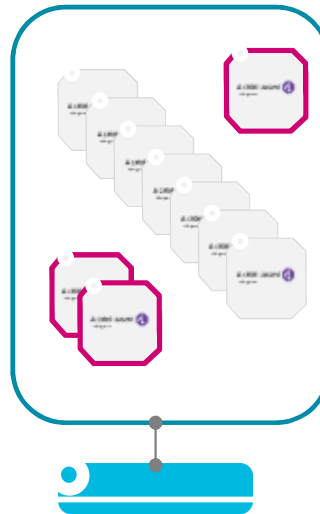
MIXED CLUSTER
WITH AP12XX

R3.0: 64*12XX
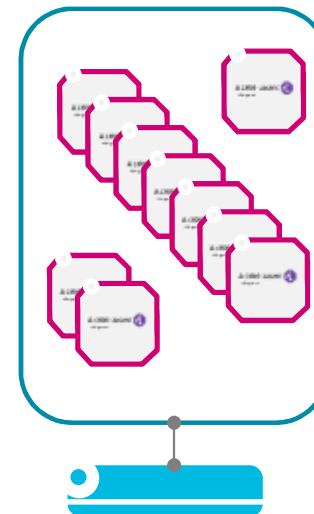
WiFi Express – Dimensioning

Distinct administration domain (PVM) and RF domain

Clusters are on a separate VLAN or different Group Id

Management VLANs

User VLANs

ACCESS

Floor A

PVC

CORE

Common Services

DHCP Server

Floor B

PVC

Radius Server

EMPLOYEE

GUEST

EMPLOYEE

GUEST

STELLAR WLAN

Alcatel·Lucent Enterprise
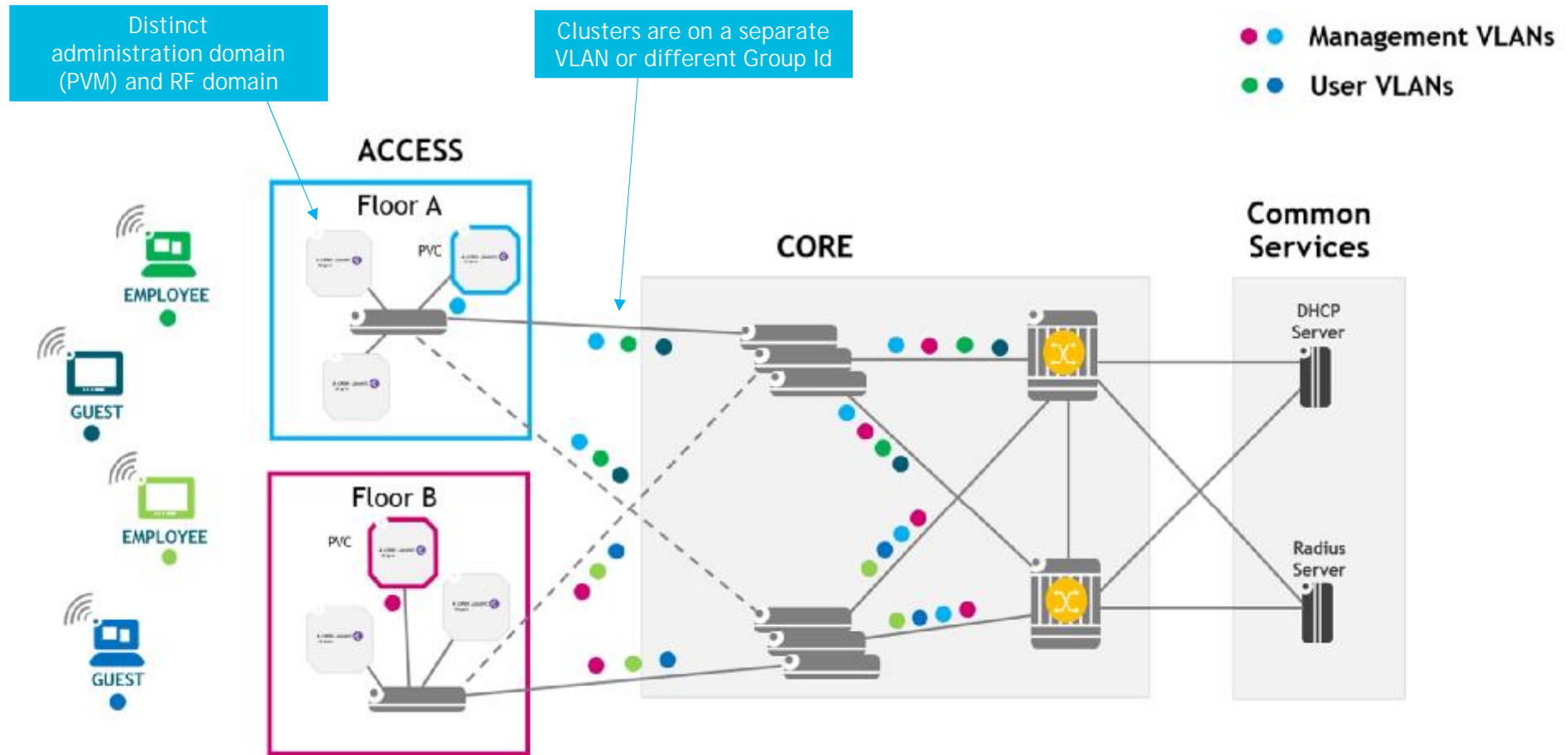
WiFi Express – Distributed architecture

Via a single IP interface (Group Mgt IP)
Configuration synchronization
Group Management Interface
Notifications

AP « Member »
Data plan management
Authentication Management
Local ACL management, etc

Network AP Discovery
APs establish WLAN
adjacencies to take
into account their
radio environment

PVM

SVM

Local Web Management Interface

APs of the groups exchange
admin synchronization and RF
coordination, hardware
resources use, etc.

Group
@IP

STELLAR
WLAN

Alcatel·Lucent
Enterprise
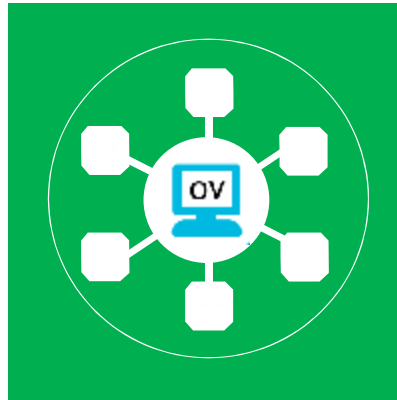
WiFi Enterprise

Managed mode from OV2500
Central unified management
For larger deployments
up to 512 APs

WiFi Enterprise – Central managed deployment

n "Multi" Site or Location access points

n Easily manage access points from a single platform

n Effortless growth to 512 Aps

n Wifi Express and Enterprise Modes mutually exclusive

Floor 3

Floor 2

Floor 1
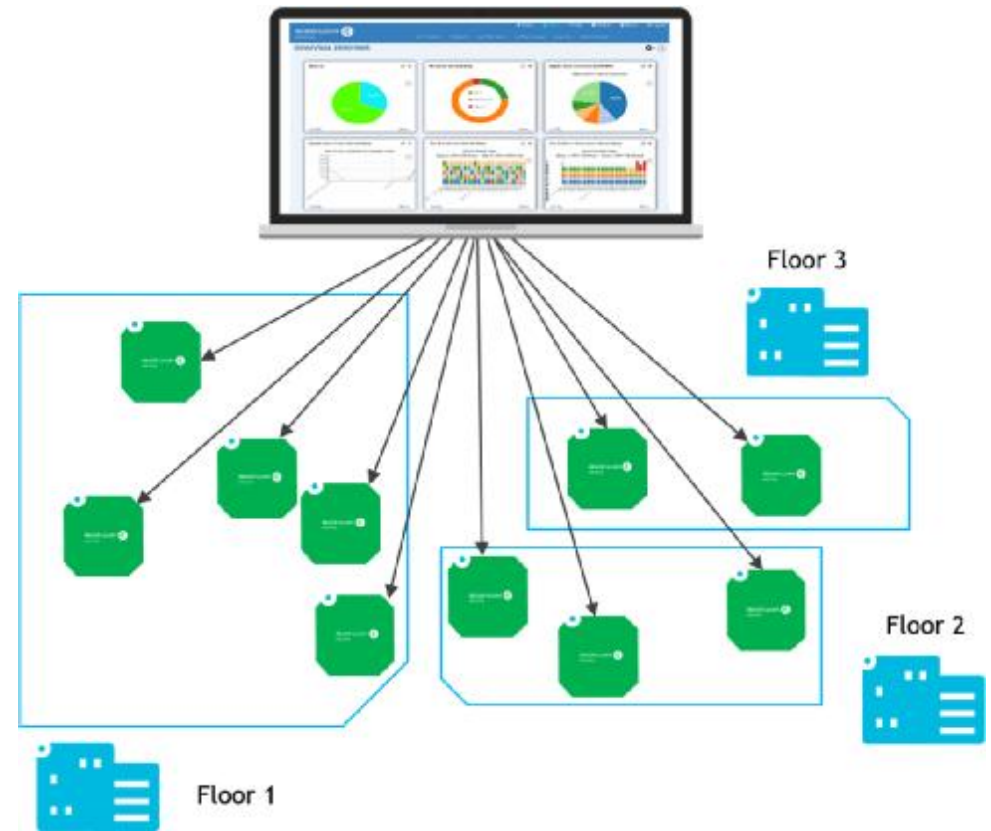
Centralized management with OV2500
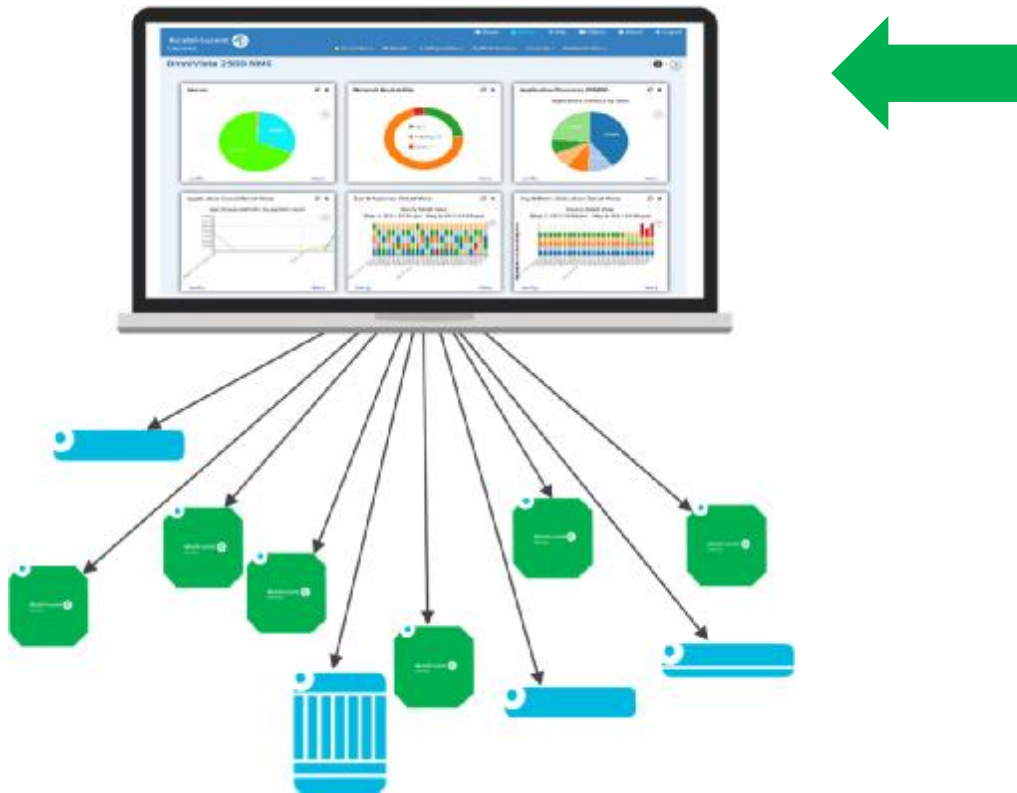
n Single LAN and WLAN management system
  - ⏐ Centralized Image Upgrade
  - ⏐ Configurations synchronization
  - ⏐ AP-Group Management Interface
  - ⏐ Notifications
  - ⏐ Integrated Captive Portal
  - ⏐ BYOD

n Unified access policy management for user and IoT
  - ⏐ Unified network role
  - ⏐ Consistent QoS

n Embedded authentication server
  - ⏐ Corporate credentials for single sign-on

n Unify Policy Acesss Manager Redundancy *

* Future release

STELLAR WLAN

Alcatel·Lucent Enterprise

Distributed Control and Data Planes
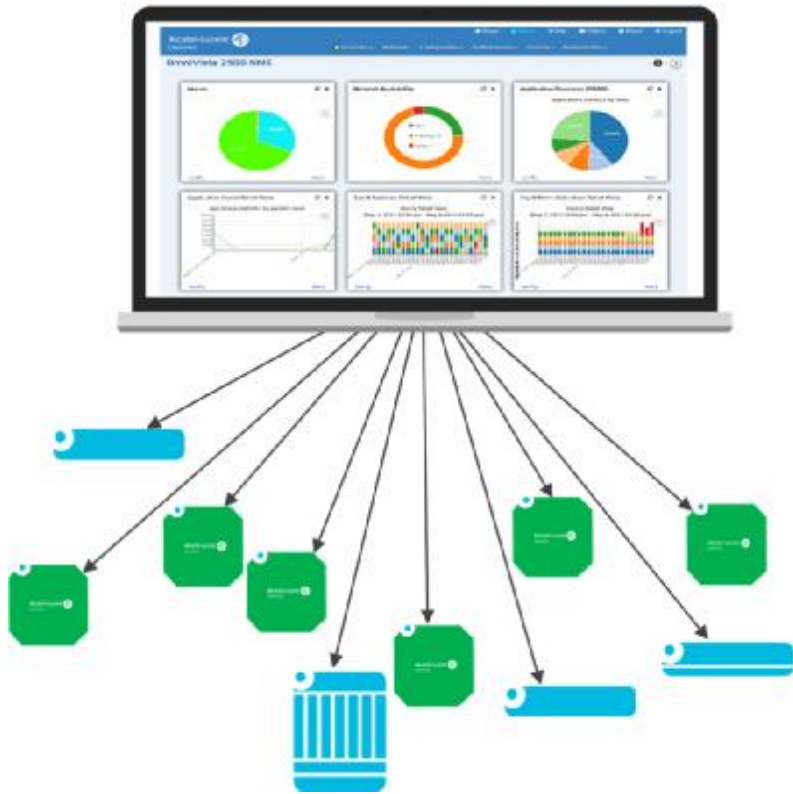
n Data plan
- Only L2
- No routing for wireless client data
- Routing provided by LAN infrastructure

n Authentication Management

n Local ACL management, etc

n APs synchronization for RF management identical as Wifi Express Mode

n Dynamic/Smart Load Balancing

n Band Steering

n Wireless Intrusion Prevention System (WIPS)
- Interfering, Rogue and Friendly AP detection
- Wireless attack detection
- Containment & Client Blacklist Policy
- Spectrum analysis (future release)

n QOS
- WMM
- IEEE 802.11e
- Broadcast/Multicast Optimization

STELLAR WLAN

Alcatel·Lucent Enterprise
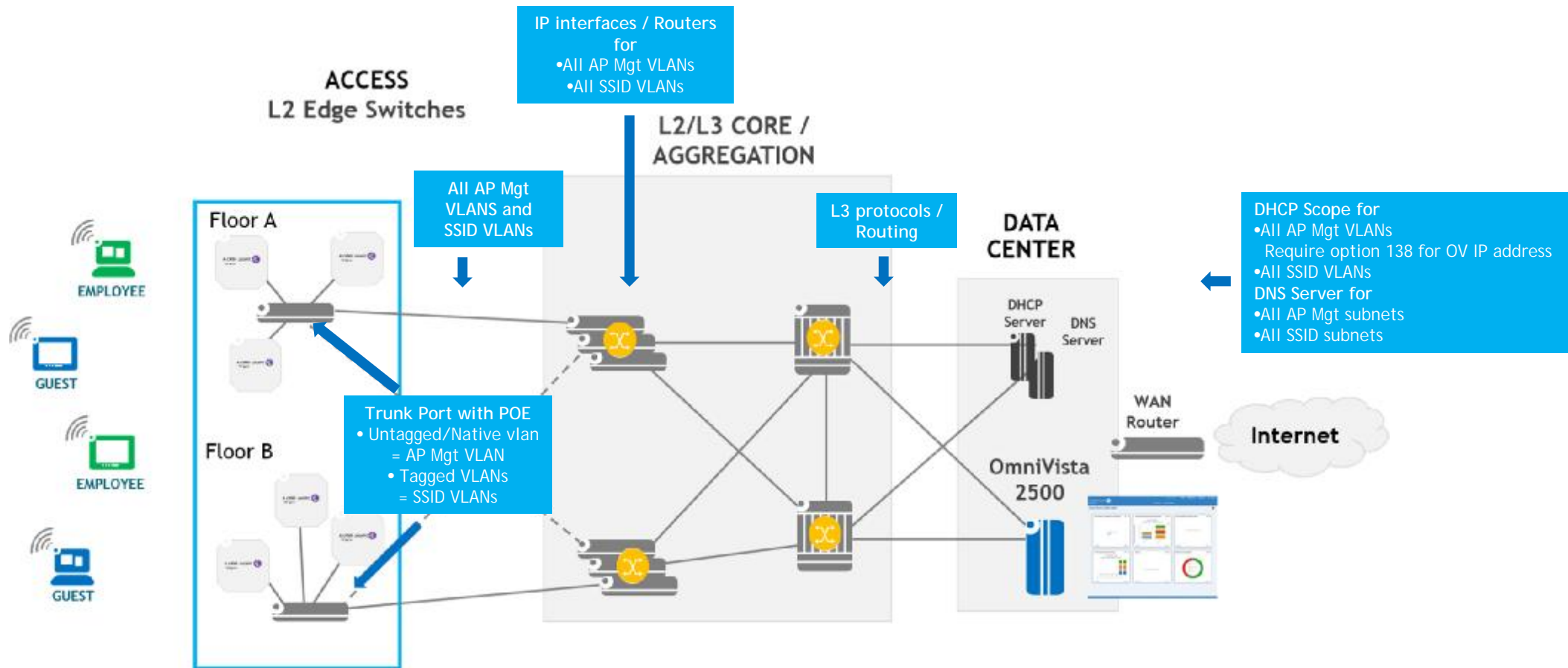
Network Topology

Network Topology - Management plane
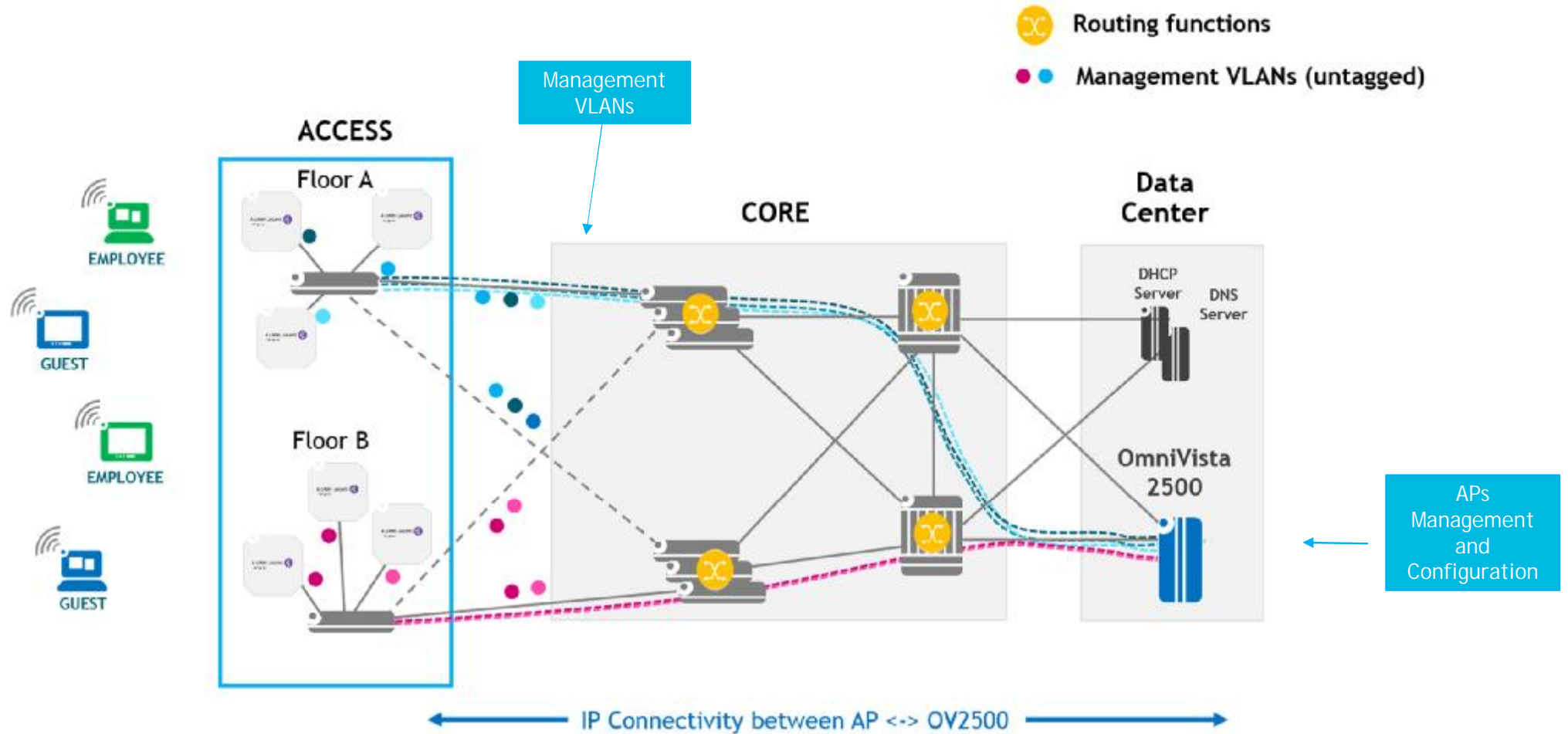
Network Topology - Data plane

Routing functions

User VLANs (tagged)

ACCESS

User VLANs

Floor A

Floor B

CORE

Data Center

DHCP Server

DNS Server

OmniVista 2500

EMPLOYEE

GUEST

EMPLOYEE

GUEST

APs Management and Configuration

STELLAR WLAN

Alcatel·Lucent Enterprise
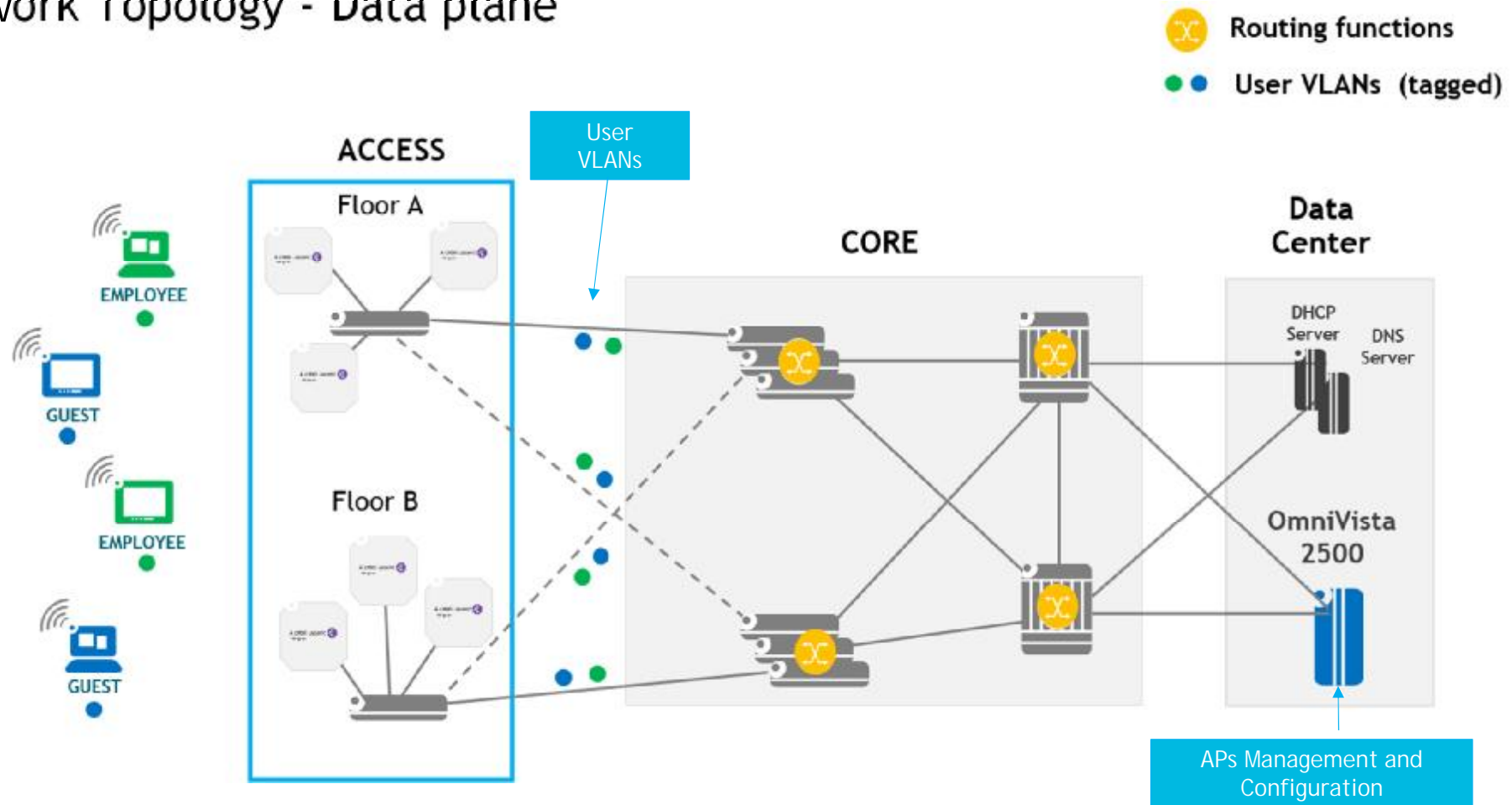
Stellar AP deployment over OmniSwitch Network - Key Benefits

n Single pane of glass

- Unified Access for ALE wired and wireless networks
- OV Unified Policy Access Manager (UPAM)
  - One platform for all networking
  - UPAM acts a the main RADIUS Server for both wired and wireless users
  - Unified Guest and BYOD access policies for both wired and wireless users

OmniAccess Stellar AP

OmniAccess Stellar AP

OmniAccess Stellar AP

OmniVista 2500
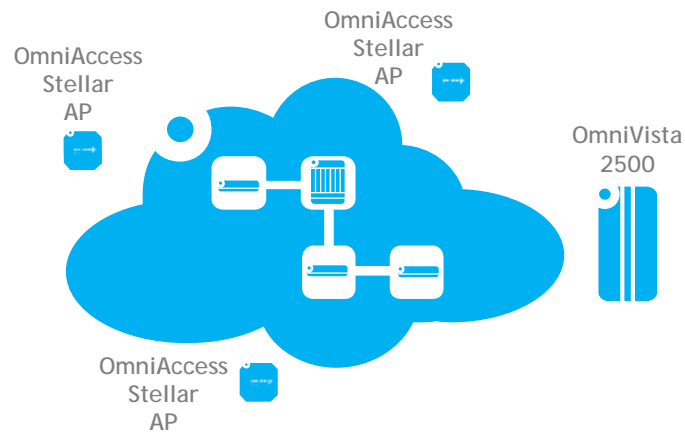
n Simplified operation to support unified access and control

- Automatic AP discovery and provisioning
- Automatic VLAN creation
- Upstream MVRP advertisement
- Guest Access for wired users with OV UPAM
- BYOD Access for wired users with OV UPAM
- Network Access with Access Guardian
- mDNS Gateway/Responder
- UPnP relay
- Guest Tunnel Termination Switch

Stellar AP deployment over OmniSwitch Network - Key Benefits

n OmniSwitch AOS reduces the configuration steps on the Edge switch
- No need to set a trunk port
- No need to know in advance where the AP will be connected
  - On the same port, AP, Phone, Camera, PC can be plugged
- No need to tag the "WLAN" vlan
- Leverage the Access Guardian & UNP framework

n OmniSwitch AOS supports advanced LLDP features
- Switch can advertise the vlan ID used for the AP management vlan
- Switch can advertise an AP Location TLV

- Available in
  - AOS 8.4.1.R02
  - AOS 6.7.2.R02

AP Discovery and Registration

Factory default
config AP

OV2500

Service DHCP

1 AP is attached to a port in the existing access wired network
AP is powered on and perform a DHCP request

AP determines the Management VLAN through LLDP protocol

2 AP determines IP address of OV2500 through an option "138" returned by DHCP server

OV mode is now Hard coded on AP

Notes: If no option 138 in DHCP offer -> AP configured in Cluster mode

3 AP contacts the OV2500 server for registration

4 Configuration of the AP (Proprietary Protocol secured using TLS).

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AP Discovery and Registration (OV)

n AP always connects to the AP Registration Component in OV
  l Same address as OV (DHCP option)

n AP is managed when Registration succeeds
  l AP is Trusted
  l AP is Licensed
  l Country Code matches RF profile CC

n AP is unmanaged when Registration fails
  l AP is not Trusted
  l AP is not Licensed
  l Country Code does not match the Country Code from the RF Profile
  l Others
  l Configuration not applied
  l All Radios are off
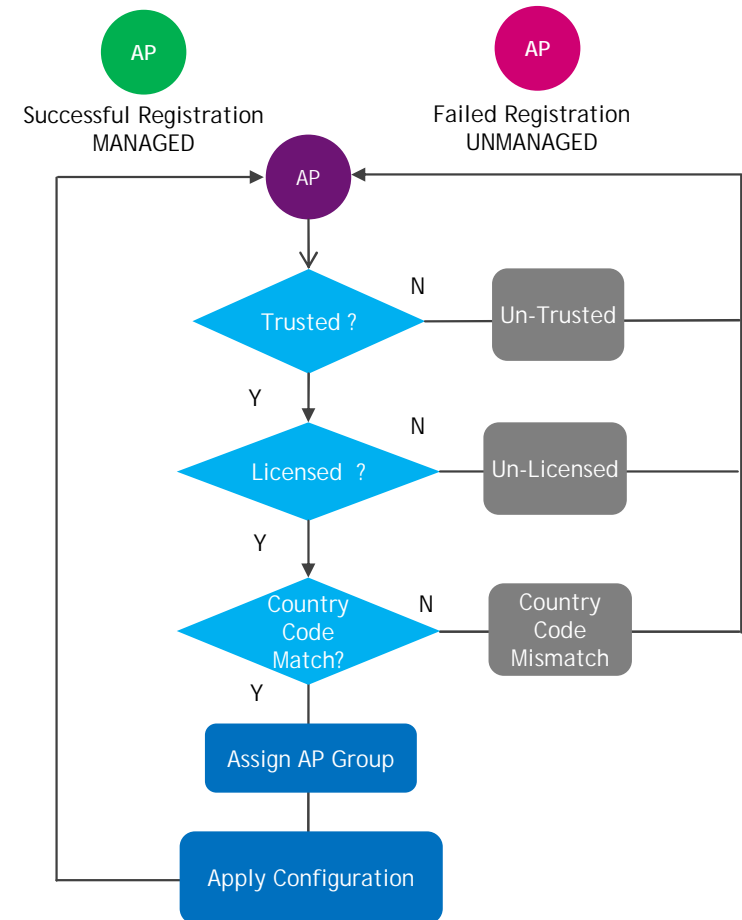
OV2500 AP registration GUI

The AP can be manually regsitered. APs created or imported manually are always "trusted".

Automatic registration option for new APs

Access Points

Change to Trusted Status

Managed AP   **UnManaged AP**

Access Point List

| All | ℹ UnLicensed | ℹ UnTrusted | ℹ Conflicting Country Code | Unregistered | ⬆ .csv/.xsl |

🔍 ▼ Reset ⬇ .csv Add to Report 🖶 Print

By default, new APs are not automatically registered and require a "Trust" action in the registration tool (UnManaged AP section)

The admin can import APs via an excel spreadsheet

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AP Registration Application

AP configuration overview

AP management via OmniVista always implies configuration push to an AP group

AP group shares global system settings

AP group Floor 1

RF Profile 1

- **Country/Region**
- **Dynamic Load Balance**
- **Background Scanning**
- **Per Band Info**

The "base" RF parameter points to a specific Radio profile

NTP

Syslog

RF Profile 2

Some APs in a group may have the same AP Group but different RF parameters

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Distributed Radio Management – DRM

OmniVista
AP Group 1: AP 1,2,3,4,6 => RF Profile Profile1
AP Group 2: AP 5,7 => RF Profile Profile2
AP7 explicitly assigned to RF Profile Profile2

RF App

**Over the LAN RF management
Scope = Adjacent APs**

LAN

MGT VLAN 1   MGT VLAN 2

AP Group 2

AP 1   AP 2

AP 3

AP 5

AP 4

AP Group 1   AP 6   AP 7

Over the Air Discovery

Smart Load Balancing

n Band Steering
- Steer client to 2.4Ghz or 5Ghz Radio/Band
- 5GHz always preferred
- Decision based on
  - Client count per Radio/Band
  - Channel utilization (overloaded)

n Client SNR Strength Threshold
- Client Signal to Noise Ratio in db (noise floor ~95dbm)
- Deny connection to APs when signal of client is too weaker
- Disconnect client when signal of client becomes weak
- Default value : 2.4G =18db , 5G = 12db - Range 0-40 db

n Dynamic Load Balance / Smart Load Balance
- AP Load Sharing between AP
- Decision based on client count per AP

Band Steering configured

2,4 Ghz client

2,4 Ghz client

Dual Band client

Dual Band client

2,4 Ghz client

2,4Ghz connection - - - - -
5Ghz connection - - - - -
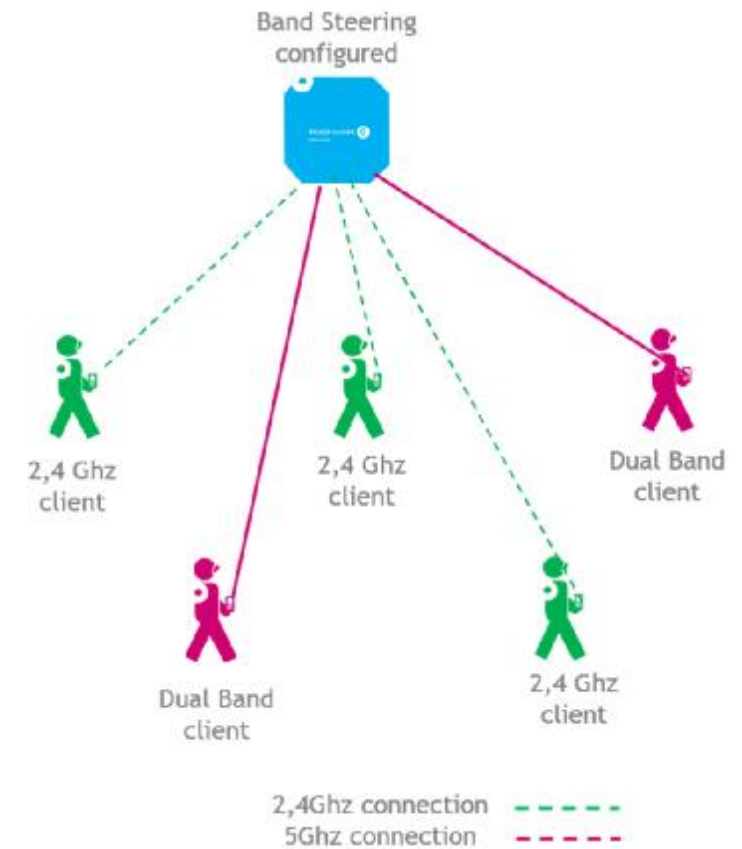
Dynamic Load Balancing - Client LOAD Sharing

Device	Clients
AP1	10
AP2	8
AP3	15

AP1

New Client

AP2

Device	Clients
AP1	10
AP2	8
AP3	15

1 Broadcast Join Request

1 Broadcast Join Request

2 Reply to Client
3 New Client joins AP2

1 Broadcast Join Request

AP3

Device	Clients
AP1	10
AP2	8
AP3	15

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Client Roaming

LAN Network
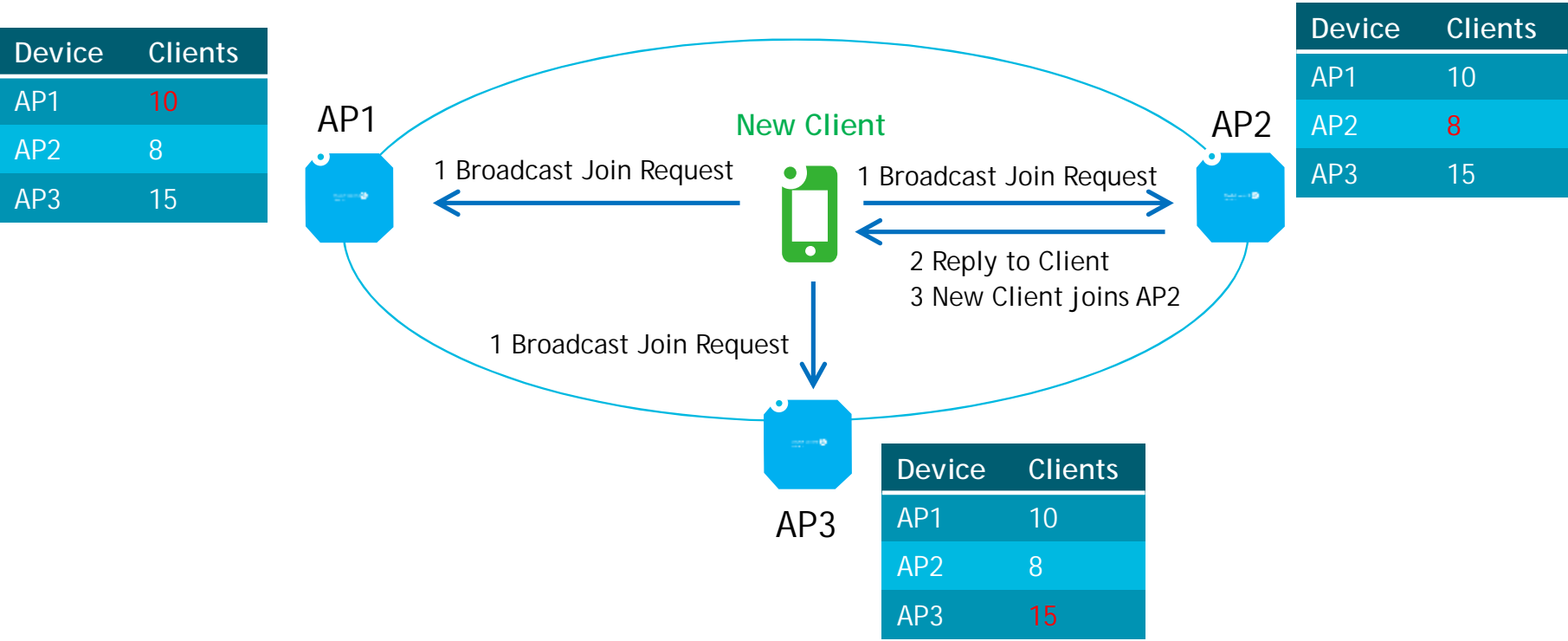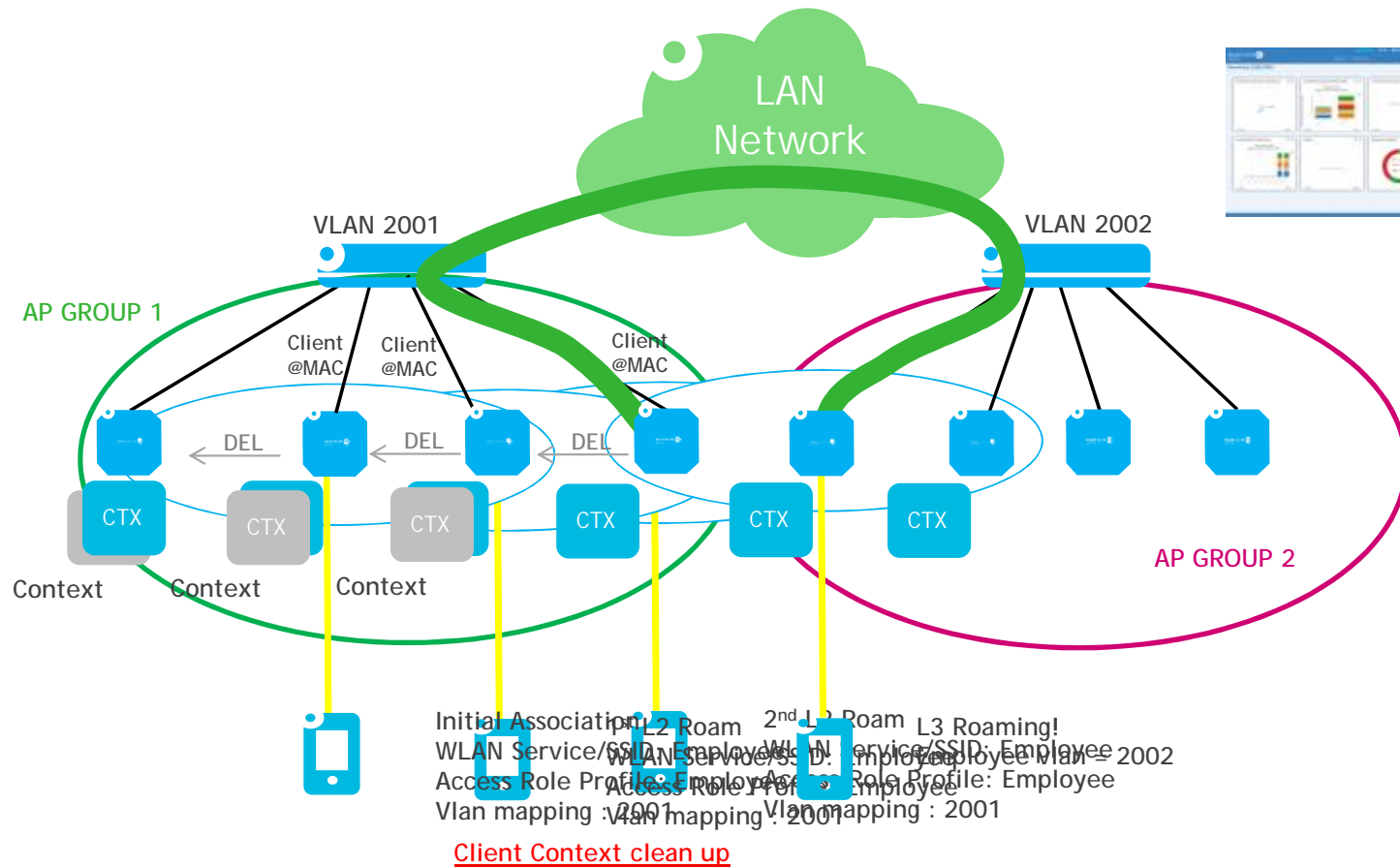
OmniVista
Access Role Profile Vlan Mapping
- AP GROUP 1: Employee = 2001
- AP GROUP 2: Employee = 2002

VLAN 2001

VLAN 2002

AP GROUP 1

Client @MAC
Client @MAC
Client @MAC

DEL
DEL
DEL

CTX
CTX
CTX
CTX
CTX
CTX

Context
Context
Context

AP GROUP 2

Fast Roaming supported
OKC for WPA2 Enterprise only
802.11r for WPA2 Personal and Enterprise

Initial Association
WLAN Service/SSID: Employee
Access Role Profile: Employee
Vlan mapping : 2001

L2 Roam
WLAN Service/SSID: Employee
Access Role Profile: Employee
Vlan mapping : 2001

2nd L2 Roam
WLAN Service/SSID: Employee
Access Role Profile: Employee
Vlan mapping : 2001

L3 Roaming!
Authorized Vlan = 2002

Client Context clean up

WiFi Express and Enterprise Deployment Guidelines

n Factory Default mode: WiFi Express

n AP Mode is hard coded at first boot
- AP gets a DHCP lease with option 138 (the OV IP address) => mode permanently set to OV
- AP gets a DHCP lease without option 138 => mode permanently set to cluster

n Mode can not be changed
- Requires a factory reset (push button) and reboot

n Migration from existing Cluster to OV mode
- From the Web interface, load the new software
- Add option 138 in the DHCP server for the AP management scope
- Perform a factory reset/reboot
- No configuration migration, AP "cluster" configuration is lost

WiFi Enterprise Deployment Guidelines

nAP Management VLANs
  - AP Management VLANs and LAN Management / Data VLANs should be different
  - It is recommended to have dedicated VLAN ID for AP management
  - It is recommended to have a max of 64 APs per vlan

n WLAN VLANs
  - Same VLAN ID could be used for both wireless and wired clients
  - However, it is recommended to have reserved VLAN ID for wireless clients
  - It is recommended to have a max of 256 wireless clients in the same VLAN

nDesign rules, not hardware limitation
  - 64 APs per management VLAN
  - 256 clients per SSID
  - 512 APs per AP-Group

Unified Policy Authentication Manager Overview

OmniVista® 2500 Network Management System (NMS)

Configure, backup restore and control configuration changes

Network deployment time and manual configuration errors are reduced

Centrally managed, access requirements using a common policy are grouped together allowing a simple and rapid configuration

Network operations and maintenance are also simplified

Configure network access for all users and all end-points

For wireline and wireless users

Secure access control

Network access rules and QoS for any combination of users, end-points and applications

NMS

Configure

Secure

Analyse

Monitor

Analyse trends relative to network bandwidth usage and application traffic

For wireline and wireless traffic

Detailed view of the applications running over the network

Amount of bandwidth used by each application or protocol

Control and solve network problems: errors, lose of connectivity etc...

Network topology visualisation

Trap Manager

A complete management system allowing a global view of the network to aid troubleshooting

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OmniVista® 2500 Network Management System (NMS)

Configure, backup restore and
control configuration changes

AP Registration & WLAN Services
Discovery/Inventory
Topology
VLAN Manager
Resource Manager

Configure network access
for all users and all end-
points

RBAC/User & Groups
WIPS
Access Guardian / UNP
Quarantine Manager

Analyse trends relative to
network bandwidth usage and
application traffic

Dashboard (with Wireless KPIs)
Application Visibility
PALM

Control and solve network
problems: errors, lose of
connectivity etc...

Topology /Heat Map
Locator
Syslog and Audit
Notification/trap Manager

Configure
Secure
Analyse
Monitor

NMS

OmniVista® 2500 Network Management System (NMS)

n OmniVista 4.2.2
- New applications for Stellar
  - AP Registration
  - Unified Policy Authentication Manager (UPAM)
  - Network Analytics
  - WIPS
  - Heat Map
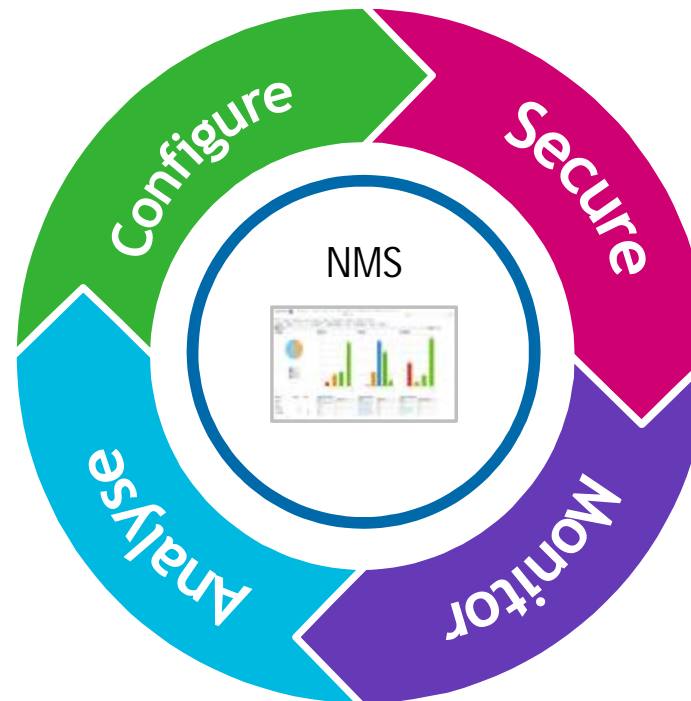
n Unified Policy Authentication Manager (UPAM)
- UPAM consists of
  - Guest Access
  - BYOD Access
  - A built-in RADIUS Server
  - A built-in MAC Authentication Server

Configure

Secure

Monitor

Analyse

NMS

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OmniVista 2500 Rel.4.2.2

n AP Registration New Network Application
- By default new AP discovered are Untrusted
  - Requires "Trust" action in the AP registration AP
- Auto or manual AP creation
- Controlled by the OV Stellar AP license
- 10 AP licenses included for free with OV2500-Starter

Managed AP   UnManaged AP

Access Point List   🔍 ▼ Reset ⬇.csv Add to Report

Search ...

	AP Name	Group Name	AP MAC	IP Address	Subnet Address	AP Location	Status	Management VLAN ID	AP Model	RF Profile	Client Count
☐	AP-00:50	Test	34:e7:1b:00:00:50	10.255.221.8	10.255.221.0		UP	0	OAW-AP1221		0
☐	AP-00:20	default group	34:e7:1b:00:00:20	10.255.221.10	10.255.221.0		UP	0	OAW-AP1221		0
☐	AP-02:00	default group	34:e7:0b:22:02:00	10.255.221.7	10.255.221.0		UP	0	OAW-AP1251		0
☐	AP-C1:60	default group	34:e7:0b:03:c1:60	10.255.221.11	10.255.221.0		UP	0	OAW-AP1221		0
☐	AP-16:30	For US	34:e7:00:00:16:30	10.255.130.240	10.255.130.0	Not received	UP	0	UAW-AP1101	US Profile	0

AP Group List   🔍 ▼ Reset ⬇.csv Add to Report

Search ...

	Group Name	Auto-Group VLANs	Group Description	AP Count	RF Profile	TimeZone	NTP Server List	Log Level	Log Remote	SysLog Server Ip
☐	default group		default group	3 APs	default profile	Pacific-Time@UTC-08PDT,M3.2.0/2,M...			Off	
☐	For Us			1 AP	US Profile	Pacific-Time@UTC-08PDT,M3.2.0/2,M			Off	
☐	Test			1 AP	default profile	Pacific-Time@UTC-08PDT,M3.2.0/2,M...			Off	

OmniVista 2500 Rel.4.2.2 - UPAM

Unified
Policy
Authentication
Manager

Authentication
Access

Guest
Management

UPAM

BYOD

Portal
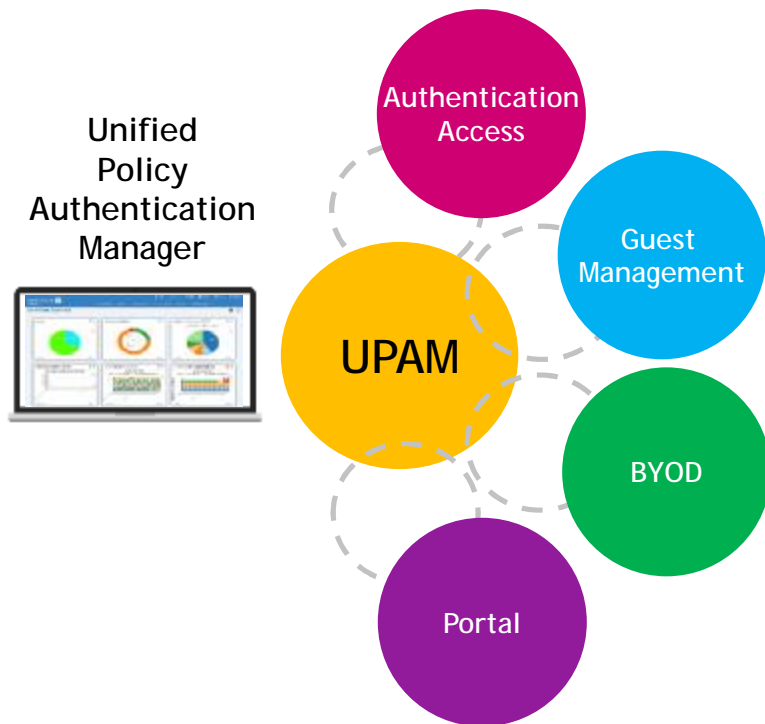
n Internal Authentication Server
- o UPAM used for RADIUS Server for 802.1x and MAC authentication
- l External LDAP/AD and RADIUS configuration
- l Access & Authentication Strategy based policy enforcement
- l External Log Server
- o UPAM logs can be redirected to an external syslog server

n Guest Access Management
- o Web Redirection / Registration for Guest Access
- o Admin credentials managed & maintained from OV
- o Self Registration/ Employee sponsored/ (Social Login*)
- o Guest account generation
- o Customizable Captive portal pages
- o Guest Access License : per device license model
- o 10 GUEST licenses included for free with OV2500-Starter pack

n BYOD Access Management
- o Web Redirection / Registration for BYOD Access
- o Employee - Supplicant/ Non-supplicant secure on-boarding
- o Non-supplicants and supplicant devices with pre-installed certs
- o Customizable Captive portal pages
- o BYOD Access License : per device license model
- o 10 BYOD licenses included for free with OV2500-Starter pack

* Future release)

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OmniVista 2500 Rel.4.2.2 - Network Analystics

Application visibility & enforcement for LAN and WLAN

L7 Apps UNIFIED Analytics for LAN and WLAN

OmniVista 2500 Rel.4.2.2 - Network Analystics

Network Analystics
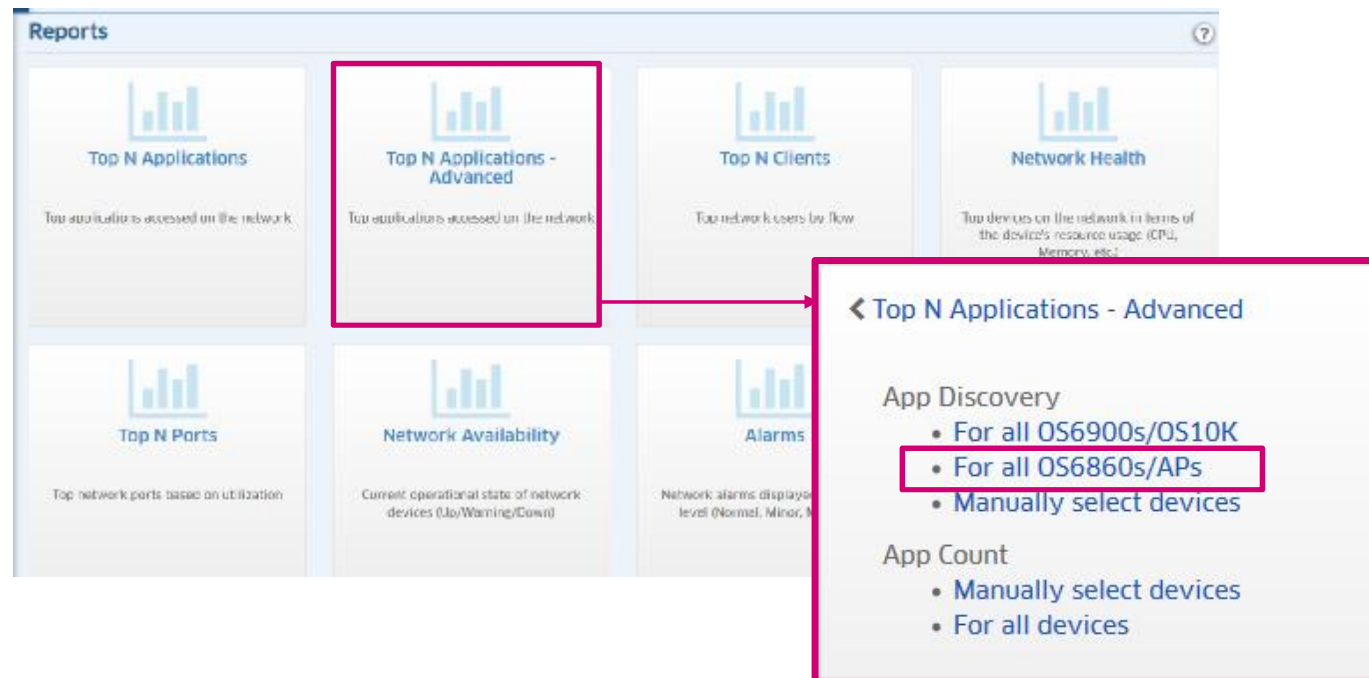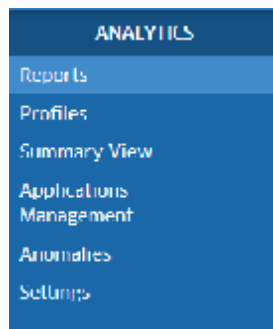
OmniVista 2500 Rel.4.2.2

Wireless Monitoring and Protection Applications

WIPS	RF	HEAT MAP	FLOOR PLAN	CLIENT
WIPS Home	RF Home		Floor Plan List	Client List
Policy	RF Profile			Client BlackList
Intrusive AP				
Wireless				
Attacks				

n Heat Map

   l Visual Heat Map of Deployed AP

n Floor Plan

   l Visual Heat Map of Estimated APs before Deployment

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OmniVista 2500 Rel.4.2.2

Wireless Protection Applications

WIPS	RF	HEAT MAP	FLOOR PLAN	CLIENT
WIPS Home	RF Home		Floor Plan List	Client List
Policy	RF Profile			Client BlackList
Intrusive AP				
Wireless				
Attacks				

Rogue AP Policy
AP Attack Detection Policy
Client Attack Detection Policy
Client BlackList Policy
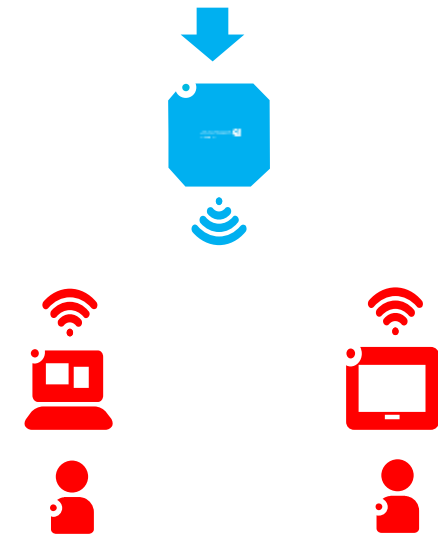
n Rogue AP Containment

n Client Blacklisting

n Attack Monitoring (wIDS/wIPS)

n Dashboard & Reports

OmniAccess Stellar Wlan

Stellar WLAN Licensing & Quotation

Stellar WLAN Licenses
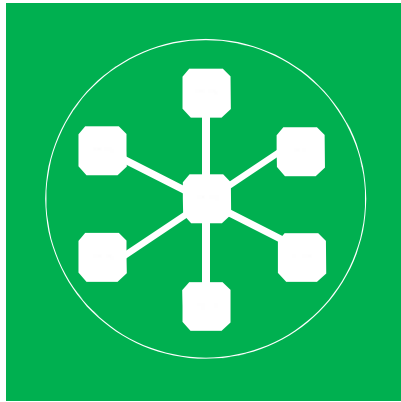
WiFi Express

No License

WiFi Enterprise

3 licenses

OmniAccess Stellar WLAN
OV Licensing Features Set

OV 2500 / Stellar WLAN Mandatory License

AP License

OV2500-NG-AP

Wireless support Discovery
Registration
Provisioning troubleshooting
Lifecycle management
Access Guardian
Application visibility and WLAN
Analytics
Wireless centric applications
RF management
    WIDS
    WiPS
    Floor Plan
    Heat map

OV 2500 / Stellar WLAN Optional License Modules

Guest License

OV2500-NG-GUEST

Authentication management strategy and policy enforcement for Employees, Guest Management , including Captive Portal support

On-Boarding License

OV2500-NG-ONBOARDING

Authentication management strategy and Policy Enforcement (BYOD)

OmniAccess Stellar WLAN
License usage monitoring on OV2500

Device Licenses

Alcatel-Lucent Enterprise Devices: View Details

Expire in 195 days   0 used out of 100

Third Party Devices: View Details

Expire in 195 days   0 used out of 100

Alcatel-Lucent Enterprise OAW NG APs: View Details

Expire in 171 days

Service Licenses

VMs: View Details

Expire in 195 days   0 used out of 100

Alcatel-Lucent Enterprise Guest Devices: View Details

Expire in 171 days   0 used out of 50

Alcatel-Lucent Enterprise Onboarding Devices: View Details

Expire in 171 days   0 used out of 50

STELLAR WLAN

Alcatel·Lucent
Enterprise

OmniAccess Stellar WLAN
Quotation/Ordering guidelines

```
┌─────────────────────────────┐
│  OmniAccess Stellar WLAN    │
│       Access Points         │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│  OmniAccess Stellar WLAN    │
│         Licenses            │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│  OmniAccess Stellar WLAN    │
│        Accessories          │
└─────────────────────────────┘
```
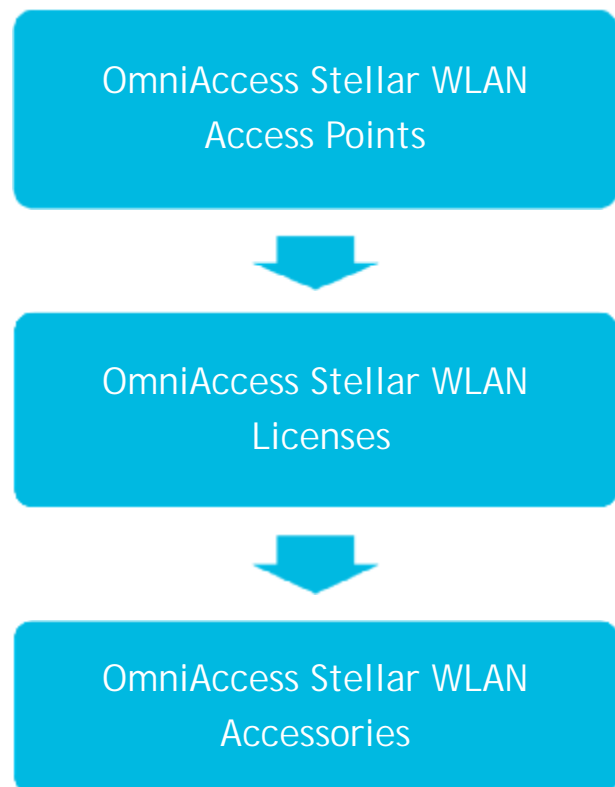
n Access Points Model
- OmniAccess Stellar AP1101
- OmniAccess Stellar AP1221
- OmniAccess Stellar AP1222
- OmniAccess Stellar AP1231
- OmniAccess Stellar AP1232
- OmniAccess Stellar AP1251

n Licenses
- AP License: OV2500-NG-AP
  - 20, 50, 100, 500 or 1000 Access Points
- Guest license: OV2500-NG-GUEST
  - 20, 50, 100, 500 or 1000 Guest users
- On-Boarding license: OV2500-NG-ONBOARDING
  - 20, 50, 100, 500 or 1000 users

n Accessories
- Mounting kits type B1, B2, C1, C2 or wall
  - For all AP models
- POE Injectors
- Power Adapter
- Antennas and cables

OmniVista 2500 NMS-E Licensing model

OV2500
R4.2

Core License Types (Node Management)			
	Starter Pack	Evaluation	Production
Device Count	**OmniSwitch** 10 AOS **WLAN** 10 OmniAccess Stellar AP 10 Guest Access 10 BYOD licenses **Other** 10 Third Party	Choosen at license generation website (Full OV functionality)	Choosen at license generation website (Full OV functionality) f(Device number) f(Stellar AP number) f(Guest client number) f(BYOD client number)
Expires	No	60 Days	No

enterprise.alcatel-lucent.com

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youtube.com/user/enterpriseALU