
aruba
TECH TALK
Driving Efficiency with
Wireless Network Infrastracture

ARUBA ESP ARCHITECTURE

Three Pillars of Aruba Wireless Solution

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Wi-Fi

Stateful Firewall

RF Management

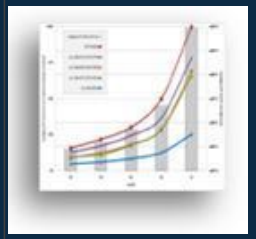
SECURITY

Why Stateful Firewall?

Identify
the User

Control
Access per User

Prioritize
Applications

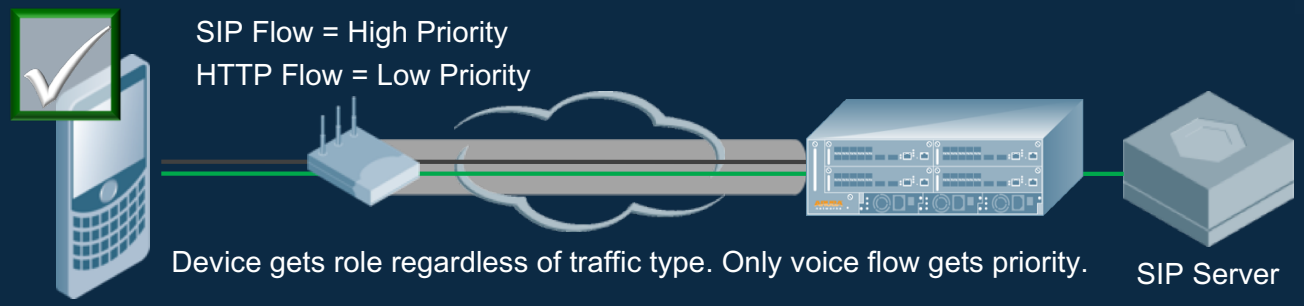


Optimize
Performance

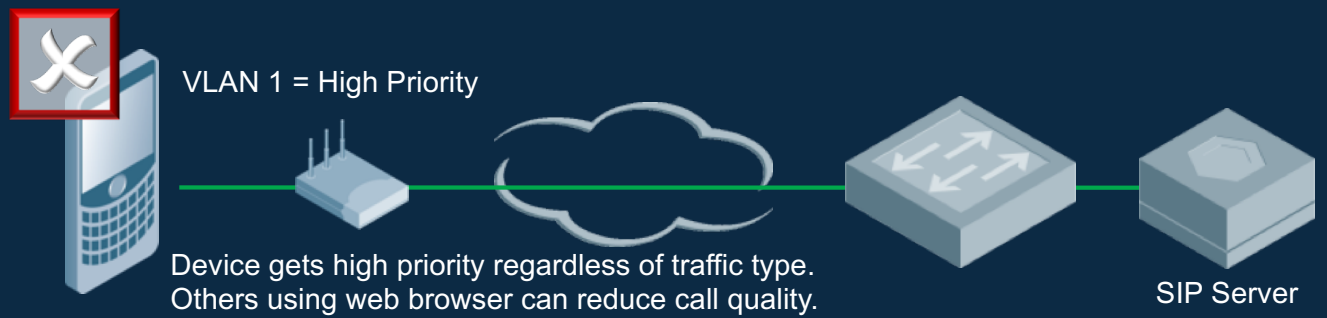
Follow
the User

- Identity-based Stateful firewall
- Application Aware (3000+ App Signatures)
- Stateful policies versus “access control lists”
  - Bi-directional
  - Session aware
  - Dynamic

With Policy enforcement FW

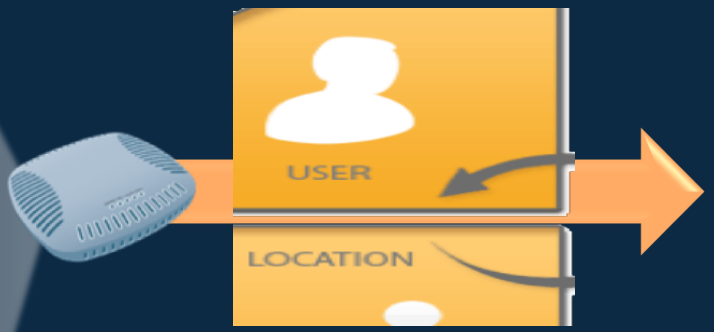


Without Policy enforcement FW



PEF in action!

Context Aware



Aruba PEF Technology

- Context-based policies
- Built-in ICSA firewall-based enforcement
- Policies follow users across networks

Policy Enforcement

Personal Devices

"Bandwidth contracts for personal smart phones"

Executives

"Deliver traffic to CEO's iPad with higher priority"

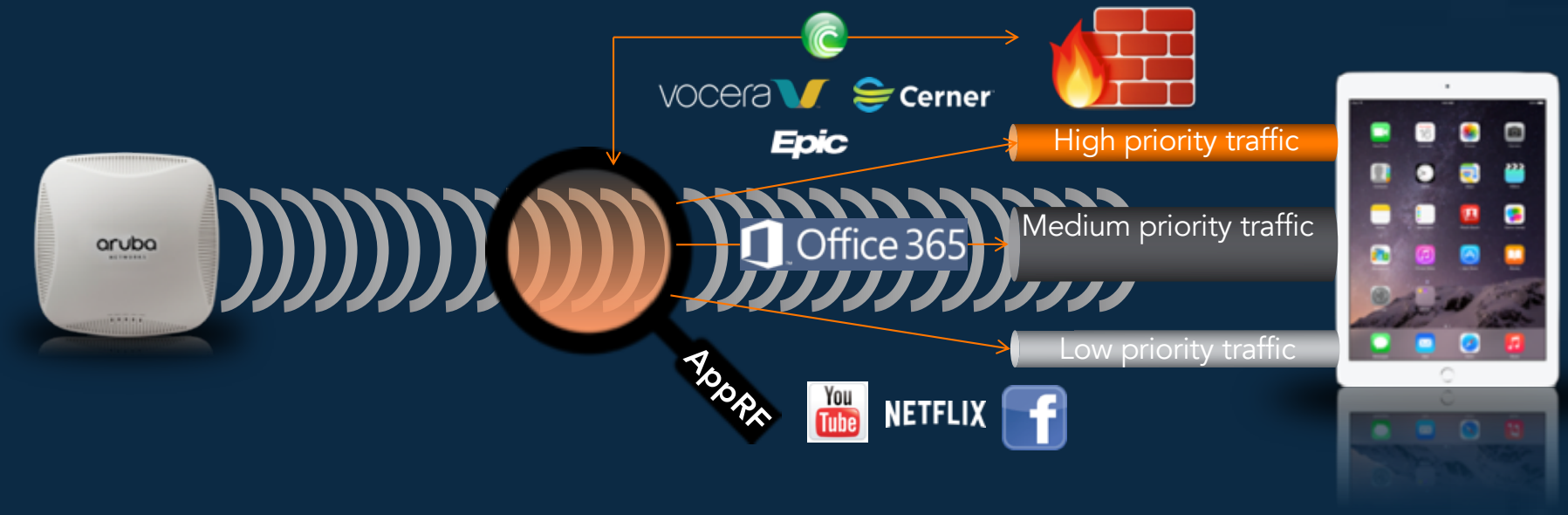
Unauthorized Use

"Blacklist user in case of policy violation"

Unified access

"Same role to user across wireless, wired & VPN"

Intelligent Traffic Control with AppRF™



GRANULAR VISIBILITY & CONTROL

- App category
- Individual app
- Web category
- Web reputation
- Allow/deny
- QoS
- Throttle
- Log
- Blacklist

Air Slice

Air Slice delivers application assurance, and bounded latency
with intelligent scheduling

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Wi-Fi

Stateful Firewall

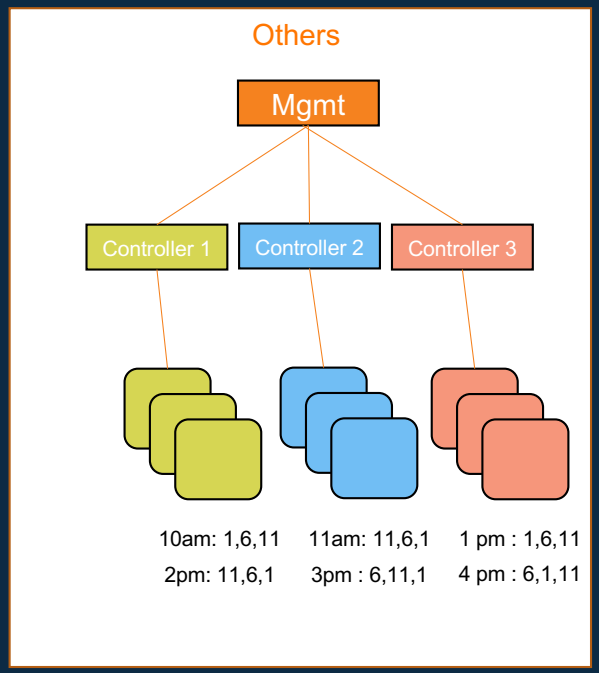
RF Management

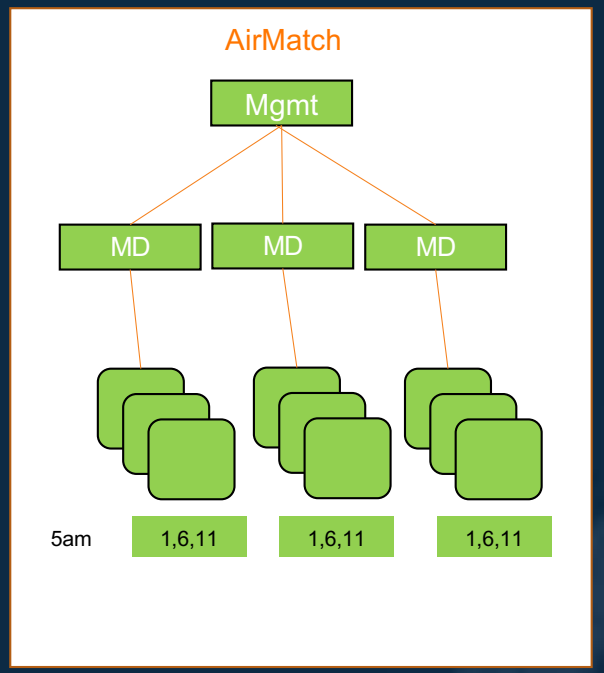
SECURITY

Aruba AIRMATCH

	AirMatch	Others
Computation	Centralized	Decentralized
Channel Bonding (20/40/80/160) MHz	Dynamic	Manual
RF information used	past 24 hours (user-defined) + reactive	Instantaneous snapshot
Client disconnections	X	Frequent in case of interference

Power & Channel assignment





RF OPTIMIZATION BASED ON INSIGHTFUL MACHINE LEARNING

Industry's Best Performance & user experience

ClientMatch™

Maximize capacity and provide uninterrupted access across the office

Intelligently steers devices to the best AP

Reduces “sticky” clients issues => fewer helpdesk tickets

No client-side software required

REAL-TIME RF CORRELATION

DEVICE TYPE

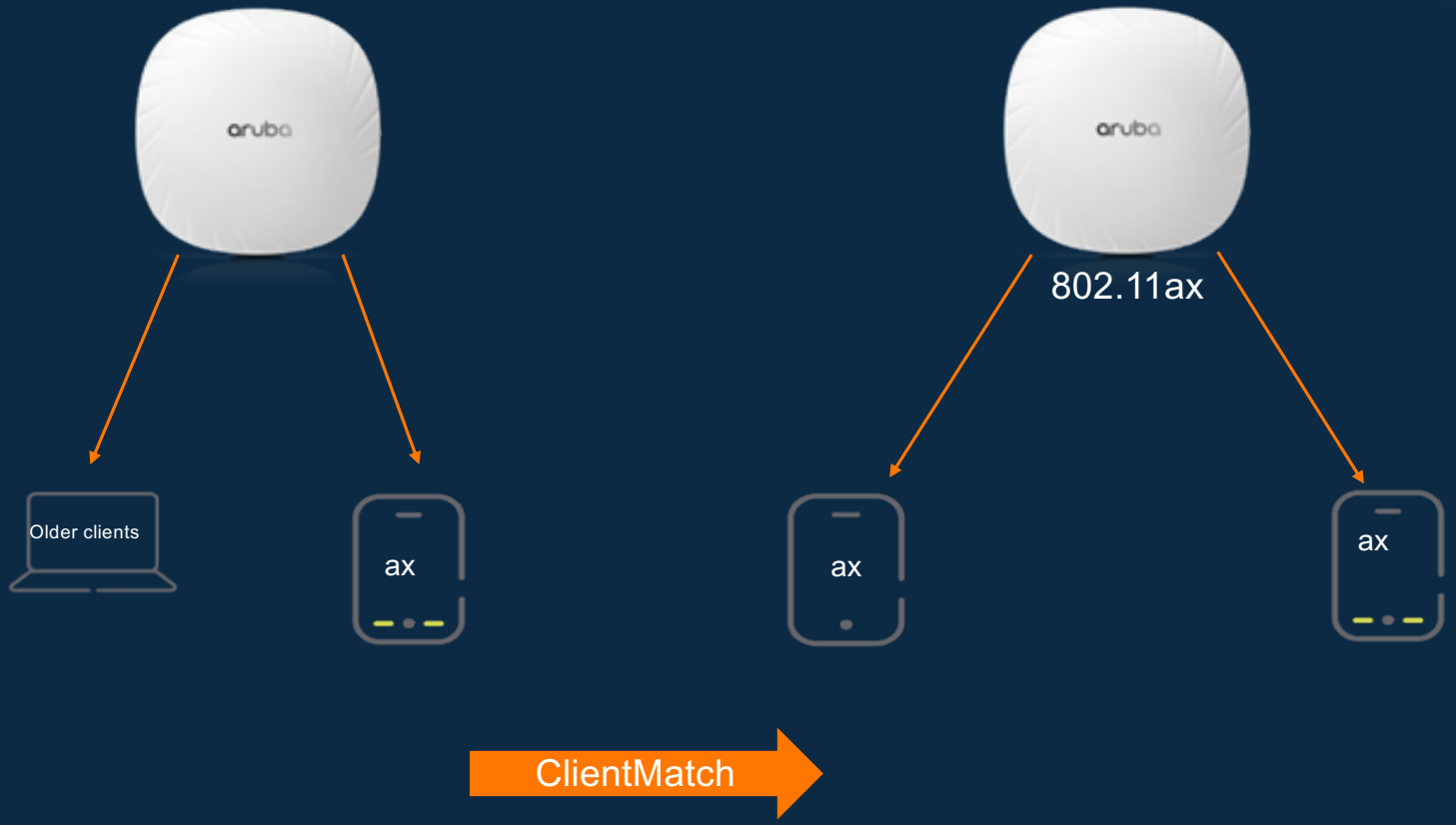
CONGESTION

INTERFERENCE

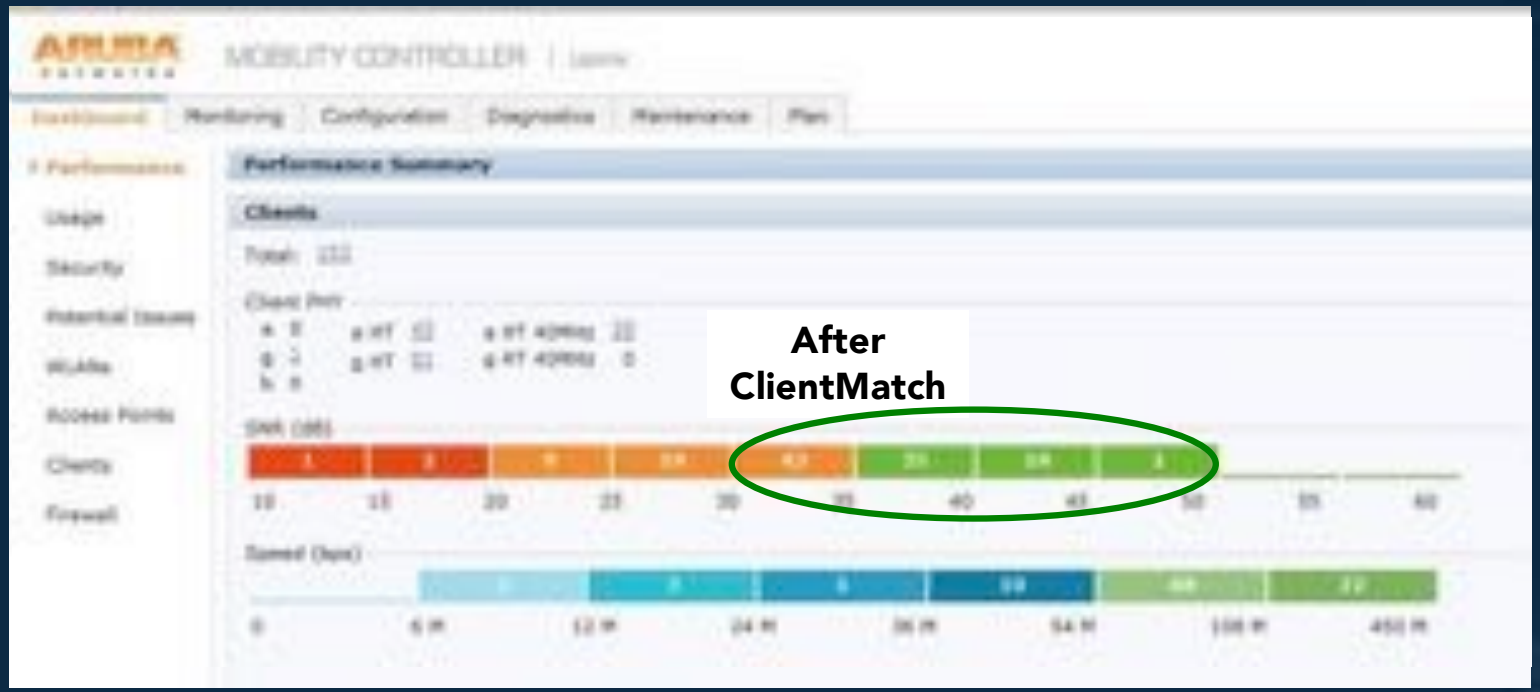
‘802.11ax, MU-MIMO Aware’

ClientMatch™

802.11ax aware & Media aware



ClientMatch™ in Action



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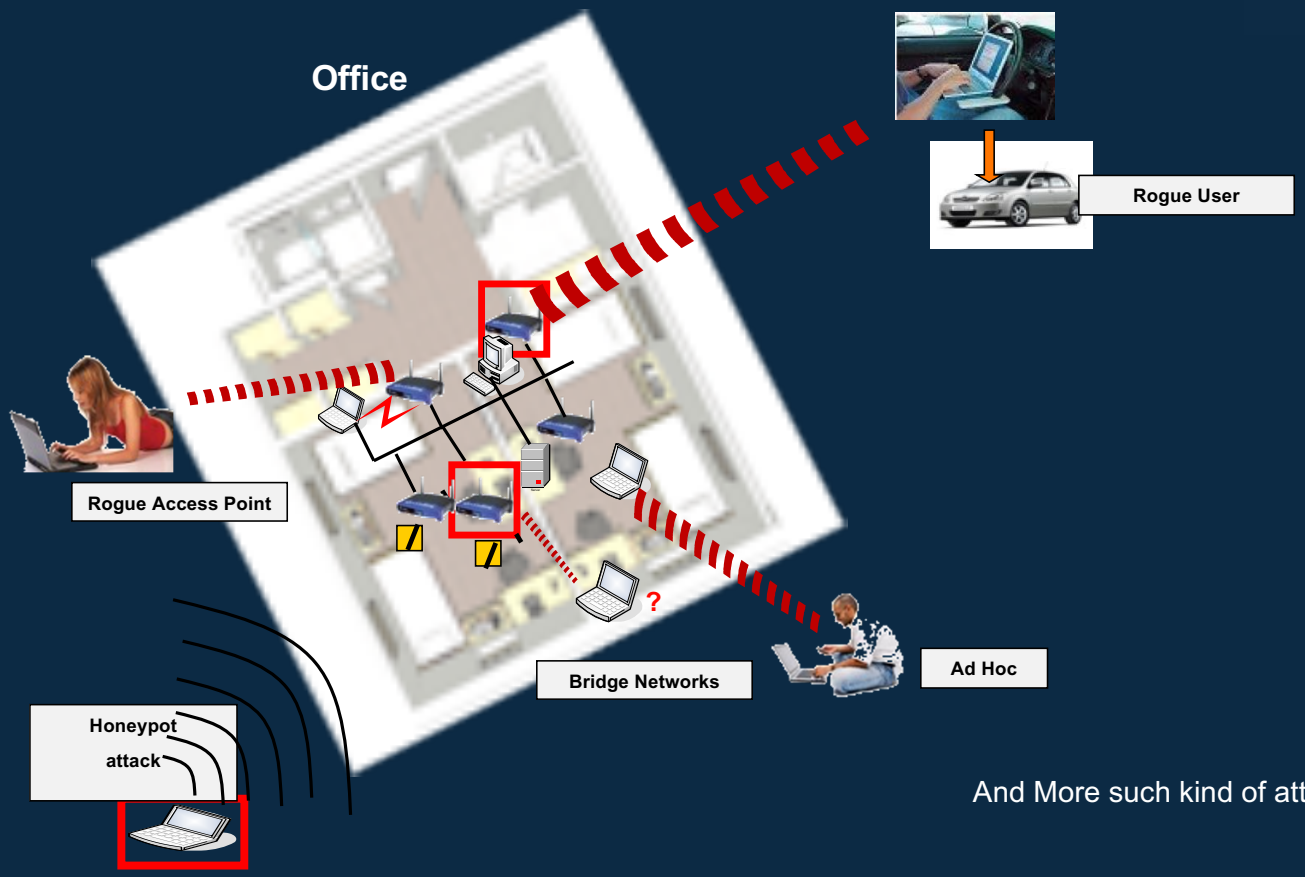
Wi-Fi

Stateful Firewall

RF Management

SECURITY

Why Wireless Intrusion Protection?

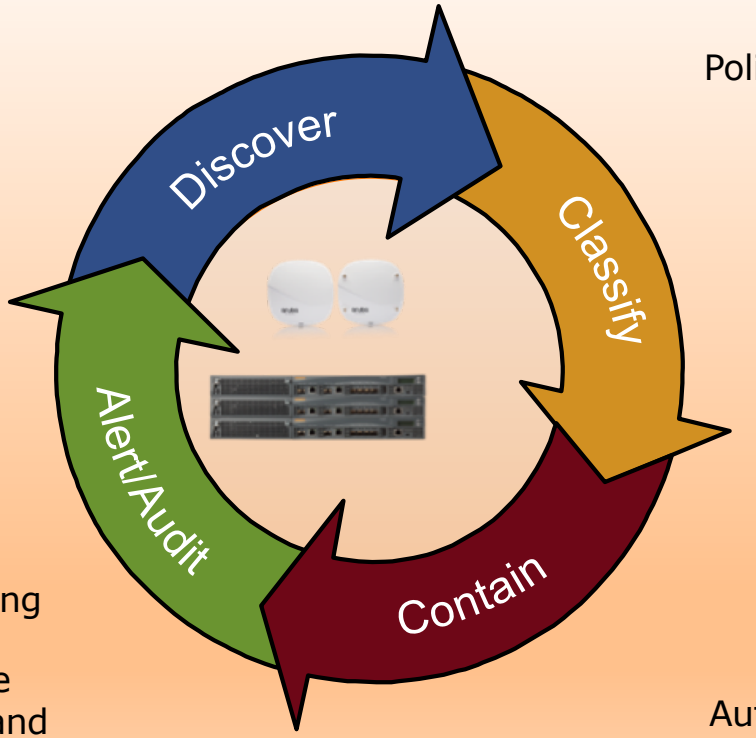


And More such kind of attacks…

Wireless Threat Protection Framework

Discover

Complete 802.11 Spectrum Monitoring Continuous RF monitoring of wireless devices, activity and configuration across all 802.11 channels



Classify

Policy-Based Threat Prioritization
Automatic classification of threats and non-threats is critical to RF security

Alert and Audit

Automated Compliance Reporting
Automated logging and report distribution ensures compliance with wireless security policies and regulations

Contain

Automated Threat Mitigation
Automated containment to block any rogue or intruder

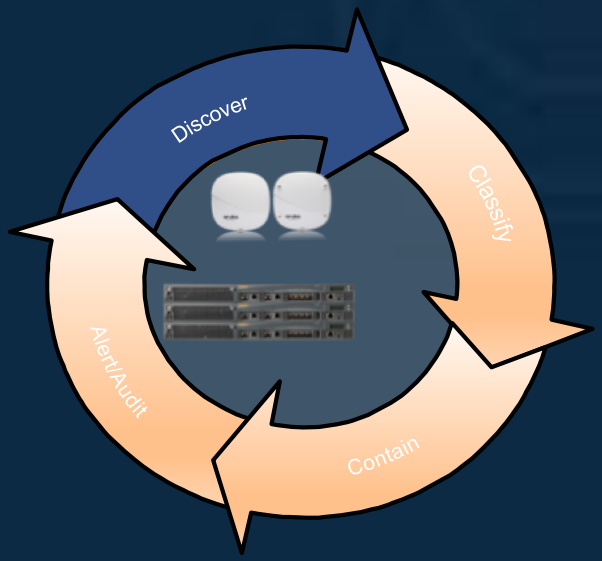
Discover

Complete 802.11 Spectrum Monitoring

- Monitor 2.4 and 5 GHz bands
- Scan the 4.9 GHz public safety band
- Granular scanning in-between channels
- Intelligent scanning of utilized channels

Intelligent scanning

- Granular scanning in-between channels
- Longer dwell times of utilized channels

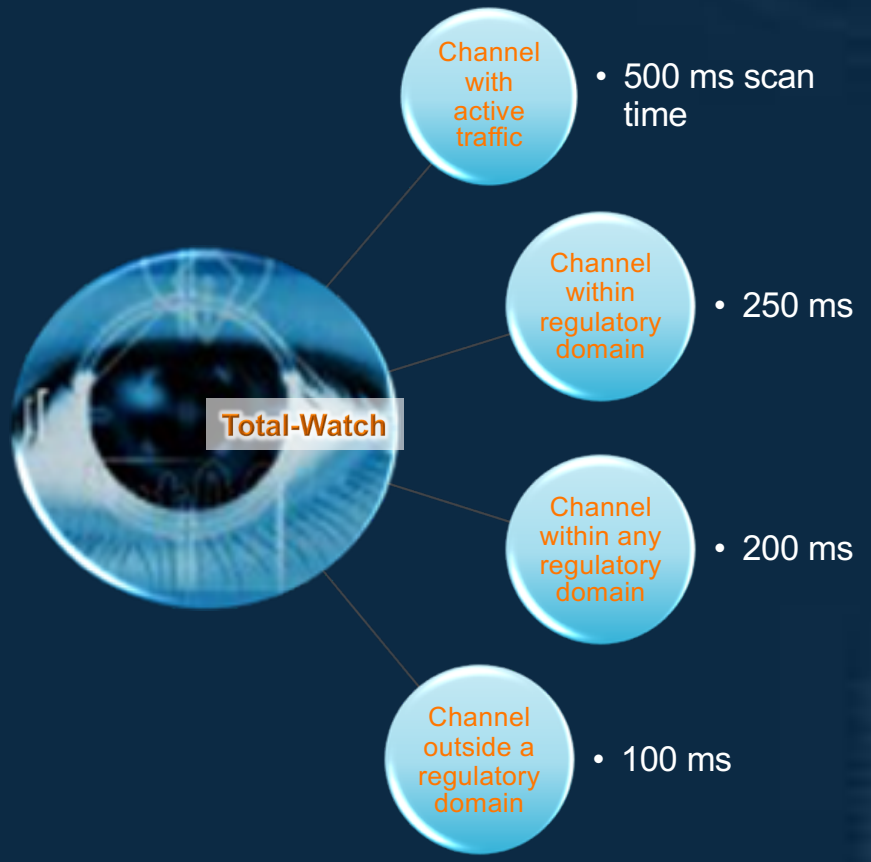


Total-Watch Intelligent Scanning

Scanning dwell times

– Spend more time on channels where the highest likelihood of attack could occur

Comprehensive monitoring for all channels



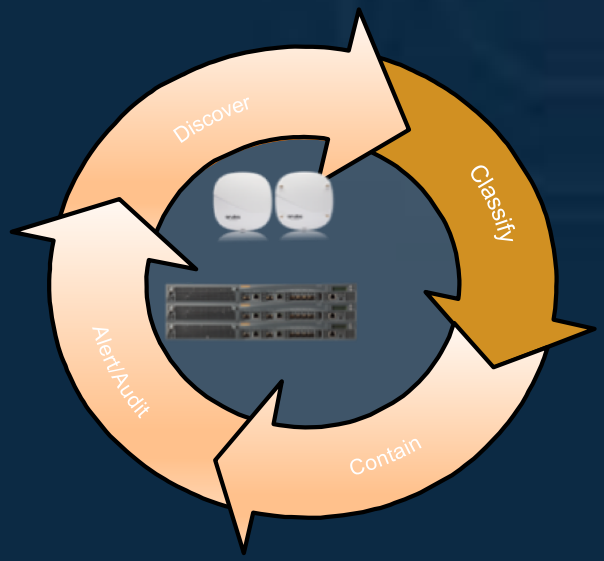
Classify

Automatic classification of threats and non-threats is critical

- Valid APs and stations
- Unauthorized employee-deployed APs
- Neighboring APs
- Hackers and malicious rogue APs
- Public Hotspots in range

Automatic rogue classification and prevention

- Simple rule-based configuration



AP Classification	Active APs	Marked to Contain	Valid Clients	Not Valid
	APs		Clients	
Rogue	0	0	0	0
Suspected Rogue	39	0	0	13
Interfering	411	0	0	175
Neighbor	0	0	0	0
Valid	309	0	12	15
Manually Contained	0	0	0	0
Total	759	0	12	203

Inactive APs: 14,198

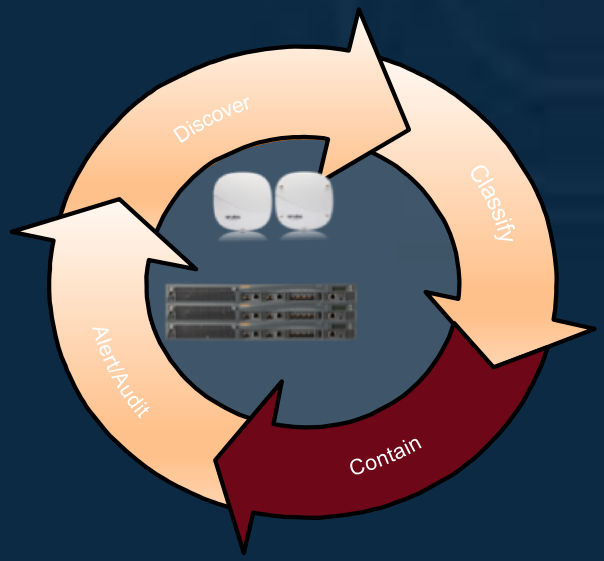
Contain

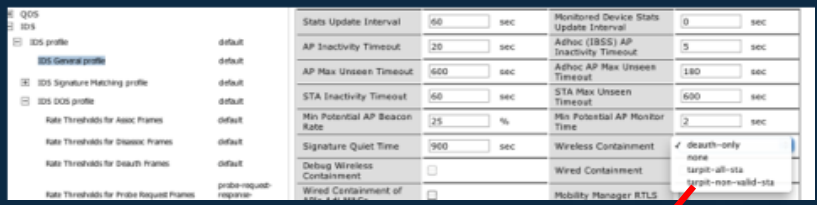
Contain rogues while scanning for new threats

– Tarpit Containment
  – Establish fake associations to contain rogues
  – Low consumed bandwidth

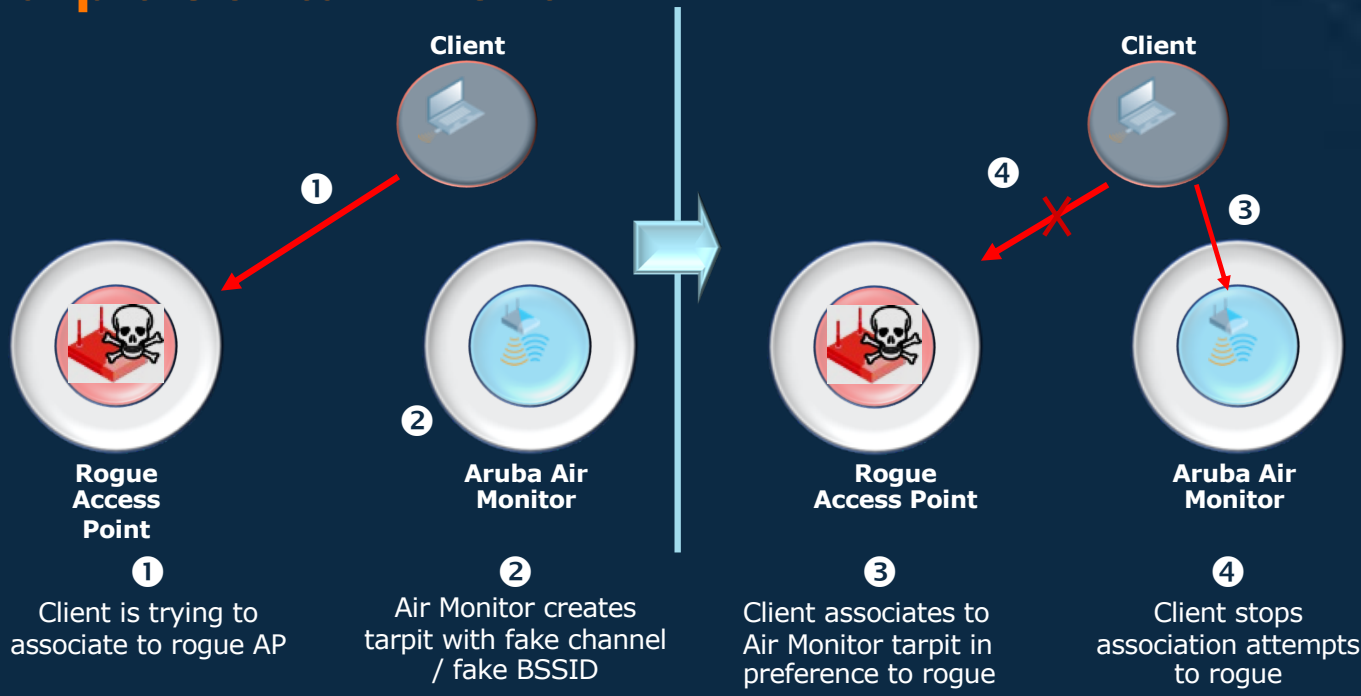
Protect Valid Station

  – Prevents valid stations from associating with interfering APs





Client Tarpit Containment



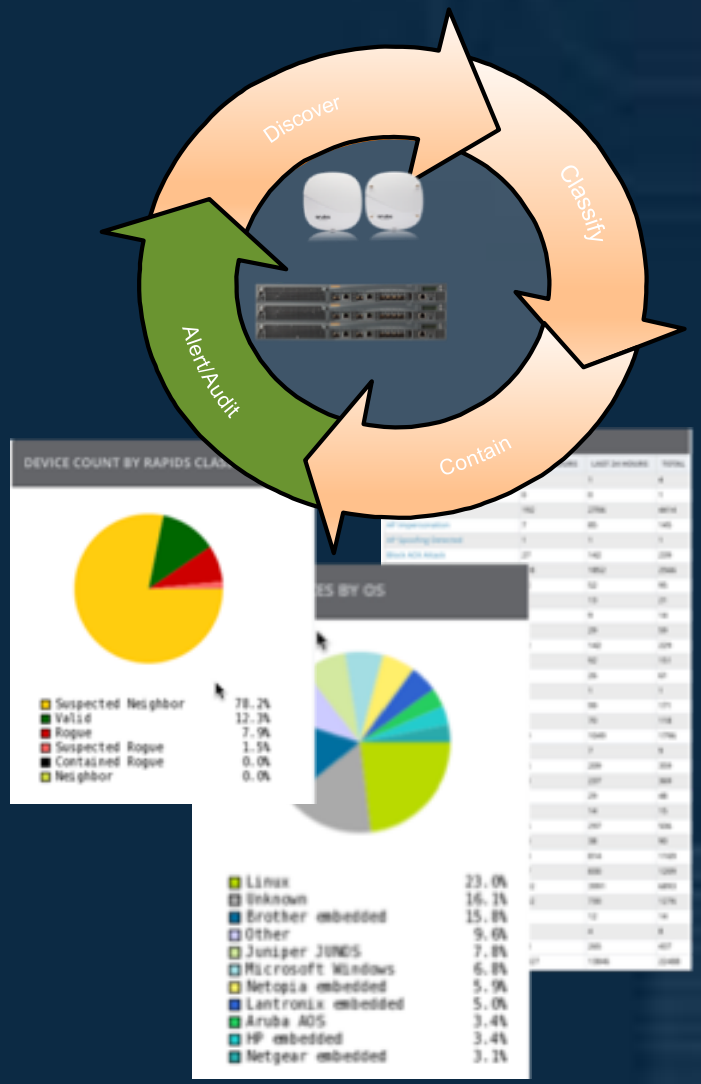
Does not waste air-time during threat mitigation

Works against any brand and type of wireless device

Alert and Audit

Visibility of Security Threats

- Integrated RF planning tool and live heat map
- Location tracking from all APs, including monitors and client APs



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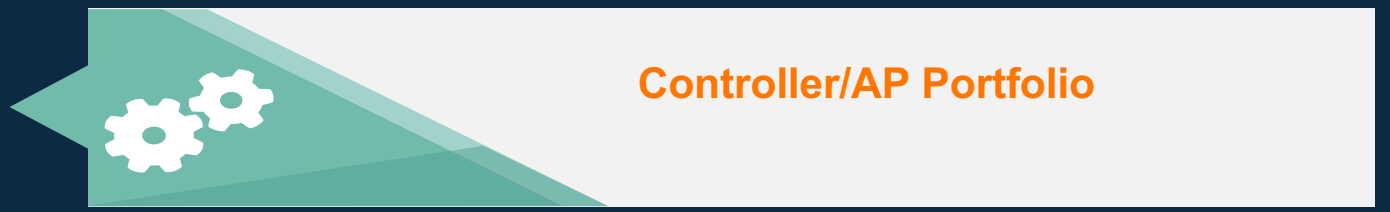
Wi-Fi



Controller/AP Portfolio

Controllers/Gateways scale from branch to campus

7280
7240
7220
7210

High performance, redundant power/fan
512 – 2048 APs, up to 80Gbps throughput

7205

High performance, fixed form factor
Up to 256 APs, 12 Gbps throughput

7030

Up to 64 APs and up to 8Gbps throughput

7024 (24 PoE+)
7010 (12 PoE+)

With integrated switch
12 or 24 ports of PoE+ for unified branches
Up to 32 APs

7005/7008 (16 AP)

PoE-powered controllers

MM-VA-XX

Virtual Mobility Master – 1K/5K/10K

MM-HW-XX

HW Mobility Master – 1K/5K/10K

MM-VA-XX

Virtual Mobility Controllers – 10/50/250/1K
(4K/6K)

Industry's highest performance AP's

Indoor 802.11ax AP's

AP-555
Highest Density, .5Gbps
Dual 5 GHz ports, Tri-radio

530 series
Highest Density, 3.5 Gbps

510 series
Medium Density, > 5 Gbps

500 series
Low Density, 1.7 Gbps

Indoor 802.11ac AP's

340 Series
Highest Density
Dual uplink(one 802.3bz),
Dual 5GHz, 4.3Gbps, BLE

310 Series
High Performance
1.7 Gbps, BLE

300 Series
Medium Density
Single uplink, 1.7Gbps, BLE

Hospitality/Remote Access Points

505H 4 ports
802.11ax

303H 4 ports
802.11ac
Wave 2

203R/P
11ac
3 ports

Outdoor Access Points

570 Series
Highest perf. (4SS)
802.1ax, Zigbee, BLE

370 Series
High perf. (4SS)
802.11ac

360 Series
Higher perf. (2SS)
802.11ac

Rugged Access Points

518 Series
High Density/Perf
>5 Gbps, Zigbee, BLE

318 Series
High Density/Perf.
2.0 Gbps

ACCESS POINT AS A PLATFORM

802.11ax Wi-Fi Radios

- 802.11ax network access
- Asset tracking tags
- Personnel location badges
- Smart wrist bands with telemetry sensors
- Sensors, actuators, and smart lighting systems
- Bar code scanners and mobile printers

802.15.4 Radio

- Food safety sensors
- Cooking and refrigeration sensors
- Heating, air quality, presence, security, panic, call, button, lighting, leak sensors
- Load controls and actuators
- Door locking and access systems

Bluetooth 5 Radio

- Wayfinding and geofencing
- Energy harvesting heating, air quality, presence, security, panic, call, button, lighting, leak sensors
- Load controls and actuators
- Door locking and access systems
- High accuracy industrial and Ex asset and personnel location tags

USB Port

- Electronic shelf labels
- Gun shot detectors
- Retrofit ZigBee interface for existing deployments
- Custom interfaces

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THANK YOU