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Introducing to Airwave

IT requires management tools designed for mobile-first networks







Reliability for critical apps



Unified wired & wireless

Aruba for managing mobile-first networks

Aruba AirWave



Multivendor wired + wireless network management



Aruba Central



Cloud platform for network management + services

Aruba AirWave

Management and monitoring designed for mobile-first networks

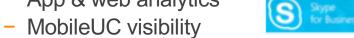


Performance for mobile

- Live RF & client monitoring, VisualRF
- Aruba Clarity: live user monitoring & synthetic testing

Reliability for critical apps

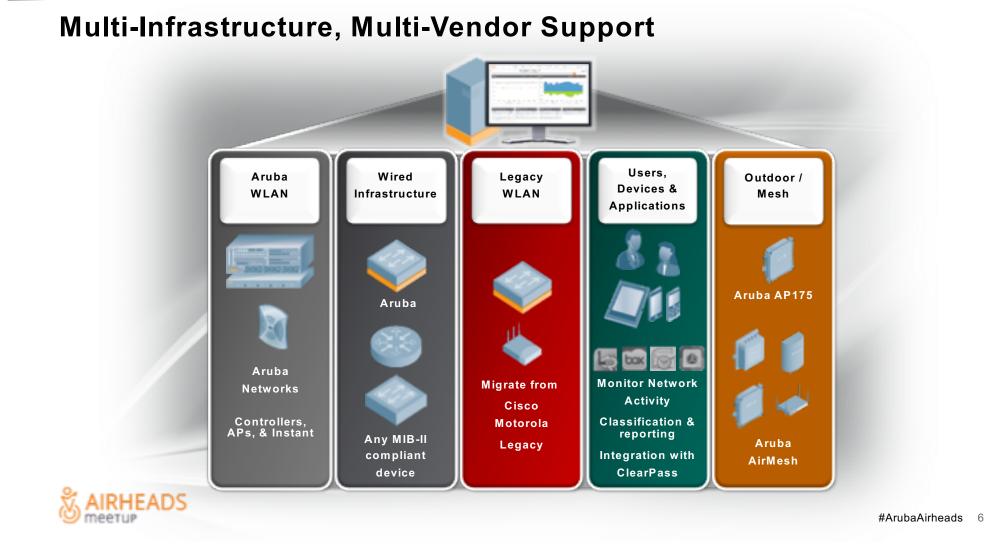
- App & web analytics





Multivendor management



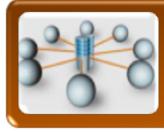


AirWave Key Features



Comprehensive Visibility

- Entire access network wireless and wired
 Device discovery, classification and diagnosis
- Reporting and analysis



Centralized Management

• Configuration, Zero Touch Provisioning (ZTP), firmware distribution, automated compliance across entire distributed organization



Easy, intuitive interface

- Role-based administrative access
- Organize and manage by business / organizational unit



Clarity Live Monitoring live client data flow



Customizable thresholds & timelines

View failure rates & response times

Drilldown widgets





Ensure reliability for business critical applications



View common app/web usage and performance

Troubleshoot app performance in real time



UCC Performance



View call quality, client health correlation & call volume

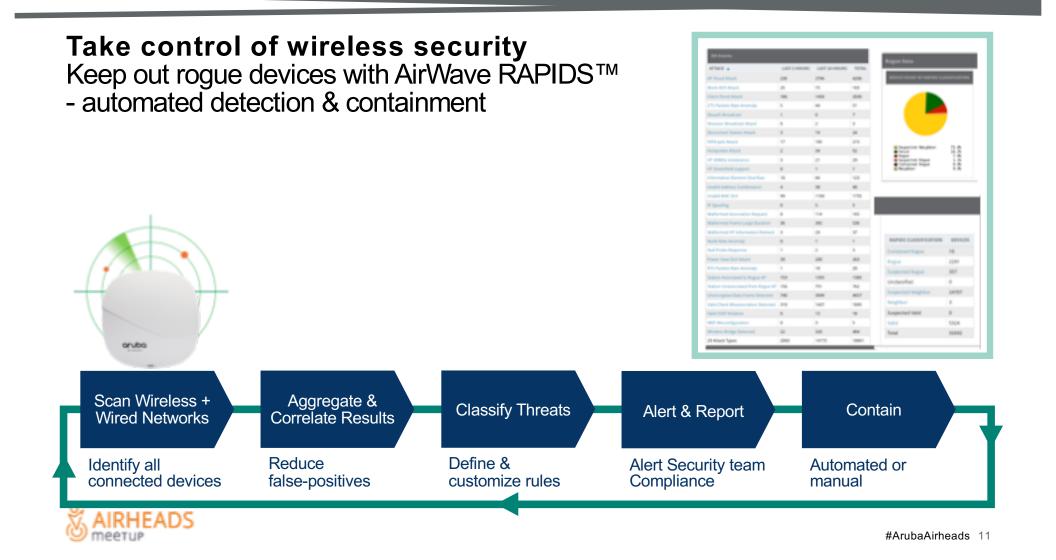
Identify root cause & resolve issues faster

Analyze and troubleshoot faster

Visualize performance and coverage with VisualRF™



- Network wide mapping: Clients, devices, rouges, non Wi-Fi interferences
- Context overlays: AppRF, Client Health, UCC, Voice, Channel, Channel Utilization, Speed, Heatmap
- Location tracking
- Heatmap history/playback
- Site planning



Simplify multivendor networks





Wireless + Wired Aruba + 3rd Party Multiple Generations

Centralized management

- Configuration, firmware distribution
- ZTP for Aruba Instant & ArubaOS
 Switches (w/Activate or DHCP)

Comprehensive visibility

- Device discovery, classification and diagnosis
- Reporting and analysis



Aruba Service Assurance

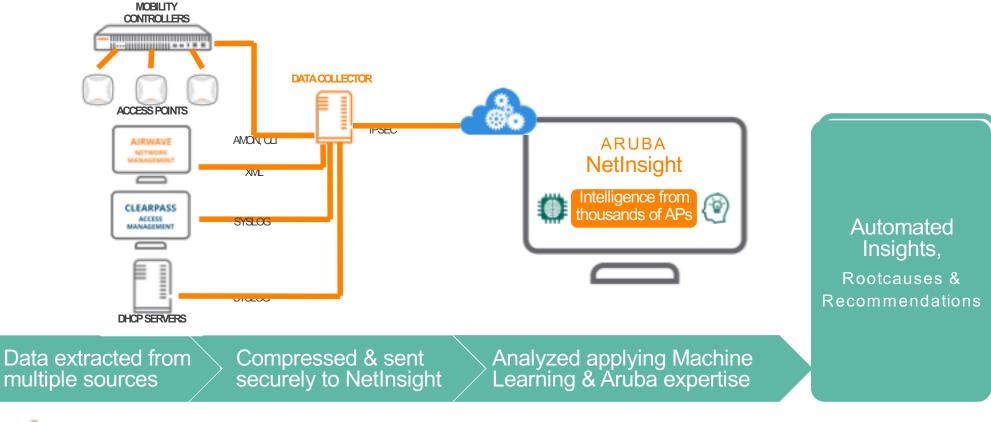
Aruba's Analytics and Assurance

Network Persp	Network Perspective		
NetInsight Use case: User connectivity, benchmarking, Wi-Fi scores, anomaly detection Network View: Mobility Controllers, AP's, AirWave, ClearPass, DHCP	Clarity (AirWave or Central) Use case: User connectivity NetworkView Mobility Controllers or IAPs	Cape Networks Use case: User- /device- /app-specific connectivity, Wi-Fi and wired performance —passive and active End User View: Cape sensors	
CLEARPASS CONTROL DHCP SERVERS		Coffice 365	

Aruba NetInsight Analytics for Experience-Critical Networks

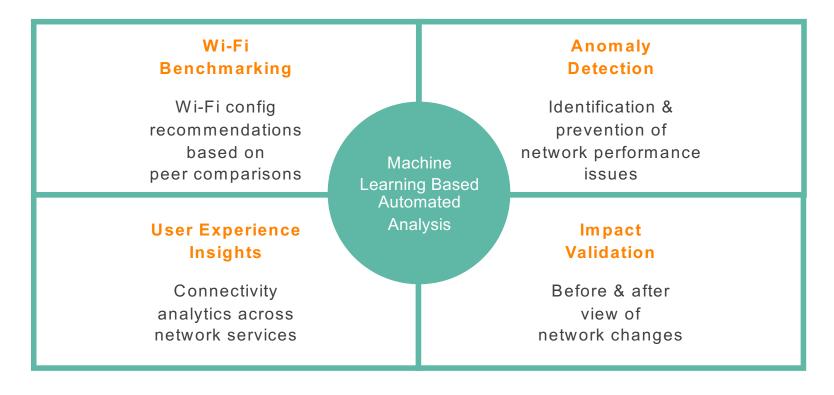






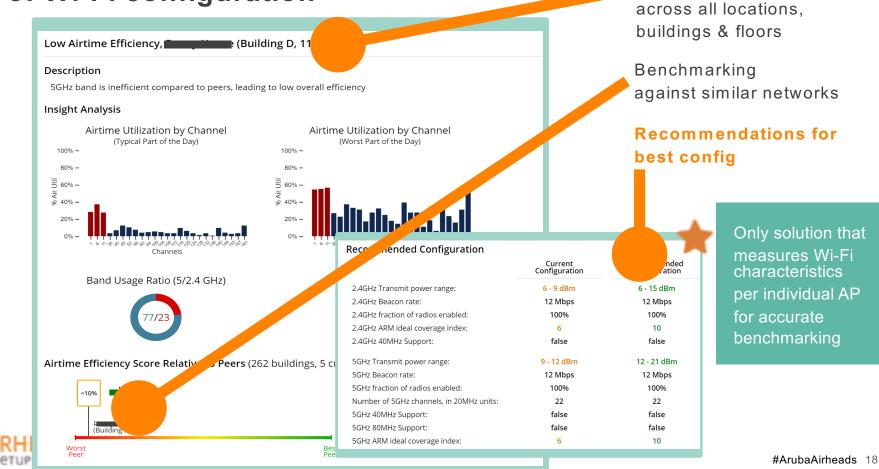


Key Capabilities of NetInsight





Take the guess work out of Wi-Fi configuration

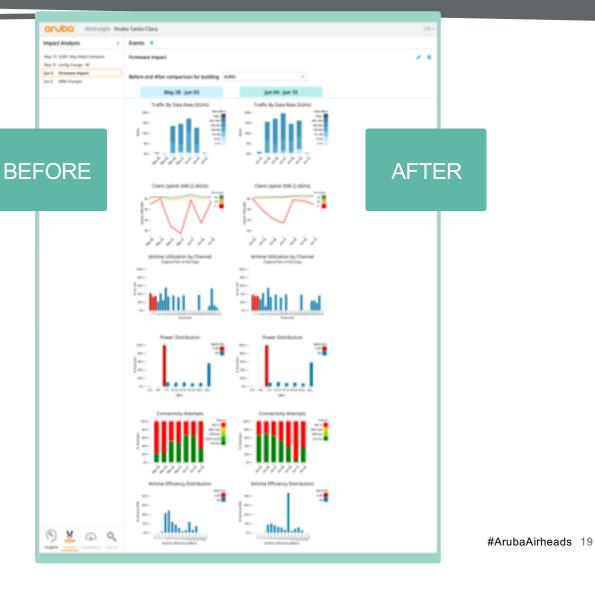


Automated Wi-Fi profiling

Ensure your changes make a difference

Impact Validation

- Close monitoring after config/firmware/ARM changes
- Tracked criteria: Traffic, Client Uplink SNR, Airtime Utilization, Power Distribution, Connectivity Attempts



Find & eliminate problems that truly impact user experience

User Experience Insights

 Proactive connectivity monitoring with rootcause & recommendations

Automatic elimination of irrelevant failures with Aruba's unique Mobility Analyzer



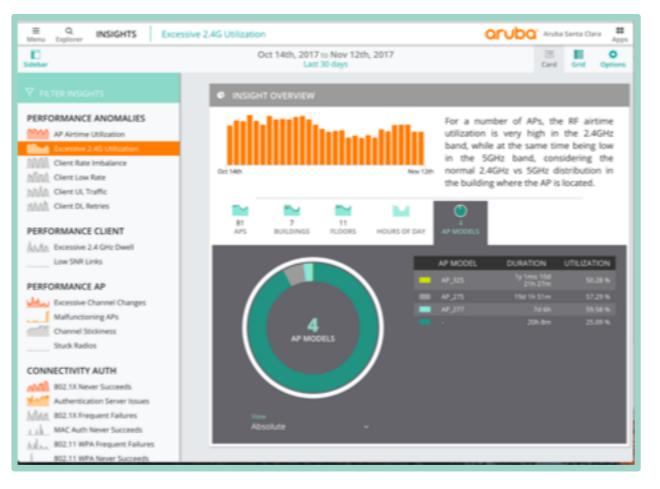
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Insights Q	٠	802:1X Frequent Failures						
PERFORMANCE AP		aar jan						
Excessive Channel Changes								
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Musing APs								
Orannel Stickiness		Insight Details for Last 30 Days						
Stuck Radies								
		Description Impact						
CONNECTIVITY AUTH		A number of users are failing 802.1X authentication frequently while connecting to the network. Please select a day from timeline to see the 4 clients failure details.						
#02.1X Never Succeeds		tanure decars.						
802 1X Prequent Failures		Root Causes	Impact.	Recommendations				
• 802.11 WPA Preguent Failures		Client timed aut.	2846 failures	Client did not complete the 6AP excha	inge in time.			
MAC Auth Frequent Failures		TLS session error	344 failures	Check the TLS certificate and CA trust	Check the TLS certificate and CA-trust settings.			
MAC Auth Never Succeeds		Authentication request timed out due to poor link-quality	289-failures	These failures can be ignored since th	These failures can be ignored since the SMI of the client's WITI			
 BI2 11 WFR Never Successis 				connection is poor thereby causing th				
 Captive Portal Prequent Failures 		Authentication request timed out	274 failures	Client did not complete the SAP exchu	Client did not complete the EAP exchange in time.			
 Captive Portal Never Succeeds 		The same field on the 12 officer and an industrial or used with an	130 failures	Charle Braucher and an analysis of	Check the user account credentials			
PERFORMANCE CLENT		AD Lagon failure due to either wrong credentials or user's account parsword in the AD is expired	130 tanores	Check the user account credentials				
Sticky Chent Steer Failures		User authentication failed	43 failures	Check username.r password				
Load Balancing Steer Failures		Authentication request timed out since client device-moved to a	17 failures	Where his one in he mound much it	Went follows on he impact once there dones moved and or			
Band Steen Failures		efferent location or moved away	17 famores	alures These failures can be ignored since client device moved away or disconnected from WHL				
 Low SNR Links Tractive RSIs 		User not found	15 failures	Provision valid user credentials	Provision valid user credentials			
Excessive 2.4 GHz Dwell		Account locked out	11 failures	Contact the admin to renew account				
PERFORMANCE ANOMALIES		Client doesn't support configured DAP methods	4 failures	Check client security configuration an security settings	Check client security configuration and reconfigure with correct security settings.			
 Excessive 2.45 Utilization 								
 Cherrit Hatte Imitialiance 		Clents APs Buildings Building-Floors						
Client Low SNR								
AP Artime Utilization		MAC ADDRESS USER NAME	DEVICE TYPE	VENDOR NAME	FIGURE 1			
Cherri Low Rate		0C88/70.3C97.40 scstl.mcgrath@hpe.com	Windows	Inhall Corponate	1,825			
Client UA, Traffic		60157718/03.6A.6E bill antiped per com 60.8E 85 06/3750 marcular singh@hps.com	Android	Intel Corporate Motorofa Mobility LLC, a Lamovo Company	271			
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		SEALAR, IT ARATE classic multiplice com-	Markey .	Intel Company	1725			



20% of IT time is spent on chasing irrelevant Wi-Fi failures

Anomaly Detection

- Automatic baselining of "normal" performance
- Identification of <u>real</u> problems via machine learning



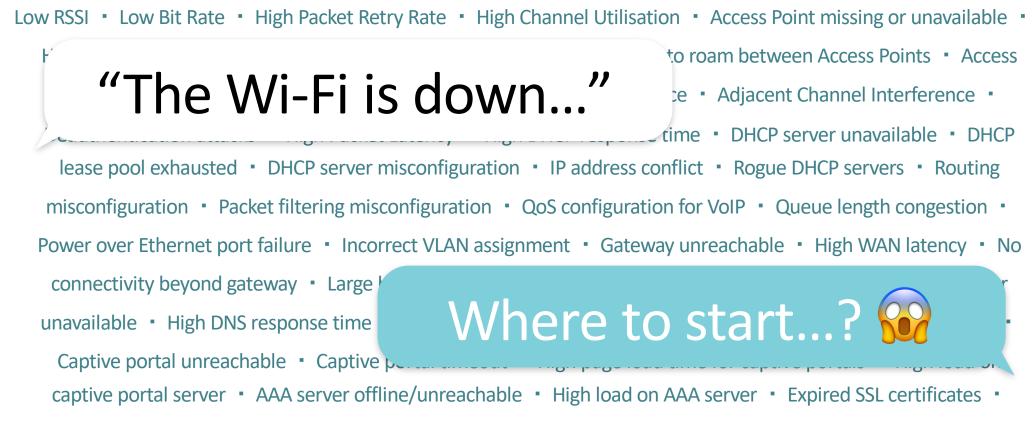


AI-POWERED ANALYTICS AND ASSURANCE



SERVICE ASSURANCE SENSOR







Networking issues are becoming too complex for people to troubleshoot alone.



Device Explosion



Network Complexity



Business-Critical SaaS



Enterprise IT managers can't prove they are doing a good job

Harder troubleshooting Anecdotal complaints

Less tolerance









Mission

Cape Networks provides a user perspective for analytics and service assurance for enterprise networks



TODAY'S TOOLS DON'TSEE ENT-TO-ENT

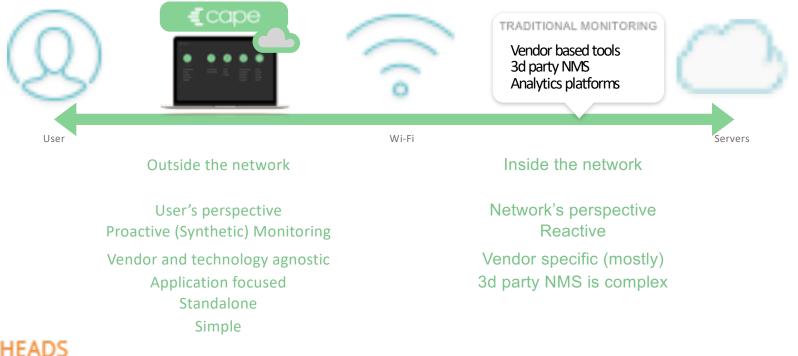
Internal monitoring when implemented alone:

- Limited in scope (Not end to end)
- Itself impacted by network issues (fails with the network)
- Challenging in multi-vendor environments
- Reactive



CAPE NETWORKS CLOSES THE LOOP ON SERVICE ASSURANCE

Al powered analytics and service assurance







Sensor

- Simple, Zero config
- Test WiFi 24x7
- Backup Cellular
- No Cable Run
- PoE or Plugin Wall

SSID Wisible?

WiFi

- Can Associate
- RF env.

- .• .•
- Authentication
 DNS_DHCP ?
 - DNS, DHCP ?Fast and

Network

- Fast and reliable
- **Capitve Portal**
- Redirect?
 - Youtube,Facebook?
 - Enterprice App.?
 - Bottleneck?

Services

- Throughput
- Gateway? • Internet Access

Auth. Options

•

Billing

Aruba Service Assurance

Proactive troubleshooting and support

Intelligent network & app performance analysis Visual Setup and Validation from anywhere



Easy to setup sensors where users are most active



Simple way to test the network and apps from user perspective

2



3 Proactive alerts and troubleshooting help



Intuitive 1-Click Drilldown and Visbility





Customer Outcome Example

TIME SAVINGS

Identify possible issues to alleviate calls to the help desk

Faster problem diagnosis and remediation

BETTER EXPERIENCES

Minimize disruptions, keep the business running at its best

Deliver great experiences, preserve productivity

57%

of the time users detect issues before IT



Value Proposition

Un-boxed and running in < 5mins

Out of band connectivity

Easily customizable tests

Consistent proof of network performance







S AIRHEADS meetup

Thank You