

DATA SHEET

ARUBA AIRWAVE

Centralized visibility and management for multivendor access networks

Aruba AirWave is a powerful and easy-to-use network operations system that not only manages wired and wireless infrastructure from Aruba and a wide range of third-party manufacturers, but also provides granular visibility into devices, users and applications on the network.

With unprecedented insight and centralized control to effectively manage global enterprise infrastructures, AirWave lets IT organizations proactively optimize network performance, strengthen wireless security and improve the end-user experience.

Through a centralized and intuitive user interface, AirWave provides real-time monitoring, proactive alerts, historical reporting, and fast, efficient troubleshooting. Dedicated dashboard views quickly help view potential RF coverage issues, unified communications and collaboration (UCC) traffic, application performance and network services health.

The Aruba Clarity add-on module proactively analyzes end-users' quality of experience by providing enhanced monitoring capabilities for critical network services, such as time and response failures for a mobile device to associate with a Wi-Fi radio. Other services monitored include authentication time period to a RADIUS server, gathering an IP address through DHCP, and resolution of names for DNS services. This gives IT organizations end-to-end visibility into problems before they escalate as metrics are monitored in real-time, and also captured through on-demand or scheduled testing for predictive insight.

AppRF provides deep visibility into common applications and web traffic on the network to ensure mission-critical apps get priority, users are not visiting risky sites, or for simply gauging usage patterns. A dedicated UCC dashboard provides granular visibility into Unified Communications applications such as Skype for Business and all Wi-Fi calls traversing your network.

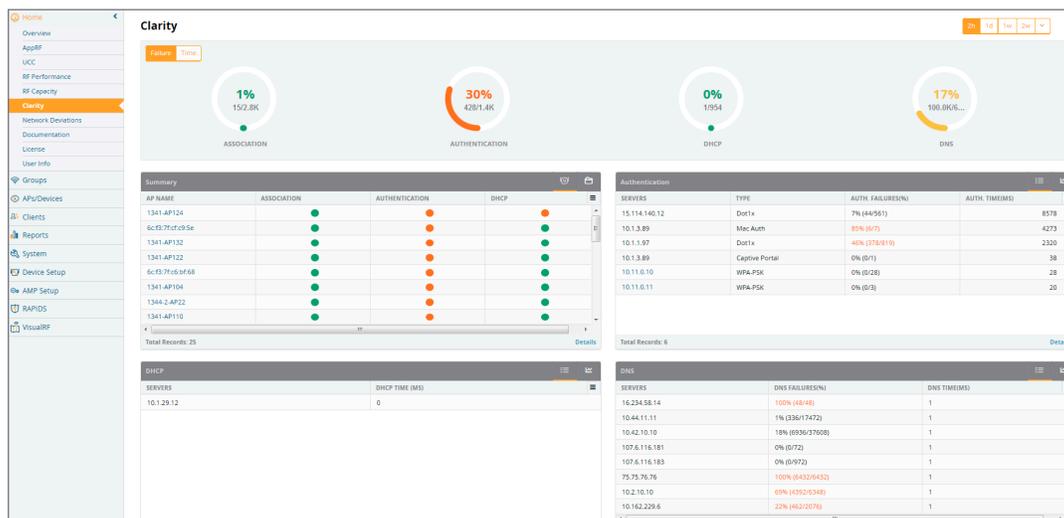


Figure 1: Insight into Non-RF metrics impacting users.

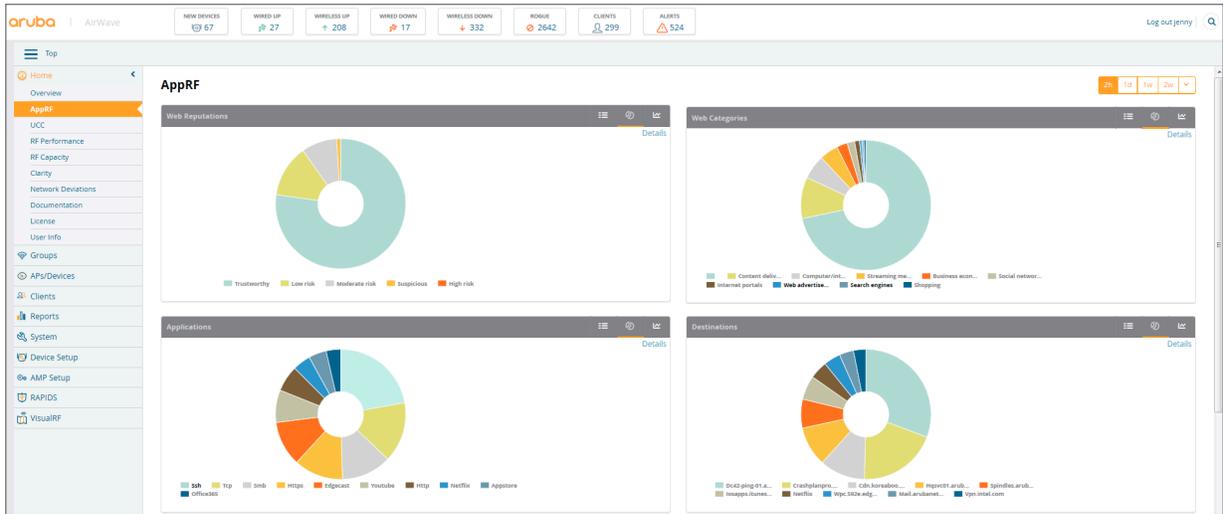


Figure 2: Granular visibility into apps and web traffic.

VisualRF™ location and mapping offers network-wide views of the entire RF environment. Maps of Wi-Fi coverage and the underlying wired topology show a clear and accurate picture of who is on the network, their location and how the network is performing. Additionally, overlays of client health and application performance can help to quickly diagnose issues specific to a client, a floor plan or specific location.

Our AirWave RAPIDS™ rogue detection works with our RFPProtect™ wireless intrusion protection software module to collect data and mitigate issues with rogue APs, rogue clients and wireless intrusion events across wired and wireless networks. The wireless data collected by RAPIDS is correlated with wired network data to identify the most significant and relevant threats, while greatly reducing false-positives and strengthening network security.

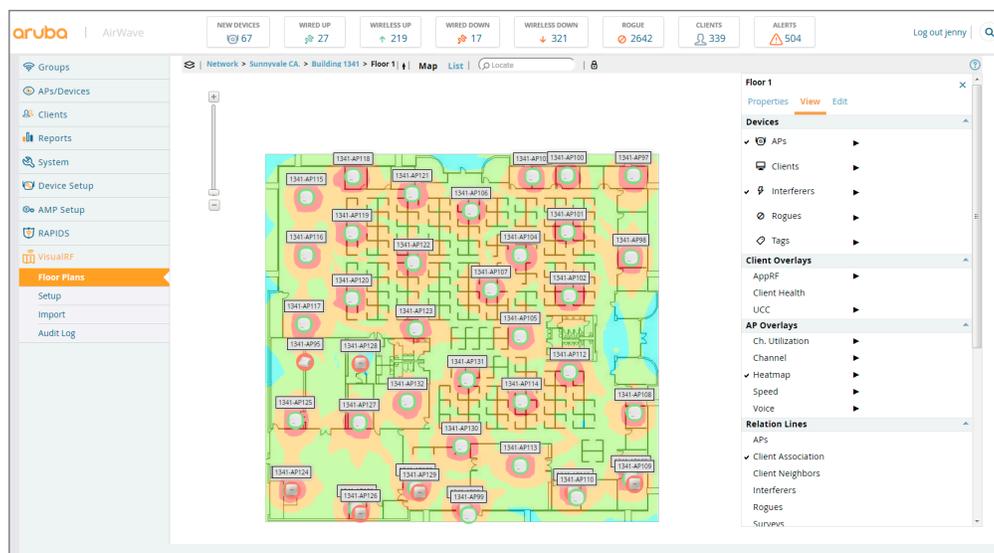


Figure 3: Network-wide visibility and location mapping.

ATTACK	LAST 2 HOURS	LAST 24 HOURS	TOTAL
Adhoc Network Using Valid SSID	0	1	1
AP Flood Attack	230	2870	4960
AP Spoofing Detected	0	1	1
Block ACK Attack	23	171	259
Client Flood Attack	200	2132	3694
CTS Parsers Rate Anomaly	5	33	61
Death Broadcast	0	1	5
Disconnect Station Attack	4	27	58
FAT/jack Attack	44	194	339
Hotspotter Attack	1	7	13
HT 40MHz Interference	26	110	178
HT Cochannel Interference	0	2	2
Information Element Overflow	16	198	354
Invalid Address Combination	15	101	203
Invalid MAC OUI	97	1044	1739
IP Spoofing	1	3	5
Malformed Association Request	15	155	282
Malformed Frame - Large Duration	30	265	467
Malformed HT Information Element	7	23	49
Node Rate Anomaly	0	1	1
Null Probe Response	1	4	6
Omerta Attack	0	1	2
Power Save Dfs Attack	58	288	556
RTS Parsers Rate Anomaly	2	28	46
Station Associated to Rogue AP	6	42	111
Station Unassociated from Rogue AP	7	55	98
Unencrypted Data Frame Detected	666	3892	7463
Valid Client Misassociation Detected	151	1029	2245
Valid SSID Violation	0	14	20
WEP Misconfiguration	0	14	14
Wireless Bridge Detected	25	393	605
31 Attack Types	1630	13124	23922

SEVERITY	CATEGORY	SCOPE	ATTACK	DETAIL	COUNT	ATTACKER	TARGET	TIME	AP/DEVICE	RADIO	CONTROLLER	SSID
Low	Policy Compliance Issue	AP or Client	Wireless Bridge Detected	Wireless Bridge Detected	-	34-A0-4E:55:7D:80	01:08:85:00:00:00	2/19/2016 4:33 PM PST	AP125-TE	802.11n	ethernet/1322.portHalo	-
High	Anomalous Behavior	Client	Unencrypted Data Frame Detected	Unencrypted Data Frame Detected	-	AC:A3:1E:55:90:90	88E8:56:89:A6:2D	2/19/2016 4:33 PM PST	1341.AP124	802.11n	Chocchaggon	-

Figure 4: Detect more than 25 types of wireless attacks.

Available as software or a combined hardware and software appliance, AirWave gives IT the power to make intelligent, well-informed decisions about the network while reducing cost and complexity of improving service quality.

REAL-TIME MONITORING AND VISIBILITY

- Automatically track every user and device – wireless and remote – on the network.
- Gain visibility into clients associated to network including location, SNR, connection speed and more.
- Measure response times and failures rates for client association with Wi-Fi radio, authentication with a RADIUS server, gathering IP address through DHCP, and resolving names for DNS services.
- Monitor wired infrastructure that connects wireless controllers and APs.
- View radio and RADIUS errors, including noise floor and channel utilization information, frequent causes of connectivity problems.
- Drill down rapidly from network-wide to device-level monitoring views.
- Track RF performance, capacity and application-level statistics, web traffic as well as network deviations over a 40-week period.

DEVICE DISCOVERY

- Automatically discover WLAN infrastructure devices.
- Operate in any network environment, including large distributed networks with multiple locations.

TROUBLESHOOTING AND DIAGNOSTICS

- View client device data from ArubaOS, Aruba Instant and Aruba ClearPass Policy Manager including device type, operating system, operating system details, manufacturer and model.
- Search for clients by user name or MAC address for a diagnostic view of device and network statistics along with indicators to evaluate overall health and performance.
- Overlay client health on a floor plan to diagnose issues specific to the client or to an area on a floor plan.
- Easily diagnose RF issues in the network for advanced RF troubleshooting.

ROOT CAUSE ANALYSIS AND EVENT CORRELATION

- Map upstream relationships between APs, controllers and switches to identify the root cause of downtime and performance problems.
- Correlate performance and downtime issues to send only a single alert in the event of an upstream device failure.

CONFIGURATION MANAGEMENT

- Automatically configure APs, controllers, Aruba Instant, and Aruba Switches.
- Define configuration policies through a web user interface or by importing known-good configuration from an existing device.
- Configure Aruba Instant APs to provision a large number of branch locations with ease. Manage configurations across multiple locations with tools like adding notes, and overrides, as well as multi-edit and context-sensitivity support.
- Eliminate time-consuming and error-prone manual updates with efficient remote software distribution.
- Support advanced firmware image upgrades with features such as enforcing certified versions by group, splitting-up image downloads and reboot processes, as well as support for scheduling of firmware upgrades or change configurations to occur during off hours.
- Archive device configurations for auditing and version control. Additionally, archive device configurations and flash backups to restore previous state and configuration of Aruba controllers.
- Maintain detailed audit logs of changes made by all AirWave operators.

BETTER NETWORK PLANNING AND PROVISIONING

- VisualRF and the offline VisualRF Plan tool allow quick planning of RF and wired coverage for new sites.

MANAGE LATEST TECHNOLOGIES, ARCHITECTURES AND PRODUCTS

- A single management interface for multiple generations of devices.
- Support autonomous, controller-managed and mesh APs, including outdoor Aruba AirMesh.
- Monitor wired edge devices using standard MIB data.
- Generate reports on wired port utilization for capacity planning.
- Support latest ArubaOS and ArubaOS-Switch management capabilities.

EASY-TO-USE WEB INTERFACE

- Role-based access, viewing rights and administrative privileges tailored to job responsibilities.
- Custom graphs of key information allow for pan and zoom for visibility into specific periods of time.
- Identify and search for users by user name.
- Client overview summarizes the types of clients attached to the network and provides visibility into watched or VIP clients.
- Multiple dashboard views provide visibility into every aspect of RF, clients, apps and network services.

HARDWARE PLATFORMS

The following hardware platforms are designed and tested to run AirWave, to ensure compatibility and performance. Two available models are:

- Pro version supporting up to 1,500 managed devices
- Enterprise version supporting up to 4,000 managed devices.

Category	Pro Appliance	Enterprise Appliance
Appliance Specifications		
CPU	8-core 2.6 Ghz HPE DL360 Gen9 E5-2640v3	2 8-core 2.6 Ghz HPE DL360 Gen9 E5-2640v3
Memory	48GB	96GB
Storage	6 300GB 12G SAS 15K 2.5in SC ENT HDD	8 300GB 12G SAS 15K 2.5in SC ENT HDD
Appliance Scalability		
Maximum Managed Devices	1,500	4,000
Power		
Power	500W FS Plat Hot Plug Power Supply	500W FS Plat Hot Plug Power Supply
Power Supply	Optional redundant power supply	Optional redundant power supply
AC Input Voltage	110/220 VAC Auto-Selecting	110/220 VAC Auto-Selecting
AC Input Frequency	50/60 Hz Auto-Selecting	50/60 Hz Auto-Selecting
Physical		
Rackmount	1U SFF Easy Install Rail 1U Cable Management Arm	1U SFF Easy Install Rail 1U Cable Management Arm
Dimensions (H x W x D)	1.7 x 17.1 x 27.5 inches (4.32 x 43.47 x 69.85 cm)	1.7 x 17.1 x 27.5 inches (4.32 x 43.47 x 69.85 cm)
Weight	33.3 lb. (15.31 kg) max	33.3 lb. (15.31 kg) max
HP SmartDrives	8 + 2 SFF/4 LFF max, HDD/SSD	8 + 2 SFF/4 LFF max, HDD/SSD
Networking	4 x 1GbE embedded + FlexibleLOM slot	4 x 1GbE embedded + FlexibleLOM slot
VGA/serial/USB ports	Front VGA opt, rear VGA standard, and serial opt., 5 USB 3.0	Front VGA opt, rear VGA standard, and serial opt., 5 USB 3.0
GPU support	Two single-wide and active to 9.5" in length, up to 150 W each	Two single-wide and active to 9.5" in length, up to 150 W each
Industry compliance	ASHRAE A3 and A4, lower idle power	ASHRAE A3 and A4, lower idle power
Warranty		
Hardware	1 year parts and labor (onsite repair)	1 year parts and labor (onsite repair)
Software	90 days	90 days

ORDERING INFORMATION

Part Number	Description
LIC-AW	Airwave License for One (1) device. Includes RAPIDS and VisualRF. Order in multiples of this license SKU based on the desired device count to be supported in Airwave deployment.
AW-25-FR	AirWave failover software license for 25 devices
AW-50-FR	AirWave failover software license for 50 devices
AW-100-FR	AirWave failover software license for 100 devices
AW-200-FR	AirWave failover software license for 200 devices
AW-500-FR	AirWave failover software license for 500 devices
AW-1000-FR	AirWave failover software license for 1,000 devices
AW-2500-FR	AirWave failover software license for 2,500 devices
AW-EXF1-50	AirWave failover expansion license for one additional AP/device for systems with 50 or greater existing device licenses
AW-EXF1-2500	AirWave failover expansion license for one additional AP/device for systems with 2,500 or greater existing device licenses
AW-MASTER	AirWave software license to manage multiple AirWave servers from a single console
AW-HWDL360-PRO	Pro Edition Hardware appliance with 48GB RAM
AW-HWDL360-ENT	Enterprise Edition Hardware appliance with 96GB RAM
AWCP-DL360-PSU	Optional redundant power supply
SA1-AW-HW-PRO	Next day support for Pro Edition hardware appliance (1 Year)
SA2-AW-HW-PRO	Next day support for Pro Edition hardware appliance (2 Year)
SA3-AW-HW-PRO	Next day support for Pro Edition hardware appliance (3 Year)
SA1-AW-HW-ENT	Next day support for Enterprise Edition hardware appliance (1 Year)
SA2-AW-HW-ENT	Next day support for Enterprise Edition hardware appliance (2 Year)
SA3-AW-HW-ENT	Next day support for Enterprise Edition hardware appliance (3 Year)



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