

FEATURES

Versatile Functionality

- Dual-function access points provide simultaneous user access and RF monitoring across the 2.4 Ghz and 5 Ghz RF spectrums
- Dual-band capabilities provide wireless LAN connectivity for 802.11a, 802.11b and 802.11g
- Voice-aware scanning ensures quality of service for wireless voice-over-IP sessions
- Dual Ethernet ports permit dual-homing and hitless redundancy, while USB ports support enhanced RF and other service extensions
- Advanced triangulation technology delivers industry-leading location tracking

Easy to Deploy and Manage

- "Thin" access points are centrally configured by the Aruba mobility controller
 - Upgrades to new standards and features are handled automatically
 - No sensitive information stored on AP
- Plug-and-play connectivity has no impact on existing wired infrastructure
 - Aruba Discovery Protocol provides automatic AP discovery over any IP network
 - Secure IP connection allows automatic download of AP configuration
 - Deployment requires no additional VLANs
 - Standards-based 802.3af power over Ethernet
- Centralized calibration of wireless environment maximizes coverage and performance while minimizing interference
- Antenna diversity allows best possible signal processing

Advanced Security Features

- Active identification and classification of wireless devices and users provides unprecedented control and security
- Secure access for both wired and wireless users available on select models

Excellent for Remote Office Use

- Remote AP functionality allows secure wireless connectivity over public networks using IPsec
- Remote packet capture capabilities enable centralized wireless troubleshooting

Adaptable Installation Alternatives

- Fixed, detachable and combined fixed/detachable antenna options
- Plenum rated

Aruba 802.11a/b/g Access Points



The Aruba Networks family of next-generation, multi-purpose access points (APs) is designed to meet the needs of any enterprise wireless LAN (WLAN) deployment. Aruba APs include single and dual-radio 802.11a/b/g models with a variety of fixed and detachable antenna options.

All Aruba APs function as "thin" APs. Upper layer media access control (MAC) processing functions, such as encryption and authentication, are integrated into Aruba mobility controllers, making Aruba APs more cost-effective and easier to deploy and manage. Aruba APs can simultaneously service wireless users and act as wireless monitoring devices. This dual functionality eliminates the need for a separate overlay of RF sensors to troubleshoot and optimize the wireless environment.

Aruba APs work exclusively with all Aruba mobility controllers to provide a high performance, centrally managed wireless mobility solution for enterprises. Aruba APs automatically configure themselves across any IP network using the Aruba Discovery Protocol, allowing easy upgrades when new features, capabilities or standards emerge and increasing their lifespan.

All plenum rated, Aruba APs are small and lightweight, and can be securely deployed in a variety of convenient locations such as on walls, cubicles, desktops and in the ceiling. Antenna diversity allows for the best possible signal processing.

Designed exclusively for use with Aruba’s mobility controller system, Aruba APs offer flexible deployment options for building structured wireless environments that provide high performance, unparalleled security, plug-and-play installation and automated management.

Unlike conventional APs, Aruba APs function simultaneously as access points and air monitors, and are designed to be managed as part of a complete centralized wireless system.

THIN IS IN

Aruba access points are “thin” APs that provide 802.11a/b/g user access, but are not overburdened with processing-intensive functions, such as wireless user authentication, link layer encryption, VPN client termination and upper layer MAC services, better suited for a purpose-built processing system.

Moving these functions into a centrally-located Aruba mobility controller gives administrators greater control, better scalability, higher performance and the ability to easily make system-wide changes as standards and security schemes change. Additional benefits include better support for roaming and low-latency (sub 5 millisecond) handoffs between APs, making the Aruba system ideal for handling delay-sensitive applications such as voice-over-wireless.

ADAPTIVE RADIO MANAGEMENT (ARM), RF PLANNING, DYNAMIC CALIBRATION AND ADVANCED TROUBLESHOOTING

With previous generations of WLAN technology, AP deployment was an expensive proposition. Corporations had to painstakingly undertake extensive RF planning, complete site surveys, and climb into ceilings to run new cabling and mount the APs. In turn, APs were deployed sparingly. Aruba APs change this deployment model through Adaptive Radio Management (ARM) technology.

To ease implementation, Aruba combines online RF planning tools and ARM for fine tuning and automated performance and capacity optimization. Aruba’s RF planning gives administrators the power to quickly provision APs based on coverage, performance or resiliency requirements. IT staff can import floor plans and automatically determine the placement of APs and air monitors. Once the network is deployed, administrators can use ARM to automatically perform system-wide calibration, determine the actual propagation characteristics of RF signals and set AP transmit power and channel assignments to desired levels.

In addition, the Aruba system uniquely provides automatic tuning of the mobile environment through sophisticated system calibration and distributed radio resource allocation technologies. Aruba APs constantly scan the ambient radio environment to determine coverage holes, interference and congestion. If discovered, Aruba APs can automatically change channel assignment or power transmit levels to ensure optimal operation and report these changes back to the mobility controller. In the event of a failure, the Aruba system automatically alters adjacent AP settings to ensure no loss of WLAN service occurs.

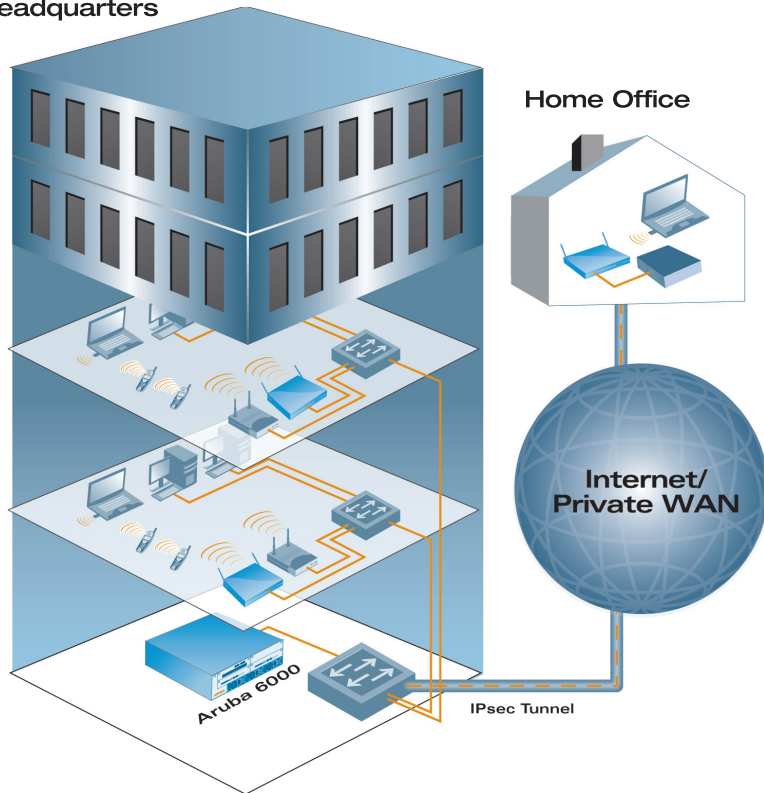
FEATURE	BENEFIT
Multi-purpose functionality	Provides user access with simultaneous support for 802.11a, 802.11b and 802.11g Constant monitoring of the air to protect against unwanted wireless intrusions Immediate access to wireless RMON stats 2.4 Ghz and 5 Ghz RF spectrum
Thin AP	Enables all authentication, security and mobility to be performed by centralized controller Eliminates need for AP VLANs everywhere Lower cost Easy upgrades Enhanced security that can be scaled for the entire system at the controller
Plug and play	Auto-configuration of L2/L3 networks Configuration-free deployment No logical or physical re-configuration of existing wired network
Programmable	New features and capabilities, such as additional byte patterns for the detection of new attacks and new encryption technologies, can be added via software Third-party plug-ins supported
Secure remote deployment	Uses IPsec tunneling between the AP and switch enabling secure remote connectivity across an untrusted network such as the Internet
802.3af PoE support	802.3af power as well as serial (RS-232) over Ethernet can be provided from any Aruba controller No additional cabling
Plenum rated	Can be easily deployed in harsh environments including the space above dropped ceilings
Flexible deployment options	In the ceiling, wall mounted or on the desktop
Integral and detachable antenna options	Directional and omni-directional dual-band high-gain antenna for indoor and outdoor applications
Remote packet capture	Dynamically captures wireless traffic for remote troubleshooting
Antenna diversity	Allow for best possible signal processing

For manual troubleshooting, Aruba’s APs support packet capture and provide wireless RMON capabilities, letting administrators quickly diagnose and resolve wireless problems.

ZERO CONFIGURATION, PLUG-AND-PLAY DEPLOYMENT

Aruba APs are completely plug-and-play, requiring no manual configuration. Aruba APs can be attached to any existing Ethernet switch or IP router and across any subnet boundary. Once connected, Aruba APs self-configure by automatically building a secure IP (GRE or IPsec) tunnel to the Aruba mobility controller. The controller automatically configures each Aruba AP based on the policies and

Corporate Headquarters



Secure wireless connectivity over public networks

configurations set by the administrator. This automation dramatically simplifies operation and eliminates the need for reconfiguring the existing network.

Aruba also eliminates unwanted latency and complexity associated with having to “pre-authenticate” mobile clients, a new concept introduced by 802.11i. Pre-authentication requires complex state information to be exchanged between all possible APs to which a client might roam. Because Aruba centralizes encryption and authentication, all state information is managed at a single point for the entire system.

UNPARALLELED SECURITY

Acting as an air monitor, Aruba APs deliver 100 Mbps of intrusion analysis and relay alerts back to the Aruba mobility controller. Aruba APs detect and thwart rogue APs and wireless intrusions such as DoS and man-in-the-middle attacks.

Conventional WLAN systems decrypt wireless traffic at the AP and store electronic keys derived from the requisite exchanges performed between the client and the authentication server of each AP. Local storage of this information poses serious security risks for large corporations if an access point is lost or stolen, or if a fake AP or man-in-the-middle attack is launched.

Because Aruba APs are managed by the Aruba mobility controller, no critical configuration information, such as passwords, encryption keys or digital certificates, is stored on the APs. If APs are lost or stolen, no sensitive information can be obtained.

SECURE REMOTE OFFICE DEPLOYMENT

Aruba APs can be securely deployed in a remote office, letting IT staff easily extend their corporate 802.1x framework across the Internet. Aruba APs use the industry-standard IPsec protocol to create secure tunnels and connect to a central mobility controller. Tunneling traffic inside IPsec prevents an attacker from intercepting messages between the controller and AP, allows APs to be deployed across an untrusted network, and enables an AP to be deployed with a Network Address Translation (NAT) device between it and controller. Remote office security policies are centrally defined and enforced on the mobility controller. Secure remote APs appear as another AP on the system with the same features and functions as other centrally managed APs. RF planning and dynamic calibration ensures best possible coverage and performance.

ADVANCED WIRELESS CAPABILITIES

Aruba’s mobility system supports a host of advanced functionality to enable latency-sensitive applications. For example, Aruba APs work in conjunction with Aruba mobility controllers to support voice-aware scanning. When a voice session is detected, this feature ensures that the voice call is given priority service.

Aruba’s mobility system offers many other unique capabilities for optimizing the wireless environment such as setting user thresholds per AP, defining and enforcing bandwidth contracts per user or user group, and the ability to broadcast up to eight discrete SSIDs per radio. Granular controls over the APs let administrators enable AP and client DoS protection, set channel scan times and frequencies, and control beacon periods, RTS thresholds, SSID availability, DTIM periods and maximum client levels.

The screenshot shows the Aruba Configuration web interface. The top navigation bar includes Monitoring, Configuration, Diagnostics, Maintenance, Plan, Events, Reports, Save Configuration, and Logout. The main content area is titled 'RF Management > Optimization > ARM'. On the left, a sidebar menu lists various configuration categories: Switch, WLAN, RF Management, Security, and WLAN Intrusion Protection. The 'RF Management' section is expanded to show 'Optimization' settings. The 'Adaptive Radio Management' section includes a table of settings:

Setting	Value
Minimum scan time for a channel to be considered for assignment (secs)	8
AP Wait Time after detecting change in channel or power (secs)	15
AP Backoff Time after asking for new channel/power (secs)	240
Ideal Coverage Index	5
Acceptable Coverage Index	2
Free Channel Index	25
Error rate threshold	20
Error rate wait time	5

Buttons for 'Clear' and 'Apply' are visible below the table. A 'Commands' section with a 'View Commands' link is also present.

Adaptive Radio Management eases planning, calibration and optimization of WLANs

ARUBA ACCESS POINTS



THE ARUBA AP 60 AND 61 are single radio, 802.11a or b/g APs designed for dense wireless deployments. The Aruba 60 and 61 deliver superior capacity, performance and coverage.

Controlled by Aruba mobility controllers, the software-programmable Aruba 60 and 61 APs are able to act as wireless access devices, RF monitors or both simultaneously. The Aruba 60 and 61 eliminate the primary obstacle to dense deployments—the high cost of installing and managing APs in the ceiling. The Aruba 60 and 61 APs can be connected to existing network ports and wall or desk mounted. By significantly lowering the cost to deploy APs, companies can now implement a performance-based enterprise WLAN.

- Supports 802.11a or b/g
- Two RP-SMA connectors for support of a wide variety of detachable antennas (Aruba 60)
- Two integral tri-band omni-directional high-gain antennas with 90 degree movement (Aruba 61)
- 802.3af-compliant Power over Ethernet (PoE)
- Configurable as AP, air monitor or both simultaneously
- Kensington lock interface
- Antenna diversity

(See Aruba 60/61 spec sheet for more technical detail)

THE ARUBA 70 is the industry's first dual-radio "hybrid" access point that provides concurrent operation of 802.11a and 802.11b/g services, as well as secure wired access through an additional Ethernet port. The Aruba 70 is a multi-purpose device that can function both as an access point and as an RF monitor—either independently or concurrently—across the 2.4 GHz and 5 GHz spectrums. Ideally suited for workspace deployment, the Aruba 70 can be securely wall or desk-mounted.

- Concurrent support for 802.11a and 802.11b/g services
- Up to 256 users/station capacity per AP
- Two integral omni-directional high-gain antennas with 180 degree rotation
- Four RP-SMA connectors (2 x 2.4 GHz, 2 x 5 GHz) for support of a wide variety of detachable antennas
- Additional USB port for future-proofed expandability and flexible service expansion
- 802.3af-compliant Power over Ethernet (PoE)
- Configurable as AP, RF monitor or both simultaneously
- Kensington lock interface

(See Aruba 70 spec sheet for more technical detail)

ARUBA

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