Mobile IP Telephony

Aruba’s solution for offering mobile voice services, gives network managers the most secure and the highest-performing Voice-over-WLAN (VoWLAN) support, enabling voice-capable, mobile devices on the same infrastructure used for data. VoIP is a demanding traffic type, requiring very low delay and packet discard rates, and very short interruptions when the call is handed-over from AP to AP. Because the Aruba architecture maintains centralized context for both QoS and security, it can easily follow voice users as they move through the network. This makes Aruba an ideal infrastructure for supporting scalable and secure converged networks that enable both voice-over-Wi-Fi (Vo-Fi) and mobile data applications.

Comprehensive Security

The Aruba solution restricts the user or voice device to only those privileges defined by the network administrator. This is especially important as many of today’s voice handsets support only rudimentary security and authentication capabilities. Aruba’s policy enforcement firewall prevents voice devices from sending non-voice traffic into the network, and can be configured to automatically disconnect devices that violate these policies.

Superior Voice and Quality Scalability

Voice quality suffers when voice packets are delayed or dropped, usually when links are congested with a combination of voice and data traffic. Obsessive attention to every link in the call path allows the Aruba solution to automatically identify voice packets and set a high-priority on the associated traffic stream. QoS over the wireless link is performed using standard 802.11e/ WMM or vendor specific protocols (e.g. SpectraLink SVP). On the wired side, the relative priority is advertised using 802.1p and DSCP tagging that also ties into the queuing mechanisms on Aruba mobility controllers and APs. Because the Aruba architecture maintains centralized context for both QoS and security, it can easily follow voice users as they move through the network. Aruba offers industry leading performance, supporting up to 150 concurrent voice calls per AP in a mixed environment handling voice and data traffic~10 times the scale of other vendors.

Ultra-Fast Roaming

Aruba supports ultra-fast roaming (i.e. <10 ms) for standard Wi-Fi certified clients. Low latency handoff between APs is critical to maintaining good voice quality. Aruba’s centralized architecture allows for leading voice quality and scalability measured independent tests.

Highlights

• Comprehensive security allows open voice support without giving up full network protection
• An infrastructure for progressing to Fixed-Mobile-Convergence (FMC)

Benefits

• Gives users the freedom of voice mobility, increasing productivity
• Lower cost and better building coverage than cellular
• Single infrastructure for voice and data results in lower infrastructure costs
• Centralized overlay deployment minimizes deployment and management OPEX
• No need to run Power over Ethernet (PoE) to desktop handsets, reducing costs over wired VoIP
• New voice services made possible by combining VoIP with location tracking
maintains all client state information in a central mobility controller. When a client roams from one AP to another, the mobility controller simply updates internal tables for the user’s location. Because no change in user state is required, this results in the fastest possible roaming times.

Voice Awareness with Voice Flow Classification (VFC)

Automatic voice traffic classification is provided by Aruba’s policy enforcement firewall. ArubaOS software can statefully follow many of the voice-over-WLAN signaling protocols such as, SIP, SVP, Alcatel NOE, SCCP and Vocera. This allows the network to implement a number of unique features. For instance, when a SIP device first attempts registration, the firewall can follow its signaling streams and delay full access until the SIP server has successfully authenticated the device. Since SIP signaling delays elsewhere in the network can result in call setup delays, Aruba has implemented ‘early media’ (RFC3960) to send ringing tone ahead of media streams.

Call Admission Control

Call Admission Control is a feature unique to Aruba that prevents any single AP from becoming overly congested with voice calls. While most WLAN implementations solve congestion problems by relying on well-behaved clients that understand AP load advertised in beacons, or proprietary methods that only work with one vendor’s clients, Aruba has a simple, accurate solution. Since Voice Flow Classification gives the firewall knowledge of which clients are on a voice call, ArubaOS allows direct control of the upper limit of calls per AP. Once that threshold is reached, other voice devices in that cell are load-balanced to adjacent cells, avoiding disruption of calls in progress.

Extensive Interoperability

A wide choice of handsets and PBX options is becoming available thanks to the SIP protocol. Virtually every IP-PBX today supports SIP clients, including WLAN clients, allowing the integrator and network manager to mix-and-match handsets and softphones with different vendors’ PBXs. This includes dual-mode devices that support cellphone and Vo-Fi functionality. This high degree of interoperability, tested extensively and certified with multiple voice vendors, assures network administrators of future compatibility without single vendor lock-in.

Voice Statistics

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