

MICROSOFT CORPORATE HEADQUARTERS RUNS LYNC OVER ARUBA WI-FI



As one of the world's largest software companies, Microsoft depends on its IT infrastructure to enable and facilitate communications and collaboration between employees, customers, vendors, and partners. As one of the world's leading unified communications solution vendors, Microsoft has high expectations for the performance and robustness of the IT infrastructure on which its Microsoft Lync application runs.

So when it came time to roll out Lync voice and video services over Wi-Fi at Microsoft's own headquarters in Redmond, Washington, the bar was set high. Very high. Especially since the first two buildings to be deployed – Buildings 30 and 31 – house the Lync development team and executive management. Any problems would impact 400-600 team members responsible for designing and managing Lync.

Buildings 30 and 31 include a total of 167 Aruba AP-135 Access Points, a two radio 802.11n design that features 3:3 MIMO. The access points are managed by an Aruba 6000 M3 Controller running Aruba OS 6.1.3.4. These products, as well as Aruba's other controllers and dual-radio access points, are Lync qualified by Microsoft, the only Wi-Fi solution to be so honored.

Two versions of Microsoft Lync are used: the commercially available Microsoft Lync Server 2010 and the newer Lync Server 2013. Not surprisingly, these run on a wide range of multimedia client devices across the two buildings. These include Windows 7 and 8 laptops and tablets, Windows Phone 7 and 8, Macs, iPhones, iPads, and Android smartphones. All of the client devices support IPv4, and roughly 50% also run IPv6.

“Access points are deployed to support a dense client environment, with each access point serving a cell size of 18x18 meters or 60x60 feet,” said Victoria Poncini, Microsoft's IT Technology Architect. “Every access point supports an average of twenty users, each with three devices: a smartphone, a tablet, and a laptop. To ensure that coverage continues should an access point fail, access point spacing provides a 25% overlap between adjacent cells. Aruba's Adaptive Radio Management is used to adapt to the dynamic RF environment and multimedia Wi-Fi bandwidth needs.”

REQUIREMENTS:

- Enables Lync Mobility for Buildings 30 and 31 at Microsoft's headquarters in Redmond, Washington
- Provide high-reliability pervasive Wi-Fi to increase collaboration and productivity
- Secure voice and video over wireless support

SOLUTION:

- Aruba 6000 Chassis
- Aruba M3 Controller
- Aruba AP-135 802.11n Access Points
- Aruba Policy Enforcement Firewall

BENEFITS:

- Seamless mobility for the Lync development team and executive management
- Toll-quality voice
- High density client support with 3 multimedia devices per user
- Primary form of network access for 600 users



Adaptive Radio Management (ARM) automatically optimizes performance and reliability, even in high-density environments. ARM's ability to minimize contention, improve airtime fairness, and enhance the user experience is crucial as the number of devices per employee grows.

The performance of Lync services on wireless client devices is dependent on the capabilities of the networks over which they operate. In particular, there are profound differences in how wireless network vendors deliver Quality of Service (QoS) for real-time, latency sensitive applications like Lync voice and video.

Legacy networks map applications to a specific wireless SSID and VLAN with QoS tailored to that application, e.g., a wireless tablet would be mapped to a data VLAN. This design is problematic when a multimedia device, like a tablet, switches applications from data to video conferencing, or runs both at the same time.

Aruba overcomes this issue by crafting networks that are user-, device-, and application-aware. Deep-packet inspection identifies, isolates, and prioritizes real-time traffic, differentiating between multiple applications flows originating within a single device. Using just a single SSID, QoS can be applied based on the applications that run on each device without relying on separate VLANs.

This application-awareness extends to encrypted Microsoft Lync traffic, where heuristics pinpoint voice and video packets and apply the right network settings and policies. To ensure end-to-end QoS over both wired and wireless networks – since they're normally used in concert – the Aruba network assigns both wired DiffServ codepoint (DSCP) tags and Wi-Fi Multimedia (WMM) tags.

"The effectiveness of application-awareness is readily observable," continued Poncini. "The system averaged 16,000 call records over a thirty day period with greater than 96% toll quality, a fifty percent improvement over the legacy network. The network is delivering Lync services as the designers intended, with full fidelity and end-to-end quality of service."

For additional information about how Aruba Wi-Fi enables Lync mobility, please go to www.arubanetworks.com/solutions/mobile-unified-communications or contact lyncready@arubanetworks.com.

ORGANIZATION OVERVIEW

Founded in 1975, Microsoft (NASDAQ: MSFT) is the worldwide leader in software, services and solutions that help people and businesses realize their full potential.



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