

PARTNER SOLUTION OVERVIEW

# ARUBA & MICROSOFT

## Work Smart: Microsoft Skype for Business and 365 for Enterprise Collaboration

An effective enterprise Unified Communication (UC) solution combines real-time and non-real-time enterprise services – including instant messaging, voice and video conferencing, desktop sharing, file transfer, instant messaging, voicemail, and on-line meeting management – into a single system with a common user interface.

Enterprise businesses require a complete solution that allows you to perform multiple tasks from a single application which enhances the user experience, boosts productivity by eliminating the need to switch between multiple applications, and simplifies IT workloads by doing away with the management and support of separate solutions.

### THE MICROSOFT TIMELINE

When Microsoft transitioned from Office Communicator (OCS) to Lync in 2011, it fundamentally changed the role of Unified Communications and Collaboration (UCC) in the enterprise. Lync's functionality and ease of use were unprecedented, which prompted large enterprises to deploy Lync as a productivity tool on a massive scale. The introduction of Lync clients for iOS and Android during the rebranding of 2014 Skype for Business untethered employees from their laptops and cut the cord to wired IP phones on a broad scale.

### WHY ARUBA & MICROSOFT?

- Microsoft application prioritization on Aruba infrastructure for reliable enterprise performance
- Heuristics features to improve call reliability
- In-flight call monitoring to ensure improved user experience
- Custom developed SDN API for Microsoft Skype for Business traffic

Microsoft shook up the enterprise market again with the introduction of Office 365, now called Microsoft 365. This cloud-based service minimized the need to run applications locally, relying instead on highly responsive cloud access and storage for enterprise applications.

Together, Aruba and Microsoft have partnered to deliver a unified communications solution for today's mobility-centric enterprise, where connectivity and reliability for collaboration tools and applications are a requirement.

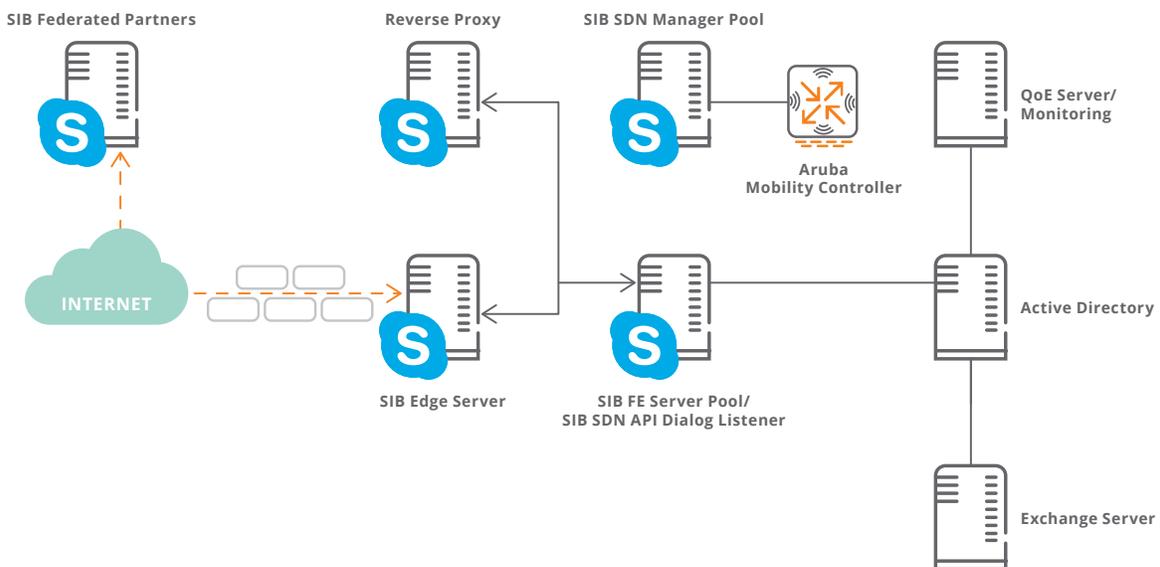


Figure 1: Aruba Wireless integration with Microsoft Skype for Business

## SOLUTIONS FOR THE MOBILE-CENTRIC ENTERPRISE

Properly implementing these applications and services now requires a different way of architecting networks because of the new demands placed on the wired and wireless infrastructure. Aruba and Microsoft's solutions address these needs in five key areas:

- Application prioritization
- Quality of Service
- Monitoring and diagnostics
- Service prioritization
- User Experience Visibility

### Application Prioritization

Today, work, collaboration, and creativity are fostered by untethered mobility. Because Wi-fi bandwidth is a limited and shared commodity, it's important to ensure that business-critical applications can be prioritized over social media and lesser priority apps.

Aruba features a deep packet inspection engine as part of our built-in **Policy Enforcement Firewall** (PEF) that can identify thousands of different mobile applications as soon as they're launched – including Skype for Business, Microsoft 365, and Azure. When a business-critical application is recognized, the network automatically establishes a bandwidth contract to reserve sufficient bandwidth for proper operation. Non-critical applications are given bandwidth prioritization to deliver the best possible experience needed without compromising their performance.

This allows for reliable UC applications – anytime, anywhere – even if surrounded by gamers and social media mavens.

### Quality of Service (QoS)

Microsoft's UC and productivity applications utilize end-to-end encryption to protect confidentiality and privacy. This unfortunately breaks QoS mechanisms on typical wired and wireless networks as they are unable to differentiate between non-critical and latency-sensitive traffic – which, when mis-tagged, results in bad voice and video quality.

Aruba has addressed this issue by developing a heuristics feature that can identify latency-sensitive traffic without decrypting it. The heuristics feature is a standard component of Aruba's secure mobility infrastructure that correctly tags voice and video traffic, but also retags misidentified traffic originating from non-Aruba network infrastructure.

To quantify the benefit, customers with networks from competing vendors experiencing over 10% of call related problems will see that rate drop down to a fraction of a percent on an Aruba network.

### Monitoring & Diagnostics

Cutting the cord on wired phones also altered the use of monitoring tools. IT had relied on in-line tools to monitor call performance and diagnose the source of problems. For wireless, IT now required end-to-end call performance visibility, and variably-sized payload and dynamic port data, to isolate the root cause and remediate issues while calls are in flight.

Microsoft's UC solutions provide detailed call statistics and reports, but are unable to assess any impact on call quality from the network infrastructure itself. If IT cannot correlate poor call Mean Opinion Scores (MOS) to specific network, server, client, or client peripheral issues, then root cause analysis becomes highly challenging.

To address this issue, Microsoft and Aruba have developed a method to pull data directly from Wi-Fi access points, switches, remote VPN links and controller that is a combination of UC and network infrastructure performance data – no external probes required. Monitored data include:

- R-value
- Jitter
- Delay
- Packet loss
- Wi-Fi access point-to-controller packet loss
- Caller/callee identity mapping to MAC and IP address
- Call status
- Voice or video call type
- Client sessions active at the time of the call

This method allows the Aruba Central and Aruba AirWave management and operations solutions to display dropped calls, low MOS values, and performance degradation per user location and device. Aruba controllers and virtual controllers can then use these data to implement Call Admission Control (CAC) based on bandwidth and call count to boost available throughput, reduce dropped calls, minimize bandwidth oversubscription, and lower traffic congestion.

This results in a significantly improved user experience involving multimedia and latency-sensitive calls.

### Service Prioritization

Skype for Business incorporates a variety of different services – voice, video, file transfer, desktop sharing, and instant messaging. Depending on the application, some services are more important to the business than others. For example, in MRI clinics, high-speed image file transfer is more important than desktop sharing. In contrast, call centers value voice traffic more than file transfer.

Because of this, an Aruba developed SDN API for Microsoft traffic allows the Aruba wireless infrastructure to prioritize different Skype for Business services based on customer preferences. What this means is that network bandwidth can be preserved for high priority services while ensuring that all other services will be reliably delivered in order of preference.

### Enhanced User Experience Visibility

Network and data center monitoring tools are very efficient at overseeing the performance of system components, but they lack a window into the end user's experience when using cloud-based services like Microsoft 365 or Azure IoT. These tools also lack an end-to-end perspective as traffic leaves the client device, traverses the LAN, WAN, Internet, and data center networks, pings the application, and returns to the client.

Aruba's User Experience Insight addresses this gap. The solution is used to create tests that generate synthetic transactions – like Skype for Business, Microsoft 365, Teams, or Azure IoT calls – and monitor the performance of those transactions from the end-to-end perspective.

This provides early warning signs of pending user experience issues before they're impactful, identifies the root cause of the degradation, and allows SLAs to be validated in a way not previously possible. This mitigates the risks for organizations considering migrating to cloud-based Microsoft applications such as Microsoft 365, Teams, and Azure IoT.

The migration to cloud-based applications is forcing organizations to rethink how to assess user experiences when legacy tools simply aren't up to the task. Aruba's User Experience Insight includes a sensor that can be configured in minutes, works in any multivendor environment and uses an IT-friendly cloud-managed dashboard for the creation of tests and visibility of each sensor.

### SUMMARY

Aruba and Microsoft have a long history of introducing innovative technology that has a focus on delivering the best user experience for Microsoft UC and productivity applications running on Aruba's secure mobility infrastructure. As the adoption of cloud-based applications and untethered Ethernet cables prevail, the infrastructure and tools we employ must stay in lock-step.

Aruba's close collaboration with Microsoft ensures that together, we're prepared for today's and tomorrow's emerging needs. IT organizations now require solutions that include built-in intelligence, are easy to use, and offer real-time performance metrics that provide experience visibility from the user perspective.