TOP 10

Reasons to Deploy
Juniper EX Series Switches and Aruba WLAN Solutions for Microsoft Lync

Deploying Juniper Networks EX Series switches with Aruba WLAN solutions ensures that Microsoft Lync performs well across both wired and wireless networks, with the high availability—and minimal latency and jitter—required by a mission-critical unified communications and collaboration (UC&C) solution.

Microsoft Lync, Juniper Networks and Aruba Overview

Microsoft Lync Server 2013 is unified communications and collaboration software that offers instant messaging (IM), presence, conferencing, and telephony solutions that can support enterprise-level collaboration. Microsoft's strategic direction with Lync has been well aligned with the overall evolution of the enterprise UC&C industry, and this is reflected in its growth in market share. A recent TechTarget survey revealed that 19 percent of businesses have already implemented Microsoft Lync as their primary UC&C solution; another 7.5 percent have deployed it as their secondary UC&C solution; and still another 18 percent are in the process of testing it.[1] Microsoft reports that it is now shipping more enterprise voice lines than any other technology company in the world.[2]

Delivering a consistent and reliable UC&C user experience requires an intelligent, secure, and highly available converged IP network. To enable the increasingly popular bring-your-own-device (BYOD) policies being implemented at enterprises, the network must support mobility across a broad range of devices. In addition, the network must also provide high performance and availability, whether devices require wired or wireless access.

Network solutions from Juniper and Aruba offer a range of wired, wireless, and management tools that support Microsoft Lync. Juniper wired network solutions deliver a quality end-user UC&C experience for Lync, earning Microsoft Lync certification for wired network infrastructures. Aruba was the first vendor certified for Microsoft Lync wireless infrastructure; when deployed over a Juniper wired network, Aruba WLAN solutions ensure that mobile employees can communicate reliably, securely, and effectively over voice, video, IM or conferencing.

Top 10 Reasons to Deploy Microsoft Lync with Juniper Switches and Aruba WLAN

Successful deployments of Microsoft Lync require a robust network infrastructure that can meet the demanding requirements of UC&C—extremely low latency, minimal jitter, and high bandwidth. Users now expect to connect seamlessly to Microsoft Lync through both wired and wireless access points, from anywhere and from any device. As a result, the network needs to be high performing, resilient, secure, and flexible.

Juniper's switching platforms, combined with Aruba WLAN solutions, provide a best-of-breed, high-performance, resilient, open, and secure IP network capable of supporting real-time UC&C applications like Microsoft Lync. Validated by Microsoft for both wired and wireless networks, the joint Juniper-Aruba access portfolio exceeds the end-to-end requirements for Lync application traffic and delivers a quality end-user experience for all UC&C applications.

1) **Breadth of combined product portfolio:** Juniper and Aruba have entered into a strategic partnership to deliver best-of-breed wired and wireless products to their joint customers. Juniper offers an extensive family of wired switching products that cannot be matched in the industry. The Aruba portfolio, featuring industry-leading 802.11ac products, gives customers unparalleled flexibility in choosing the products they want to use for a Lync deployment. From wired and wireless LAN equipment to network management tools, enterprises realize value—for support, quality, and testing—by getting their access networking equipment from industry leaders committed to open standards, ease of use, and integrated product lines.

2) **Certification:** The Microsoft Unified Communications Open Interoperability Program (UCOIP) qualifies network infrastructures for Lync Server 2010 and 2013. Aruba was the first WLAN vendor to achieve Microsoft Lync certification for wireless networking solutions. Juniper, meanwhile, has achieved wired Lync certification for the entire EX Series Ethernet switching product family. Enterprises can have full confidence that Lync will perform as needed when deployed on Juniper and Aruba equipment, and that it will be accessible from anywhere and by any device.

3) **High-performing access points:** Lync requires high bandwidth, low latency, and minimal jitter; Aruba wireless networks deliver all three. The 802.11ac standard, the next generation high-speed Wi-Fi network, is now available and will turbocharge Lync video by increasing both the available bandwidth and the number of users served from an individual AP. Bandwidth and jitter are particularly challenging issues on wireless networks. Fluctuating speed contributes to bandwidth problems, while the non-guaranteed nature of data delivery can result in jitter. With Aruba's high performing access points, enterprises can deliver Lync voice and video at the quality users expect.

1 "How Microsoft Lync disrupts the unified communications market," Kate Gerwig, TechTarget, June 2013.
2 Microsoft Claims Lync Has Voice Shipment Lead: Are they Right? Eric Krapf, No Jitter, October 2013.

Performance of Lync client traffic is mostly predicated on the capabilities of the access points to offer the best performing links possible and to properly prioritize and service the traffic.

4) **Ability to support east-west traffic:** On the wired network, Juniper's Virtual Chassis technology allows multiple switches or different network tiers to be collapsed into a single logical device. In addition to simplifying management, the ability to collapse devices or tiers significantly improves Lync performance. With a single logical device, latency and jitter, which can impede delay-sensitive Lync traffic, are dramatically reduced. Up to 10 switches can be added to a Virtual Chassis configuration—across buildings, floors, or tiers—to support more Lync users as the network grows and expands.

5) **Optimize and Monitor the RF Environment:** To ensure reliable voice and video in the unpredictable world of Wi-Fi, adaptive RF technology should:

- Force client devices to shift away from the noisy 2.4-GHz band to the quieter
- 5-GHz band
- Adjust radio power levels to blanket coverage areas
- Load balance by shifting clients between access points (APs)
- Prevent sticky clients from attaching to sub-optimal APs
- Allocate airtime based on the capabilities of each client device

These techniques ensure that the user experience is optimized for Lync even as the RF environment changes. Along with adaptive RF, the network must give engineers visibility into the RF environment. Wi-Fi access points should incorporate spectrum analyzers that provide on-demand monitoring, logging and characterization of the RF environment. Integrated management tools can be enabled remotely so that distantly located network engineers can assess how best to mitigate issues such as continuous high-level fixed frequency transmitters that might negatively impact Lync voice and video quality.

6) **High availability for wired networks:** Juniper's Virtual Chassis technology increases the availability of the network by allowing multiple interconnected switches to behave, operate, and be managed as a single, logical, high-bandwidth device. Virtual Chassis technology simplifies the network by reducing the number of managed devices, helping networks to scale without the operational overhead associated with maintaining a system of independent switches. Most importantly, because multiple switches can be managed as a single device, if any one fails, the network stays up to provide for a hitless stateful failover for Lync. By using Virtual Chassis technology to collapse multiple tiers or devices into a single logical entity, latency and jitter are reduced, resulting in a boost to network performance.

7) **Network automation:** Juniper and Aruba enterprise products allow businesses to automate and orchestrate network infrastructure rollout using tools—such as open source solutions like Chef and Puppet—that data center server professionals have been using for some time. As the industry continues its inexorable move toward SDN, this will become an ever stronger argument in favor of a joint Juniper-Aruba deployment. Juniper's and Aruba's zero touch provisioning switch and AP products tip the scale even more in favor of using these certified products for Lync deployments, as they allow enterprises to bring up and configure their networks faster with fewer errors. This automation allows customers to roll out Lync deployments faster and more easily, and results in an error-free implementation.

8) **Simplified network management:** The joint Juniper-Aruba solution provides integrated management capabilities via the Junos® Space Network Director and Aruba Airwave management tools. Together, these products enable converged management of both wired and wireless networks, providing visibility into users and applications across the access network. This is essential as Lync deployments grow larger and more sophisticated. While many network infrastructure vendors provide RF visibility and diagnostics, it is critical to consolidate network, device, user, and Lync call statistics into common tools. This provides complete end-to-end visibility into the Lync call chain, enabling faster root-cause analysis and a more streamlined approach to managing a Lync deployment.

9) **Ability to identify and prioritize Lync traffic:** Lync uses an encrypted signaling protocol that is difficult for networks to identify. The network, however, must be able to identify Lync streams in sessions and map that traffic to users and devices—critical for quality of service (QoS), Call Admission Control, and troubleshooting operations. The Aruba WLAN solution supports the identification and classification of Lync traffic, which can then be dynamically conditioned to deliver QoS on an application-by-application and device-by-device basis. Extensive QoS features on the Juniper EX Series switches ensure proper QoS treatment over the wire as traffic is handed off from the Aruba WLAN. The joint Juniper-Aruba solution prioritizes Lync traffic streams to improve performance and ensure that voice and video communications don't suffer from latency or jitter.

Aruba wireless systems also have features that allow the network to detect the type of client device, and then apply network and security policies to that client. For example, Lync administrators can limit Lync access to iPhones and Windows phones only, and exclude Android devices.

10) **Ability to support branch offices:** Many enterprises that have deployed Lync have remote sites or smaller satellite offices away from the main campus. The combined Juniper-Aruba solution includes extensive support for remote office WLAN and switching deployment models, giving businesses the ability to roll out Lync across remote sites with very little effort.

Summary

The joint Juniper-Aruba solution delivers best-of-breed networking products that provide the necessary security, reliability, and system-level performance required by Microsoft's UC&C solution.

The joint solution includes a fully tested and supported network architecture for branch offices and campus networks to support a variety of Microsoft Lync endpoints, including both wireless-enabled UC&C devices (Wi-Fi phones, smartphones, and tablets) and traditional wired devices (power over Ethernet voice and video phones, video conferencing phones, and PC with a soft phone). With support for client devices through both wired and wireless network infrastructures, Juniper's and Aruba's solutions enable widespread adoption of Microsoft Lync across the distributed enterprise.

About Aruba Networks

Aruba Networks is a leading provider of next-generation network access solutions for the mobile enterprise. The company designs and delivers Mobility-Defined Networks that empower IT departments and #GenMobile, a new generation of tech-savvy users who rely on their mobile devices for every aspect of work and personal communication. To create a mobility experience that #GenMobile and IT can rely upon, Aruba Mobility-Defined Networks™ automate infrastructure-wide performance optimization and trigger security actions that used to require manual IT intervention. The results are dramatically improved productivity and lower operational costs.

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at www.juniper.net.

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