Juniper Networks, LANCOM Partner to Provide a Wired and Wireless Campus Systems Solution

Challenge

Wired and wireless access solutions for today's small to medium campus networks are typically complex. A collapsed distribution core layer design based on Juniper Networks® Virtual Chassis technology offers a simple, scalable, resilient solution that significantly reduces the cost and complexity of deploying LANCOM Systems wired and wireless portfolio.

Solution Description

The joint Juniper-LANCOM solution features a two-stage design consisting of a campus core deployed with wired and wireless access. This design, jointly tested by Juniper and LANCOM Systems, utilizes Juniper Networks EX Series Ethernet Switches and LANCOM GS switches. The WLAN component is based on LANCOM WLC Series WLAN controllers and LANCOM access points.

Figure 1 illustrates the joint solution. Two Juniper Networks EX4600 Ethernet Switches are deployed in a Virtual Chassis configuration in the core. Virtual Chassis technology allows up to 10 interconnected EX Series switches to be operate as a single, logical device with one configuration and one IP address, ensuring the core level is highly available.

EX4300, EX3400, or EX2300 switches can be deployed at the access layer in a Virtual Chassis configuration with up to 10 (EX3400/4300) or four (EX2300) members. Virtual Chassis technology expands the coverage area without requiring additional cabling to the core. Virtual Chassis also reduces the number of uplinks required to the core, simplifying overall management and operation.

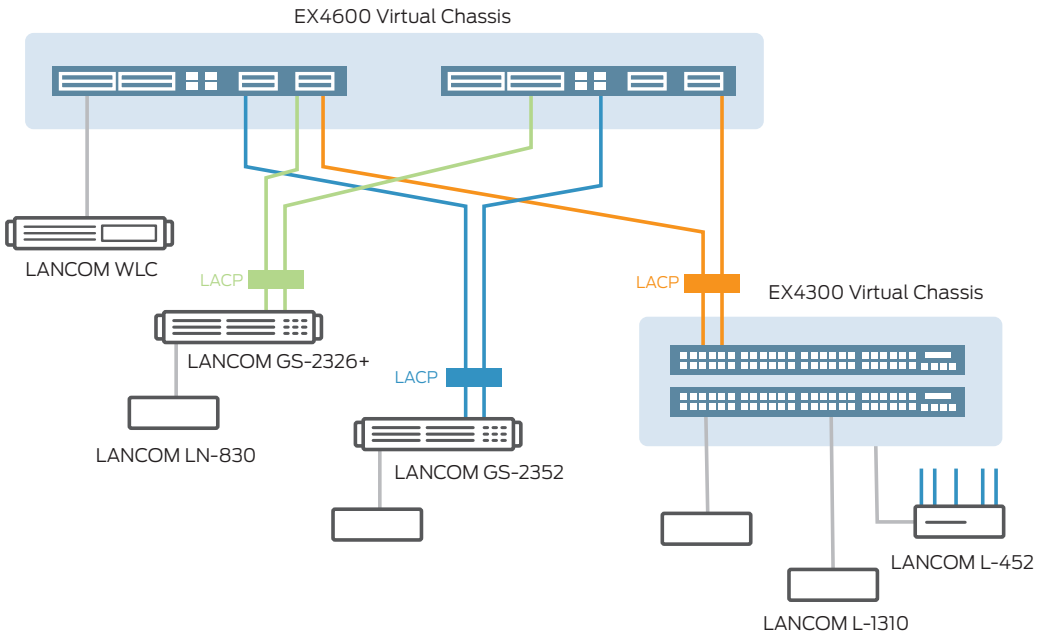

Figure 1: Juniper Networks and LANCOM Systems wired and wireless collapsed campus solution

The connection to the access level uses a link aggregation group (LAG) and LACP. Because the Virtual Chassis configuration behaves as a single logical switch, a LAG connection can terminate on either one of the two core switches. Consequently, there is no longer any need for Spanning Tree throughout the entire network. Link aggregation minimizes the switching times in the event of an error and ensures that both uplinks are utilized evenly.

In the WLAN, LANCOM Systems access points offer 2.4-GHz single-stream IEEE 802.11n and limited IEEE 802.11ac Wave 2 features with dual-radio 2.4/5 GHz and 4x4 MIMO. The portfolio includes specialized devices with dust-resistant enclosures for operation in harsh environments, as well as outdoor devices with extended temperature ranges.

Summary

Today's small to medium campus solutions for wired and wireless access are often difficult to operate. A campus core based on Juniper Virtual Chassis technology eliminates this complexity, delivering a simple, scalable, and resilient core for the LANCOM Systems wired and wireless portfolio. The joint Juniper-LANCOM solution represents a valid—and validated—design for campus networks requiring wired and wireless access, collapsing the core and distribution layers to significantly reduce network cost and complexity.

Next Steps

For more information about Juniper Networks switching solutions, please contact your Juniper representative, or go to juniper.net/us/en/products-services/switching/.

For more information about the LANCOM Systems solutions, please visit www.lancom-systems.com/.

About Juniper Networks

Juniper Networks challenges the status quo with products, solutions and services that transform the economics of networking. Our team co-innovates with customers and partners to deliver automated, scalable and secure networks with agility, performance and value. Additional information can be found at Juniper Networks or connect with Juniper on Twitter and Facebook.

About LANCOM Systems

LANCOM Systems GmbH is the leading German manufacturer of reliable, innovative networking solutions for business customers. The business units VPN Network Connectivity and Wireless LAN supply secure, versatile infrastructure solutions for local and multi-site networks.

Corporate and Sales Headquarters
Juniper Networks, Inc.
1133 Innovation Way
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or +1.408.745.2000
Fax: +1.408.745.2100
www.juniper.net

APAC and EMEA Headquarters
Juniper Networks International B.V.
Boeing Avenue 240
1119 PZ Schiphol-Rijk
Amsterdam, The Netherlands
Phone: +31.0.207.125.700
Fax: +31.0.207.125.701

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