

Olin College Reinvents Engineering Education with Strong Juniper Technology and Deep Relationship with Integration Partners

Summary

Organization:

Franklin W. Olin College of Engineering

Industry:

Education

Business Challenge:

Build campus network to support the academic and recreational needs of inquisitive, talented engineering students

Technology Solution:

- EX8216, EX4500, and EX4200 Ethernet Switches
- MAG4610 Junos Pulse Gateway
- WLA532 Wireless LAN Access Point and WLC2800 Wireless LAN Controller
- Junos Space Network Management Platform, including Network Director

Business Results:

- Built high-performance, flexible campus network to support innovative, hands-on engineering studies
- Ensured low total cost of ownership
- Provided support for up to six Wi-Fi devices per student
- Prepared to meet network needs for the next 10 years

Franklin W. Olin College of Engineering is a different kind of school. Founded in 1997, Olin College is radically changing the world of engineering education with the goal of fueling technical innovation. Concepts are mastered through hands-on learning, and students engage in individual and team projects to devise innovative solutions to problems. The projects are fun, too—for instance, creating an automatic cake decorator; a highly dexterous, underactuated robotic hand; and SnotBot, a multicopter that marine biologists could use to collect fluids from whales' blow holes. Olin College has 355 undergraduates and is based in Needham, Mass.

Business Challenge

Olin wanted to refresh its campus network to meet its educational needs for the next decade. It needed a high-performance, highly available and flexible network that could stand up to the demands of its students and faculty, as well as engineering-intensive applications such as CAD and 3D/4D modeling.

The college also wanted to ensure that its wireless LAN was ready for today's digital lifestyle. All students are provided with laptops, and students typically bring another four to six devices with them to campus—smartphones, tablets, often a Linux machine and, increasingly, 3D printers. In addition to the usual streaming media, many students also enjoy gaming, high-end audio, and video editing.

"Olin is very student-centric and our goal is to allow whatever functionality is needed to support students' independent studies or special projects within the bounds of security, safety, and reputation. With our Juniper infrastructure, we have a flexible configuration that allows our IT organization to be more agile."

Joanne Kossuth, Vice President of Operations and CIO, Olin College of Engineering

Selection Criteria

Olin wanted not only an optimal network solution, but a long-term partnership with a technology vendor that could respond to its evolving needs. "Olin is a small institution and it's really important for us to have partners who are flexible and understand our unique mission," says Joanne Kossuth, vice president of operations and CIO of Olin College.

Integration Partners, a network engineering firm in New England and a Juniper Elite Partner, has been a long-standing systems integration partner of Olin, having deployed the college's first network. Kossuth and her team worked closely with Integration Partners to select, design, and deploy the new network.

"Olin wanted a network that would last ten years," says Ed Henschel, senior account manager at Integration Partners. "Olin implemented the Juniper Networks technology we recommended because we believe it will enable the network to last significantly longer and deliver a lower total cost of ownership than other vendors."

Technology Solutions

Olin deployed an all-Juniper network, including Juniper Networks® EX Series Ethernet Switches, Juniper's wireless LAN solution, Juniper Networks MAG4610 Junos Pulse Gateway, and Juniper Networks Junos® Space Network Management Platform.

The flexible, modular EX8216 Ethernet Switch provides the necessary port density, scalability, and high availability for Olin's campus network core, while the compact EX4500 Ethernet Switch is used for top-of-rack switching. Juniper's Virtual Chassis™ technology is used to interconnect up to 10 switches, enabling them to operate as a single, logical device, which

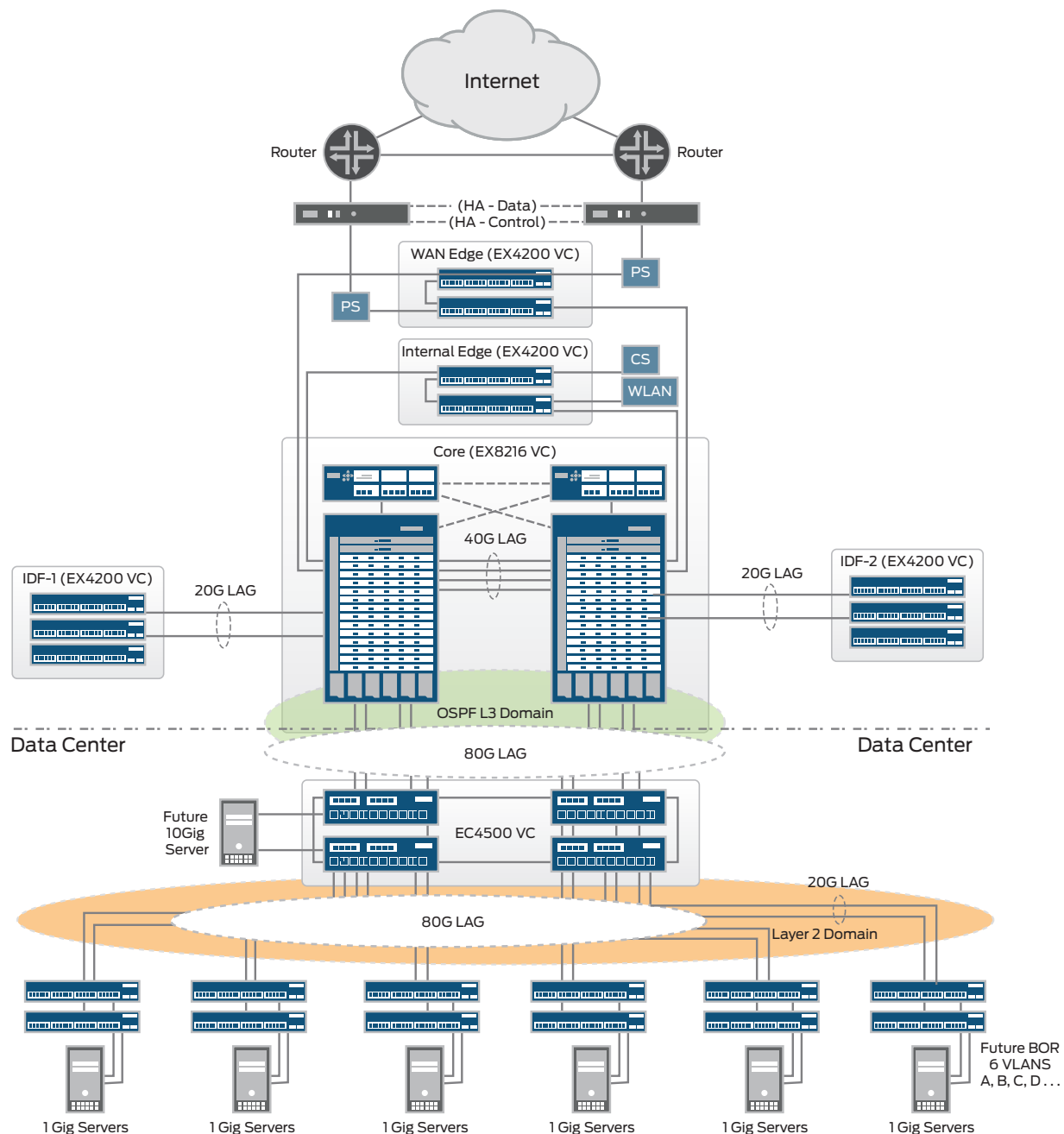


Figure 1. Olin deployed an all-Juniper network, including EX8216 switches in the data center core and EX4500 switches for top-of-rack switching, to support engineering design and modeling applications, administrative applications, and recreational video and gaming.

simplifies management. In addition, EX4500 switches can be combined with EX4200 Ethernet Switches in the same Virtual Chassis configuration to support the college's mixed GbE and 10GbE server environment.

The compact, fixed-configuration EX4200 switches are used for access switching in Olin's academic buildings, residence halls, and other facilities. EX4200 switches provide high availability networking to support educational and administrative applications, mobility, and virtualization.

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Ed Henschel, Senior Account Manager, Integration Partners

Olin is now ready to meet the insatiable demand for Wi-Fi capacity. The Juniper Networks WLA2800 Wireless LAN Controller delivers and manages enterprise wireless LAN service with the highest levels of reliability, performance, security, and management. Juniper Networks WLA532 Wireless LAN Access Point provides seamless mobility and support for wireless data, voice, and video.

Students and faculty need anytime, anywhere access to their projects, applications, and information. That secure access is provided by MAG Series Junos Pulse Gateways, a Juniper product line recently acquired by Pulse Secure, LLC.

Business Results

The migration to the new campus network and Wi-Fi expansion went smoothly. "We wanted to deploy the network with the least amount of downtime," says Kossuth. "The deployment with Integration Partners and Juniper went exceedingly well. People would ask: 'When are we doing the network upgrade?' when the upgrade was already done."

Olin's IT team handles day-to-day network management, providing Level 1 and Level 2 support, while Integration Partners is standing by to supply additional expertise as needed. "Integration Partners works closely with us at Olin and has a good sense of what we need," says Kossuth. "Integration Partners has set up configurations in their labs and has a high level of Juniper technical expertise."

With the Juniper solutions that Integration Partners helped implement, Olin has a fast, flexible infrastructure that's ready to meet the needs of its students today and tomorrow. "Olin is very student-centric and our goal is to allow whatever functionality is needed to support students' independent studies or special projects within the bounds of security, safety, and reputation," says Kossuth. "With our Juniper infrastructure, we have a flexible configuration that allows our IT organization to be more agile."

That flexibility paves the way for a different kind of IT experience. "Olin attracts a lot of talented students, and they leave even more talented," she says. "A lot of other institutions have a lot of policies, paperwork, and red tape. Here, students come down to IT with a request, and we say, 'We'll see what we can do.'"

For Olin, the choice of a network vendor goes well beyond technical chops. It's about having a true partnership. Olin is a member of the Juniper Networks Academic Alliance program for academic institutions that specialize in engineering, software development, microelectronics, and telecommunications. Juniper technology is used in Olin's academic computing labs and Juniper collaborated on a faculty and student research project that changed how the networking skill set is taught. Mark Hinckley, senior director of system engineering at Juniper, serves as chairman for the Olin External Technology Advisory Board (EXTAB), which provides industry insights on IT trends to the office of the CIO.

And when Olin needed more Wi-Fi capacity to support an event on the shortage of skilled, mid-level STEM workers in conjunction with the National Science Foundation and the Office of Congressman Joseph P. Kennedy III, Integration Partners and Juniper were there to provide additional Wi-Fi access points to meet the mobile expectations of more than 600 attendees.

Next Steps

The technology and business partnership with Juniper and Integration Partners continues to deliver value for Olin. "Juniper has engineered a strong product portfolio and support is very customer-centric," says Kossuth. "There's a lot of value to the length of time that you can use Juniper equipment and how you can use it. It allows us to upgrade in a rational manner so that there isn't a forklift replacement every four years. That's important to colleges like ours as well as businesses."

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For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

¹ The Junos Pulse product line is now owned and supported by Pulse Secure, LLC. Juniper will continue selling and supporting Pulse through the remainder of 2014. For more information on ongoing development and support of Pulse technology products, please reference www.pulsesecure.net.

About Integration Partners

Integration Partners designs, implements, and supports secure, fully converged networks using the best solutions the industry offers. We are an engineering firm with roots in enterprise data networking, staffed by professionals who are certified at the highest levels. Most important, we are deeply committed to our customers' success from configuration and integration through to support and maintenance of the network (www.integrationpartners.com).

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.

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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