



Universidad EAFIT transforms educational experiences with technology

Universidad EAFIT:

Size: 16,600 students

Industry: Higher education

Location: Medellín, Antioquia

Colombia

Solutions

- Supporting innovative new services with a secure, high-performance network
- Accelerating research with a converged infrastructure platform

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Universidad EAFIT is one of the most prestigious educational institutions in Colombia and one of the first universities to receive the Ministry of National Education's Institutional High Quality accreditation twice in a row. The private teaching and research university offers 21 undergraduate programs, 53 graduate certificate programs, 35 master's degree programs, and 6 doctorates, helping Colombian and international students achieve their academic goals with a modern, diverse, and high-quality education.

Challenge: enabling growth and delivering academic excellence

At EAFIT's 30-acre main campus, tropical flora and fauna blend with modern technology to create an inspiring and relaxed environment in which students can learn and grow. The park-like setting contains 28 buildings and 8 annex houses, all of which are equipped with technology resources. The university also operates six smaller remote branches and a growing language division, each with its own IT infrastructure.

"We're constantly growing, and we're committed to being a technology leader," says Hugo Giraldo, head of IT infrastructure, Universidad EAFIT. "As new buildings are constructed, we need to be able

to deploy workstations and networking quickly to make them ready for classes or administrative use."

Using manual deployment methods, equipping a new building with a technology infrastructure took EAFIT two to three weeks and required a team of 25 IT employees, many of them higher-level engineers. "We wanted the ability to move faster, be more efficient, and enable entry-level staff to perform configuration and administrative tasks," says Giraldo.

Fast growth also placed greater demands on the university's wired and wireless networks. As Wi-Fi usage increased, EAFIT was challenged to provide adequate coverage for high-density public areas, causing wireless availability to drop below 85 percent. Faculty wanted the ability to use new, more demanding applications including video content, but legacy switches did not provide sufficient throughput. Data access was also a challenge. For security reasons, EAFIT universally blocked access to some websites and resources, having no way to dynamically control network access based on identity.

"We needed to improve the performance, security, and manageability of our network

With Cisco solutions,
Universidad EAFIT:



Drives innovation in education
with distance learning



Encourages scholars with
connected research access



Improves BYOD connectivity,
efficiency, and safety with a
connected campus

to enable a bring-your-own-device (BYOD) program and other initiatives,” says Giraldo. “We also wanted to help our researchers by giving them a data center solution that would enable them to achieve faster results.”

Building a secure, connected campus

After considering several vendors, EAFIT decided to implement an end-to-end Cisco® solution for converged wired and wireless access. The university used Cisco Catalyst® switches and more than 200 Cisco wireless access points to build a 10 Gigabit Ethernet network, growing from 720 Gbps to 11.4 Tbps total switching capacity, and a campus LAN that simultaneously serves 12,500 computers over a wireless network and another 4500 over the wired network. The wireless network includes support for the 802.11ac Wave 1 standard, improving Wi-Fi performance and throughput in dense environments.

“In higher education, demands change so fast that we wanted the best, most reliable technology available,” says Giraldo. “Cisco gave us what we needed for today and also for tomorrow, with high availability built in at every layer. Since deploying our new Cisco network, we’ve had 99.96 percent uptime.”

Instead of individually configuring and monitoring each switch and access point, engineers manage them all from a

single pane of glass using Cisco Prime™ Infrastructure. To control access to the wireless network and allow guests to connect securely, EAFIT uses the Cisco Identity Services Engine (ISE). “The web interfaces for Cisco Prime and ISE are very easy for even entry-level admins to understand and use,” says Giraldo. The result is an intelligent, sustainable campus that can operate efficiently in a rapidly changing environment.

Deploying workstations and access points in new buildings and branches is much easier with automated workflow and Power over Ethernet (PoE). “In the past, we could only deploy 20 computers per day, even with a large team,” says Gustavo Medina, infrastructure engineer. “Now three people can equip an entire building with 400 computers in just two days, and we can fulfill new requests within a few hours. In the past, it took three days.”

The Cisco solution is improving physical security as well, enabling the university to deploy IP video cameras for real-time surveillance of campus grounds and buildings to keep students and faculty safe.

Empowering educators to innovate

With a robust network in place, professors are free to apply technology to create innovative learning spaces and introduce

Products and Services

Routing and Switching

- Cisco Catalyst 6800 Series Switches
- Cisco Catalyst 4500, 3700, and 3500 Series Switches

Wireless

- Cisco 8510 Wireless Controllers
- Cisco Aironet® 3700 802.11ac Series access points
- Cisco Aironet 2700 802.11ac Series access points
- Cisco Meraki wireless LAN

Security

- Cisco Identity Services Engine (ISE)

Cloud & Systems Management

- Cisco Prime Infrastructure

VCE Vblock System 240 Converged Infrastructure

- Cisco Unified Computing System (UCS) C220 Servers
- Cisco Nexus® 5000 Series Switches

Cisco Services

- Cisco Smart Net Total Care™ service

"In higher education, demands change so fast that we wanted the best, most reliable technology available in order to stay competitive. Cisco gave us what we needed for today and also for tomorrow."

Hugo Giraldo
Head of IT Infrastructure,
Universidad EAFIT

new, more compelling curriculum designs. The university can satisfy students' rising need for educational accessibility and campus connectivity, and build and maintain the institution's academic integrity with a more connected classroom. EAFIT is also maximizing the potential for distance learning and virtual classrooms by using innovative and accessible extended learning environments to offer online graduate certificate programs in human development management, organizational control, and municipal public management.

"With our new Cisco network, we're giving the university more options to improve the educational experience," says Giraldo. "The performance improvements were immediately visible to end users."

Improving efficiency with new possibilities

The university is now moving forward with innovative projects to improve efficiency, such as smart lighting and air conditioning control to reduce costs and optimize campus facilities. Through improved connectivity and data analytics, the university can enhance educational environments while keeping budgets in line with strategic priorities.

EAFIT is also accelerating projects, such as the digitization of its library collections and piloting new technology such as virtual desktops. Even as the university

grows rapidly, it can support secure BYOD, allowing students to access information anytime, anywhere from their own devices.

Foundation for impactful research

To accelerate the deployment and migration of servers and services for company, education, and research environments, EAFIT deployed a Vblock converged infrastructure platform based on solutions from Cisco and Cisco partners. The Cisco network improves data access, giving researchers secure and convenient access to experiments and results from wired or wireless devices.

By fostering a connected research environment, EAFIT is improving collaboration and accelerating results for research computing, allowing innovative research to be conducted efficiently and with reliable access.

What's next?

The university is looking at other areas where it can leverage technology to improve education and operations, such as collaboration and video conferencing using a Cisco Jabber® solution. Teams can have the freedom to be productive from anywhere, on any device. "Cisco is always willing to partner with us for better outcomes," says Giraldo. "As a result, we're ready to grow and meet any new business need, whether academic or administrative."



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