

University Delivers More Inclusive Learning, Wirelessly

Customer Case Study



University of Costa Rica creates highly-collaborative and always-on learning environment

EXECUTIVE SUMMARY

Customer Name: University of Costa Rica

Industry: Higher education

Location: Costa Rica

Number of Employees: 6900

Challenge

- Enhance student access to educational tools
- Improve faculty communication and close the digital divide

Solution

- Cisco wireless LAN extended indoors and outdoors across campuses

Results

- Huge growth in users connecting via wireless
- Improved use of multimedia and collaboration tools
- Widespread student access to virtual campus and other online services

Challenge

With more than 6900 lecturers and an intake of 37,600 students a year, the University of Costa Rica (UCR) is the most important higher education establishment in Central America. It is committed to maintaining high standards of educational excellence and improving access to knowledge across its five main campuses, seven regional locations, 17 field stations, and 24 libraries and documentation centers.

Until fairly recently, however, this excellence was threatened by network connectivity constraints. The only way that staff and students could access online tools and educational materials was through a limited number of networked PCs. Even students with perfectly good laptops of their own would still have to use machines housed in university computer rooms to gain entry to the campus network and central information systems.

In addition, the university was interested in finding new ways to enable staff and students to collaborate online to make teaching more inclusive while improving the flow of knowledge and expertise.

“We live in a world increasingly interconnected by new information technologies and knowledge. This opens huge potential for virtual academic work and for participation in local, regional, and global knowledge networks,” says Dr. Yamileth González, the rector at UCR. “Faced with this reality, we had a dual challenge. Firstly, to incorporate information technologies in fundamental tasks and, secondly, to contribute to the digital literacy of our people in all areas of their daily lives—economic, social, political, cultural, and educational.”



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Dr. Yamileth González
Rector
University of Costa Rica

Solution

UCR first began introducing WLAN technology with access points in auditoriums and computing laboratories. The university then decided to move to a wider indoor and outdoor WLAN implementation that would offer high availability, scalability, and speed. Other considerations for the university included centralized management, automatic provisioning, single sign-on authentication via Lightweight Directory Access Protocol (LDAP), investment protection, security, and platform support.

Cisco met all these needs and an initial implementation of 140 wireless access points was carried out. This number has increased every year, reaching 460 at the latest count, extending wireless coverage to indoor areas in main sites along with outdoor spaces and regional locations.

Today the AURI-2 (Acceso Universitario a la Red Inalámbrica) network is available at all university locations and provides 80 percent coverage, mainly through the deployment of Cisco Aironet® 1130AG Series Wireless Access Points. This is supplemented in places by Cisco® Aironet 1140 Series Wireless Access Points where simple deployment and energy efficiency are priorities, and Cisco 1230AG, 1250, and 1310 Series Wireless Access Points in more challenging environments.

The university also has six Cisco 5508 Wireless LAN Controllers and a Cisco Wireless Control System for centralized monitoring and management. The wireless platform is linked to the two UCR LDAP servers. Access to the network is permitted only to students or staff members. When users try to connect to the WLAN, they are asked for their identities and passwords, which are checked against the LDAP register. Once logged on, users can remain connected for up to 12 hours. “At the moment we use LDAP for authentication but eventually we may incorporate other protocols such as TACACS or RADIUS,” says Abel Brenes, director of the UCR computing center.

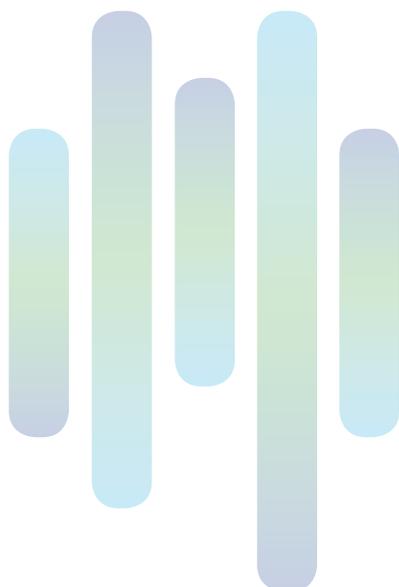
Cisco helped test the infrastructure and refine access point configurations, as well as making recommendations on wireless networking best practice. In addition to offering basic network access, the WLAN supports a full Cisco collaboration suite, including Cisco Unified Communications Manager, Cisco Unified Personal Communicator, and Cisco WebEx®. UCR is currently working toward 100 percent coverage, with the installation of an additional Cisco 5508 Wireless LAN Controller and 147 extra access points.

Results

The increased number of access points across the UCR campus has generated huge growth in users. In 2007, just 300 users were logging onto the WLAN, but the network now supports about 1200 users a day and that figure continues to rise. The wireless network provides access to a range of applications, from IP telephony to videoconferencing, and even allows engineering students to upload data directly to geographical information systems while they are carrying out measurements outdoors.

Managing the wireless platform is easy for the university IT department, because the system is stable and requires minimal support. These capabilities are critical, because human resources are limited and are needed to address other IT activities.

“AURI-2 has allowed students and faculty to get connected every day with their laptops and mobile phones, to get information and exchange emails, even at weekends,” says Jorge Carranza, network administrator at the UCR campus in the port town of Golfito. UCR has identified a range of other benefits. For example, using laptops, tablets, and mobile phones, faculty members are able to access different university databases and generate multimedia content for their classes in dedicated Moodle and Cisco WebEx environments.



“Since the installation of the wireless network, it’s been easier to stay connected. It’s a really useful tool for those of us studying corporate IT.”

Laura Jiménez Acuña
Student
University of Costa Rica

Meanwhile students have greater access to educational and service platforms owned by the university, such as a virtual campus, libraries, debt consultation, collaborative communications, and online registration. They can also connect to thousands of online multimedia learning resources on international academic sites. Laura Jiménez Acuña, a student at the UCR Pacific campus, says: “Since the installation of the wireless network, it’s been easier to stay connected. It’s a really useful tool for those of us studying corporate IT.”



For More Information

To find out more about Cisco wireless networks, go to: www.cisco.com/go/wireless

Product List

Wireless

- Cisco Aironet 1130AG Series Wireless Access Points
- Cisco Aironet 1140 Series Wireless Access Points
- Cisco Aironet 1230AG Series Wireless Access Points
- Cisco Aironet 1250 Series Wireless Access Points
- Cisco Aironet 1310 Series Wireless Access Points
- Cisco 5508 Series Wireless LAN Controllers
- Cisco Wireless Control System



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