The Federal Institute of Education, Science and Technology of Goiás (IFG)

Interactive Classrooms Thanks to High Quality Wi-Fi

CASE STUDY

OVERVIEW:

The Federal Institute of Education, Science and Technology of Goiás (IFG), created in 2008 under Federal Law n° 11.892, is a higher, basic and professional education institution, multi-campus and multi-curricular, specialized in offering professional, technological and free education in different educational formats. IFG serves more than 11,000 students at its 14 campuses in Anapolis, Formosa, Goiania, Inhumas, Itumbiara, Jatai, Luziania, Uruaçu, Aparecida de Goiania, Cidade de Goias, Aguas Lindas, Goiania Oeste, Senador Canedo and Valparaiso.

REQUIREMENTS:

- Ensure greater signal coverage
- Improve access quality
- Boost wireless coverage in events
- Improve network management and security

SOLUTION:

- Ease of management with the ZoneDirector 5000
- Deployed 300 ZoneFlex R700 double band 802.11ac access points to expand coverage
- High performance wireless LAN to provide connectivity in the classroom

BENEFITS:

- IFG innovated with electronic attendance control
- Wi-Fi network provides high density connections and scalability
- Interactions among students, teachers, management technicians and employees were improved
- Wi-Fi network enabled to carry out class activities online in the classroom

HIGH-QUALITY WI-FI WITH SCALABILITY AND RELIABILITY ARE KEY TO STAYING AHEAD OF WIRELESS DEMAND

As competition for students heats up, higher education institutions are looking for new ways to enhance campus experiences and meet student demand for wireless connectivity. With mobile device use on the rise at an alarming rate, universities are feeling the pressure to design a campus Wi-Fi experience that is user friendly and ubiquitous. Given the skyrocketing data demands across campus, they are responding with investments in more robust and manageable networking infrastructure.

THE CHALLENGES

The Federal Institute of Education, Science and Technology of Goiás (IFG), located in the state of Goiás serves more than 11,000 students. IFG was using consumer equipment for their wireless network. As a result, they had a slow and insecure network, were experiencing connection downtime and they needed to standardize the wireless network.

"We didn't have coverage in all areas of the campus, the consumer equipment didn't support high density clients and as a consequence we had low quality browsing. It was practically impossible to get access during peak times. In addition, network management was complex, since we didn't have centralized management," explained Douglas Rolins de Santana, information technology director of IFG.

IFG was looking for an easy to manage infrastructure that could provide stronger coverage and more concurrent users. With over 11,000 students, IFG's requirements was to find a Wi-Fi solution for high-density connections, access control, centralized management and scalability. It wanted to improve interaction between students, teachers and employees that would clearly transform classrooms into a more interactive environment.

THE SOLUTION

IFG put several suppliers to the test and after the proof of concept (POC), Ruckus was clearly the best suited to meet IFG's requirements.

"After analyzing several solutions through proof of concept, as well as a proof of concept (POC), Ruckus was best suited to meet our requirements and offer the best price compared to other vendors," adds Santana.

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"After the implementation of Ruckus Wireless technology it was possible to boost event coverage, provide wireless network access in all the institution's learning environments and enable teachers online access during class for activities such as filing out online class journals and sharing information with students."

DOUGLAS ROLINS DE SANTANA
IFG, IT Director

In order to ensure better signal coverage, better quality access, boost event coverage and improve the network security and management, IFG was supported by Ruckus Wireless technology in its Wi-Fi signal improvement and centralized management project. More than 200 Ruckus ZoneFlex™ R700 Smart Wi-Fi access points were installed, alongside additional Ruckus ZoneDirector™ controllers, to provide reliable and high-performance Wi-Fi coverage to IFG students, teachers and technical-management staff, distributed around 14 campuses and the administration buildings, totaling 17 units at the institution.

The Ruckus Wireless solution was chosen for its scalability, signal quality and technical reliability. The ZoneFlex R700 is the first 802.11ac dual-band access point that incorporates the patented Ruckus BeamFlex+™ adaptable antenna technology. With its discreet and modern design, the ZoneFlex R700 ensures reliable connectivity inside challenging and ever-changing RF surroundings, such as airports, public facilities, hotels, universities and conference centers.

Managing the access points is the Ruckus ZoneDirector 5000 (ZD5000), the first WLAN controller that exclusively combines power, simplicity and scalability in an affordable system. The ZD5000 manages up to 1,000 ZoneFlex Smart Wi-Fi access points in a single place, supporting up to 20,000 clients and 2,048 WLAN per device. Unlike more expensive, complex and hard to implement conventional wireless LAN systems, the ZD5000 was designed to offer simplicity and ease of use. Easy to implement and manage, it is ideal for large businesses that need high performance wireless LAN.

After the implementation of the Ruckus Wireless technology, IFG was able to ensure greater signal coverage and improve the quality of access, boost event coverage, optimize management and network security, provide wireless network access in all the institution's learning environments and enable teacher access during class enabling several online activities. The change from its legacy network to the Ruckus one was a huge success for both the students, teachers and technical-management staff.

The decision to choose Ruckus Wireless is backed by comparative connectivity data. "Our highest peak was 3500 concurrent connections however, we can reach more than 15,000 concurrent connections when analyzing the reports", said Douglas Rolins de Santana. Users can connect simultaneously to the wireless network, compared to the precarious network previously in place that could only support around 400 users.

"We needed a high density Wi-Fi environment that embraced innovation in education. Ruckus Smart Wi-Fi addresses this with quality. The deployment provided a high capacity network and smart coverage," concluded Santana.

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