Education: Dordt College

RELIABLE CAMPUS-WIDE CONNECTIVITY FOR HIGHER EDUCATION AT DORDT COLLEGE

Dordt College, a 1400 student comprehensive college in Sioux Center, Iowa, is spread over 150 acres with 27 buildings. Having found that their legacy Wi-Fi system was not keeping up with growing student demand, requirements, or 100 percent coverage over this area, they decided to upgrade their wireless network since the majority of students live on campus and reliable Wi-Fi connectivity had become a critical "need to have" asset on campus.

Brian Van Donselaar, Director of Computer Services at Dordt, had been using a competitor's Wi-Fi products for almost seven years, but he decided to look at alternative solutions because over the past few years the technology slipped. "We just wanted a reliable solution that would keep a client connected for days or weeks, not just hours or minutes," said Van Donselaar, "as students and employees were bringing more devices on the network, we had access points in high density areas that would just ground to a halt after just 30 clients." Additionally they were planning on rolling out a VoIP phone system and they knew that the existing network would not be able to handle it.
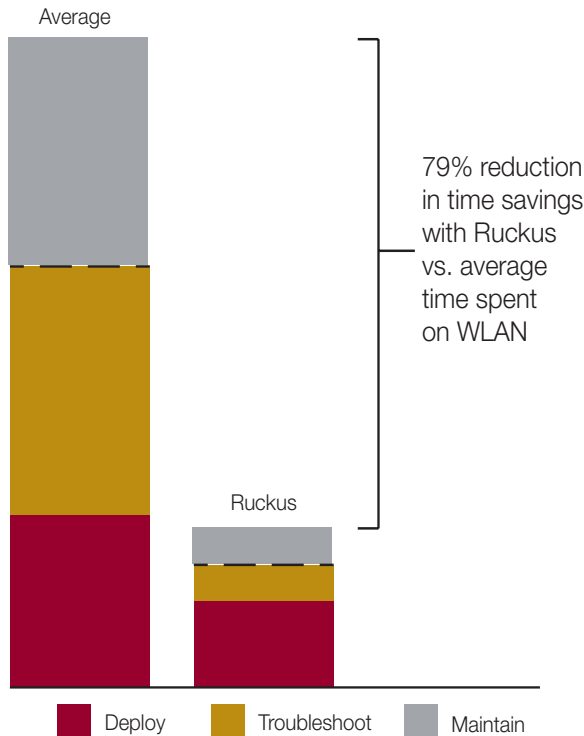
In addition to reliable connectivity and high capacity for higher density locations, another critical requirement for Van Donselaar was granular visibility for the clients on the network for troubleshooting purposes. The old Wi-Fi network that Dordt used did not provide adequate visibility for client troubleshooting, "essentially the management on our old network was non-existent," said Van Donselaar, "and other competitive solutions charged extra for these features, which was another top consideration — total up-front and ongoing costs or CAPEX and OPEX."

Van Donselaar next chose from several competitive solutions to evaluate: Meru, which was the incumbent, in addition to Aruba, and Ruckus. They did not even consider Cisco since peer review indicated that they did not offer a good system and were much higher cost. Their reseller eventually offered proposals for deploying each of these systems, and after

OVERVIEW

Dordt College is a comprehensive reformed Christian collage located in the upper North West corner of Iowa. Most of the 1400 students reside on the approximately 150 acres of campus during the school year.

REQUIREMENTS

- Reliable wireless for handheld clients
- High density performance
- Robust management built into the system
- Persistent client connectivity
- Low CAPEX and OPEX costs

SOLUTION

- 191 ZoneFlex 7372 and 7982 APs
- Redundant ZoneDirector 3000 controllers

BENEFITS

- BeamFlex+ provides reliable wireless for multiple and handheld student devices
- Higher capacity AP providing persistent and reliable connectivity through each AP in high density client areas
- Lower CAPEX and OPEX costs since fewer APs are necessary for higher capacity and higher performance
- Management included without additional cost with the ZoneFlex system

evaluating the proposals, the gear, and taking reference calls for feedback, Van Donselaar chose the Ruckus solution. "Not only did the Ruckus solution require less APs for more coverage, the total overall up-front costs were less as were the ongoing support costs. Ruckus was just a better technology and was priced more aggressively." Alternatively, Meru offered to expand their existing network, but they also wanted to charge more to layer more management capabilities on the systems which are included with Ruckus' solution. Aruba offered a complete but very expensive solution that had security capabilities that we just didn't need.

Average

79% reduction in time savings with Ruckus vs. average time spent on WLAN

Ruckus

- Deploy
- Troubleshoot
- Maintain

Based on customer input n40.

After deploying the Ruckus network, the peak client load on the network increased almost 30 percent with better client connectivity and reliability. "We identified some ZoneFlex 7372s with over 100 clients on them, and I kept running over to test them since the old system ground to a halt at 30 clients — I eventually stopped running over to test them since they were working perfectly," said Van Donselaar.

"Students have been demanding exponentially more from the network with increasing video feeds, more clients, and handheld devices that require well performing RF for reliable connectivity," according to Van Donsellar. The Ruckus

HORIZONTAL POLARIZATION

VERTICAL POLARIZATION
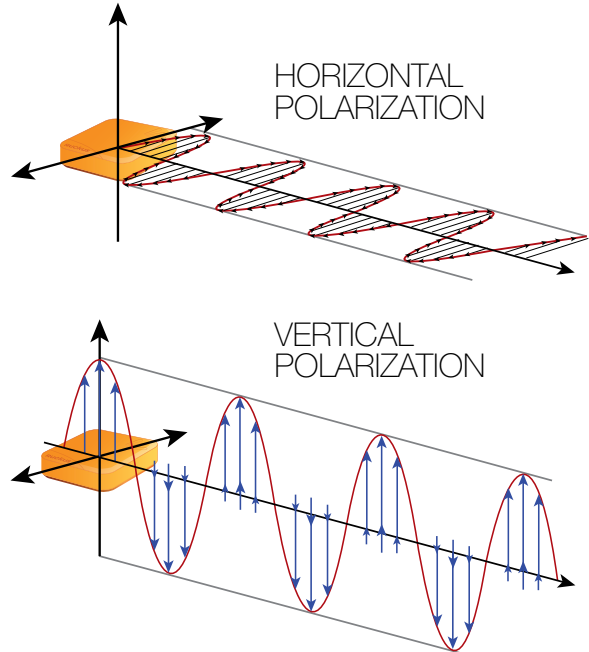
BeamFlex Adaptive Antenna Technology in action for mobile handheld devices provides reliable connectivity for mobile handheld devices and tablets

solution provided us with that with their superior BeamFlex+ RF technology."

Unlike traditional omni-directional antennas that radiate signals in all directions, BeamFlex directs transmit energy towards the best path to the receiving device. And unlike fixed-positioned directional antennas, BeamFlex dynamically configures its "beam" on a per-station, per-packet basis, to achieve omni-directional coverage. BeamFlex+ is an enhancement to Ruckus BeamFlex adaptive antenna technology by providing adaptive support to mobile devices. BeamFlex+ enables antennas to adapt to client device orientation in addition to client device location. This Ruckus technology was perfect to satisfy the students at Dordt College.
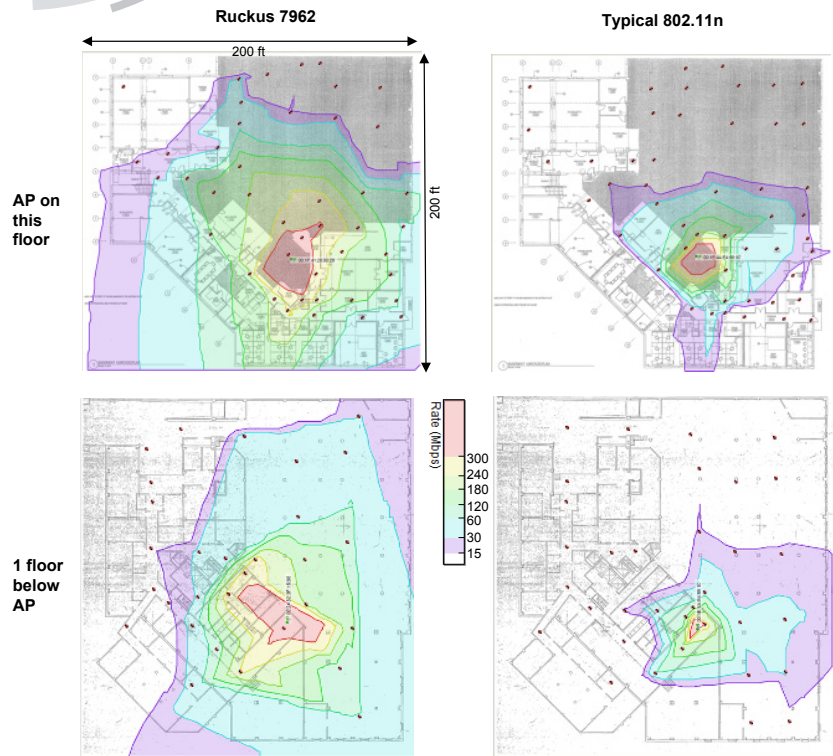
Van Donselaar also noted that he was impressed with the management capabilities built into the system. "Top to bottom, the management interface was able to monitor all RF space of individual APs and even monitor and identify RF pollution, which we didn't have the ability to see before — all in built in with the cost of the ZoneFlex system."
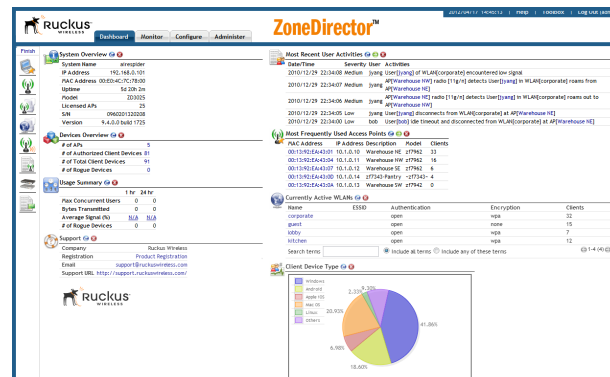
ruckus
Simply Better Wireless.

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"Since we deployed the Ruckus Wi-Fi network, students are much happier with their connectivity. The number of calls and complaints to IT have gone WAY down."

Brian Van Donselaar
Director of Computer Services

Ruckus 7962

Typical 802.11n

200 ft

200 ft

AP on this floor

1 floor below AP

Rate (Mbps)
300
240
180
120
60
30
15

Ruckus ZoneFlex requires less APs for superior coverage and capacity

The ZoneDirector has a highly intuitive and simply to use graphical, point-and-click Web interface. The dashboard gives administrators a single and comprehensive view of the state of the wireless LAN and client connectivity

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