

### CASE STUDY



Park West School Division



#### OVERVIEW

The Park West School Division encompasses 15 schools spread across thousands of square kilometers in rural Manitoba. The division's administration has a vision for digital learning, but lacked the network infrastructure to support that vision. The ICT team was concerned that the division couldn't afford high-performance Wi-Fi in every school. Ruckus was the one vendor that met all requirements, including a unified wired and wireless infrastructure, with low cost of ownership.

#### CHALLENGES

- The legacy Wi-Fi vendor was exiting the market, leaving the ICT team with an inadequate, hard to manage network
- The existing Wi-Fi was incapable of supporting a digital learning program
- The three-person ICT team spent too much time dealing with Wi-Fi problems
- The switching infrastructure was also outdated and inadequate

#### SOLUTION

- 200 indoor 802.11ac APs
- 6 ICX switches
- Virtual SmartZone

#### BENEFITS

- Each school in the division is fully covered with high-performance free Wi-Fi
- The network is future proofed to support 25 computers in each classroom plus personal devices
- All of the APs in the schools can be managed remotely by the ICT team
- The free Wi-Fi helps communities with no (or poor) cell service and supports school-based community events

### DIGITAL LEARNING PLANS HELD BACK BY POOR INTERNET ACCESS AND SPOTTY WI-FI

The Park West School Division covers 15 schools, K-12, in rural Manitoba, Canada. The schools are spread over thousands of square kilometers. Driving from one end of the division to the other takes over an hour and a half. Even though the schools and their communities are far apart, there's a shared determination about providing a better future for all 2,100 students. Stephen David, Superintendent and CEO, talks about preparing students for the world by bringing the world to students.

Ideally, that vision means full participation in the digital world. But bringing digital learning to these schools has been tough.

Like many parts of rural Canada, the Park West School Division lacked good broadband service. Then, about two years ago, Park West School Division along with several of the rural municipalities buried dark fiber across the region. This 230 km of dark fiber gave the municipalities' access to better internet services and the school division access to a future proof network. For the first time, every school had a 10 GB fiber backbone to enable high-speed Internet access. Now the ICT team could tackle the old Wi-Fi and switching networks.

"We had Wi-Fi in most of the schools, but it couldn't support the volume of devices we were seeing trying to use it," says Grant Roszell, ICT Supervisor. "The vendor was getting out of the market, so there were no upgrades available."

The three-person ICT team is responsible for supporting technology across all of the schools. To cover such a vast area, they centralized management wherever possible. "Unfortunately, the Wi-Fi management interface was old and outdated. Trying to troubleshoot problems was a huge drain on our limited resource," says Roszell.

When Steve McKim came onboard, it helped the team move forward in evaluating prospective Wi-Fi vendors. McKim's company, 45 Networks, is a Ruckus partner. McKim has numerous certifications in wireless systems and networking.

The team reviewed vendors such as Aerohive, Cisco, Extreme and Ruckus for access points (APs) and future switch replacements. The final contenders were asked to provide demonstration equipment. It was extremely important that the small ICT team could set up and manage the equipment. The best way to do that was set up the demos themselves.

"The Ruckus equipment was by far the easiest to work with," says Roszell. "We barely looked at the technical documentation to configure the APs and set up a network on the management console. The whole process, including unpacking boxes, took less than two hours. And the extent and ease of the

management tasks we could perform remotely was beyond anything we expected.”

There was no calculation for saving ICT time, but it was crystal clear that Ruckus was going to take a big burden off the small ICT team.

### NEW WI-FI DELIGHTS STUDENTS, FACULTY AND PARENTS

Other savings piled on top of freeing up IT resources. The proposal to cover all of the schools was substantially less than any of the other vendors. “That was a welcome surprise for us,” says Roszell. “We weren’t sure what we would get for our modest budget. Turns out Ruckus had the best feature set and the lowest price for our requirements.”

Another cost-savings came from the coverage that Ruckus APs provides. “All of the Ruckus APs are 802.11ac Wave 2. They all incorporate patented technology that significantly increases



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#### GRANT ROSZELL

ICT Supervisor  
Park West School Division

signal range and the capacity per AP,” says McKim. “We can cover two classrooms with a single AP. One of our schools has only eight APs, and they’ve already supported 300 mobile devices. No connectivity issues. Top speeds. No failures. The coverage is so good that the APs can even provide redundancy for each other.”

“We designed the Wi-Fi to easily cover having laptops in every classroom used by every student concurrently, plus everyone’s public devices. That’s the vision and we’re ready for it. The division doesn’t have a formal BYOD policy, but that’s essentially what the new Wi-Fi supports,” says McKim.

The infrastructure is more than ready for digital learning. The division has signed up for Google Classroom and can now start looking at technologies such as Chromebooks for students without fear of the network not supporting them.

But excitement about the new networks is already high. The Wi-Fi is free for all users, including guests. Some communities have poor cell service or no cell coverage at all. Sometimes parents who pick up their kids get to the school early just to use the Wi-Fi for Internet access. ICT plans to equip all of the gyms with Wi-Fi. “We get a lot of guests at games and there are a lot of after-hours sports clubs. In some schools, the Air Cadet League of Canada holds meetings in the gyms. Sometimes the school gyms are the only meeting facility for miles around. The budget impact is minimal and the community benefit is tremendous,” says Roszell.

Despite more people using the network, Roszell says security isn’t a concern. “We’re using fewer SSIDs than before, even with a larger network, and they take minutes to set up. We also use Dynamic Pre-Shared Keys, another Ruckus patented technology, and guest isolation which allows us to secure our network by stopping guests from going where they shouldn’t and easily having more specific passwords rather than assigning one password to multiple users.”

Initially, the ICT team installed Ruckus ICX switches in one of our larger schools. The plan is to deploy the switches in all of the schools and connect even some small off-campus locations that have never had a network before. Roszell has already licensed the software to manage both the APs and switches from the Virtual SmartZone controller. Park West School Division is one of the first school divisions in Canada to use this integrated management of switches and APs.

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