

SWAN RIVER SCHOOL

Cloud Wi-Fi and Ruckus APs Enable Rural School to Move Ahead with Digital Learning



CASE STUDY



OVERVIEW

Swan River School is a K-8 elementary school in the rural community of Swan River, Montana. With no IT staff or technology budget, one teacher began fundraising for Chromebooks. The faculty was excited, but progress stalled when they realized that the existing Wi-Fi was too unreliable for the Chromebooks to even load. The school's principal supported taking out the old Wi-Fi. The important requirements for choosing a new Wi-Fi vendor were performance, reliability and affordability. But, without an IT staff, self-reliant management was also a high priority. Which is why Swan River picked Ruckus access points (APs) managed by Ruckus Cloud Wi-Fi.

CHALLENGES

- The school stopped acquiring Chromebooks because the existing Wi-Fi couldn't provide reliability, performance or coverage
- Some areas of the school had no Wi-Fi coverage, including the 7th grade classroom
- Without an IT staff, there was no one to manage a new Wi-Fi network

SOLUTION

- 13 indoor Ruckus APs
- 2 outdoor Ruckus APs
- Ruckus Cloud Wi-Fi

BENEFITS

- The school is accelerating its Chromebook acquisitions, more than halfway to its goal of 1:1 (Chromebooks for every student)
- Ruckus Wi-Fi provides flawless coverage in every part of the school
- With Cloud Wi-Fi, one teacher can use the mobile app on her smartphone to manage the entire network

POOR WI-FI STALLS PROGRESS OF DIGITAL LEARNING

"Putting the cart before the horse." If you ask fifth grade teacher Shelley Emslie how Swan River School approached its digital learning journey, that's the answer. Putting the cart before the horse: not doing things in the right or expected order. And she'll repeat it several times, because that was the nature of the school's journey towards better Wi-Fi.

Around 170 in grades K-8 students attend the Swan River School in Bigfork, Montana. In addition, there are about 20 faculty and administrative staff. Like many rural schools, Swan River School isn't part of a larger school district. The school governs itself. There's no IT person on staff and no budget for technology purchases. While the school has a hardwired computer lab with Windows-based applications for teaching basic computer skills, there was initially limited demand for Wi-Fi until Emslie got involved in the school's digital learning initiative.

In a rural school, people don't hesitate to take on unofficial jobs to fill gaps. For Emslie, the job in need of a champion was digital learning. She will tell you, emphatically, that she is not a technical person. "I don't want to take a computer apart or learn how to wire a network. My interest is in teaching tools, and clearly we were way behind in digital learning. That's what I hoped to change."

Emslie started by helping her school acquire Chromebooks. The first five were donated through a fundraising effort by the town's quilting circle. With that small momentum, Emslie decided to tackle her first grant. The grant committee was interested—but told her that the school needed an email address (Emslie had used her personal email on the grant).

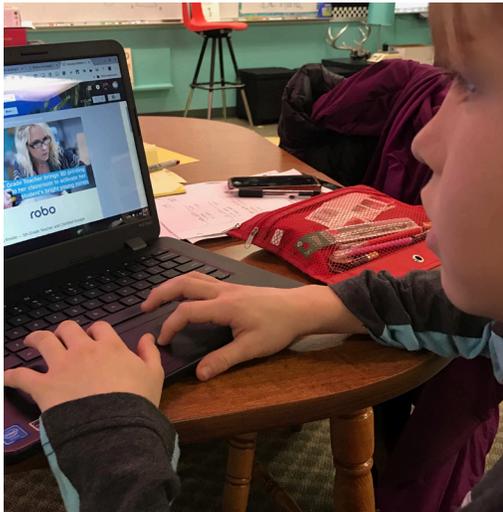
Emslie backtracked and set up Google apps for Education, which provided an email address to the school: swanriverschoolk-8.org. She resubmitted the grant and the school was awarded 20 Chromebooks. "Our goal is to reach 1:1—Chromebooks for all of our students. Acquiring the first 25 Chromebooks was such a leap forward for us."

And then the big leap hit a wall.

WI-FI SIGNAL DROPS—AND SO DOES EXCITEMENT OVER CHROMEBOOKS

Emslie became a Google Certified Trainer so she could teach Google Classroom to the rest of the faculty. The faculty enthusiastically embraced the training. But frustration quickly followed.

Years before, one of the teachers had installed Ubiquiti access points (APs) in the classrooms. Spotty coverage was just a fact of life. And the 7th grade



“The Ruckus AP performance is rock solid and the management is so intuitive. We’re able to do everything we need to now, and I know I can do a lot more in the future. We feel confident and self-reliant. We won’t be held back just because we lack a technology expert on staff. I hope that inspires other rural schools to move forward with digital learning.”

SHELLEY EMSLIE

Fifth Grade Teacher
WLAN Administrator, Swan River School

classroom couldn’t get any signal for two years (no one knew why). “The Wi-Fi coverage was so bad that the Google Classroom applications wouldn’t load. Or you couldn’t connect at all. Or the connection would drop unexpectedly,” says Emslie. “Maybe we should have known to look at the infrastructure before we acquired the Chromebooks, but we were learning as we went along. And what we learned after 15 Chromebooks was that we had a Wi-Fi problem. The Chromebooks were basically useless because of the poor Wi-Fi.”

Emslie approached the school’s principal, Marc Bunker, about applying to the E-Rate program to help fund a new Wi-Fi network. “I was excited about the prospect,” says Bunker. “We need to meet the students where they’re at, and then take them as far as they can go. We started down the road to digital learning, and we are committed to continuing.”

RUCKUS CLOUD WI-FI FIT THE BILL AND THEN SOME

Emslie got approval to hire ENA – Education Networks of America – to recommend a Wi-Fi vendor and deploy a new network. “They couldn’t recommend Ruckus highly enough. The Ruckus solution was also surprisingly affordable. Sometimes when a rural school is told ‘this is the best you can do,’ it means you’re settling because you can’t afford better. But we really got the best with Ruckus, from price to performance.”

The whole upgrade process took just three days, including the time it took Emslie and ENA to climb up on ladders and pull out the old APs from the ceilings. ENA installed 13 Ruckus indoor APs and 2 Ruckus outdoor APs (a first for the school). Each classroom has its own AP, except for two closely adjacent classrooms that can share an AP because the Ruckus signal strength is so good. There’s also coverage in the administrative offices, the gym, library and cafeteria.

Whereas they struggled to connect 20 Chromebooks to an Ubiquiti access point previously, they were now able to connect as many as 47 Chromebooks to a single Ruckus access point.

“You can walk from one end of the building to the other with your Chromebook, smartphone or tablet and never lose the signal. Teachers are ecstatic. Students are excited. You can feel a new level of energy in the school about our future,” says Emslie.

ENA recommended Ruckus Cloud Wi-Fi for management of their WLAN, which meant there was no on-premises Wi-Fi controller. ENA demonstrated the intuitive Ruckus Cloud Wi-Fi user interface using a virtual whiteboard. What really sold Emslie was the Ruckus Cloud Wi-Fi mobile app for her smartphone that she uses to manage the school’s entire Wi-Fi network even when she’s away from her desk

“It was so intuitive, I just felt comfortable using it right from the start. And the idea that I could see the network from my phone was incredible. I was home sick one day and one of the teachers called me because he couldn’t connect to the network. I looked at the AP in his classroom and it was green, so I knew the AP wasn’t the problem. I didn’t have to drive to the school or call ENA for help. In addition to troubleshooting, I’m getting a good feel for how we’re actually using the Wi-Fi: how many people are on the network and at what times and how the bandwidth is being used and by which devices. Ruckus makes it easy to really understand our Wi-Fi infrastructure.”

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Emslie describes the whole experience as amazing and effortless. “I was a little worried that I’d be on the phone calling ENA with a lot of questions about managing the network. But I haven’t called them once. The Ruckus AP performance is rock solid and the management is so intuitive. We’re able to do everything we need to now, and I know I can do a lot more in the future. I know how to set up different guest networks, each with its own parameters. I plan to set up networks for staff, BYOD, and guests. We feel confident and self-reliant. We won’t be held back just because we lack a technology expert on staff. I hope our experience inspires other rural schools to move forward with digital learning.”

MORE THAN READY FOR THE FUTURE

Emslie looks back at the Swan River’s digital learning “putting the cart before the horse” journey. Today, the school is moving forward to growing their digital instructional minutes and online assessments, building on a solid technical foundation. “The coverage and density is so good, ENA told us we would have more than enough capacity to continue adding Chromebooks. We’re up to 75 Chromebooks and there’s zero problem with performance. I’m confident we’ll get to 1:1 without adding more APs. Now we’re working on bringing fiber into the school. With the Ruckus Wi-Fi, the performance will be mind-blowing.”

The school plans to turn the computer lab into a wireless lab, and have a create-a-space approach to physical classrooms. The outdoor APs set the stage for moving classes outside. “We live in one of the most beautiful spots on earth, at the base of the Mission Mountains. Imagine being able to take students outside for lessons on science and geography. The sky’s the limit, right?”

When you live in Big Sky Country, as Montana is known, it’s easy to see why the enthusiasm of Swan River School is unbounded.

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