

## CASE STUDY



### OVERVIEW

Roaring Fork School District is divided into three communities; Glenwood Springs, Carbondale, and Basalt. The district is approximately 20 miles southwest of Aspen and serves 5,700 students over 11 PreK-12 schools.

### REQUIREMENTS

- Higher performance, higher capacity district-wide Wi-Fi infrastructure
- Great wireless connectivity to meet digital learning needs
- A Wi-Fi solution that requires little or no ongoing IT support
- Future-proof network at a low cost of ownership

### SOLUTION

- Deployed ZoneFlex R710 access points across the entire district
- ZoneDirector 3000 for easy management
- Increased the number of concurrent clients supported per AP while improving signal strength and wireless reliability
- Future-proofed their network at low cost of ownership

### PAVING THE WAY WITH 802.11AC WAVE 2

School districts are committed to academic excellence, ensuring that all students reach their maximum potential with support from their families, teachers, administration, and community. 21st century learning has brought on digital curriculums, an explosion of mobile devices on the network, and Common Core Standards that aim to unify and clarify student and teacher expectations across the country. This is placing huge demands on legacy networks forcing districts to upgrade their infrastructure with reliable Wi-Fi. Preparing the next generation in their academic journey, districts are migrating to 802.11ac Wave 2 at a low cost to ensure digital learning.

### CHALLENGES

To meet those needs, Roaring Fork School District, began a big bang approach to upgrade its Wi-Fi infrastructure across the entire district. Tucked away among the western slopes of Colorado, Roaring Fork School District is divided into three communities: Glenwood Springs, Carbondale, and Basalt. About 20 miles southwest of Aspen, RFSD serves 5,700 students over 11 PreK-12 schools. As the increase in mobile devices make their way into the classroom, RFSD was challenged with their legacy infrastructure. It was not providing the necessary performance or coverage that was needed. With the different types of communication being conveyed to students, parents, and staff through the cloud, reliable Wi-Fi was essential. RFSD's decision to move to 802.11ac was prompted by funding for a future 1:1 initiative to provide each student with a Chromebook. Today, the district provides their students with Chromebooks to share. Moving towards digital learning, these devices are essential for classroom applications and tasks. RFSD was in need of a robust and reliable network to handle an ever-increasing BYOD (bring your own device) environment. They also wanted a network that could grow as they continue to add more voice and video over the network. Like so many other school districts, cost was one of the biggest challenges when considering an upgrade to the network.

"When we really saw the change in our landscape of devices, in density, and usage-not only did we feel we needed to make sure we had a robust Wi-Fi solution in place, but we also wanted to make sure we moved to a cutting edge place so we could step back and breathe for a few years. We want to feel confident as we push out more devices over the next year so that we will not have to go back and revisit," says Jeff Gatlin, Chief Operating Officer at Roaring Fork School District.



“With Ruckus, it does what we need it to do and we are able to set it up and make the changes we need. Part of our mission is to make sure our students are succeeding. We as the district see value in knowing our students can connect.”

### JEFF GATLIN

Chief Operating Officer, Roaring Fork School District

### SOLUTION

Helping RFSD with implementing a fast and reliable Wi-Fi infrastructure was Vall Technologies. With budget constraints and support by E-Rate, RFSD was looking for a low total cost of ownership and decided to evaluate numerous suppliers. Ruckus Wireless became the clear winner with its superior solution offering.

“Ruckus Wireless met all of our criteria. It was the best bang for our buck,” comments Jeff Gatlin.

The goal for RFSD was to future-proof the network, thus by shifting to 802.11ac Wave 2 it supports the continuing influx of more powerful Wi-Fi clients. With the increase in efficiency, it allows more clients to get on and off the Wi-Fi network at faster rates, therefore boosting WLAN capacity. Deploying the dual-band Ruckus ZoneFlex R710 access points across all the schools allowed for unprecedented 4x4:4 and MU-MIMO to address the need of high density wireless deployments. The R710 has superior performance with 5GHz and 2.4GHz of user throughput. Each one is integrated with dual-polarized smart antennas that allow the R710 to automatically adapt to the changing physical orientation of any mobile client device, therefore maximizing uplink performance.

The Ruckus access points are managed through the data center by Ruckus' ZoneDirector 3000. The ZD 3000 is easy to use with automatic synchronization of configuration allowing easy management for the limited IT staff.

The new infrastructure concurrently supports a 3:1 device per user density and is future-proofed to continue to add more devices as needed.

“Wi-Fi is the single most important service that we offer our schools, students, and teachers. It went from being a nice commodity to absolutely mission critical,” comments Jeff.

The complete deployment took place over a total of five days to cover 11 schools, the district office, and maintenance offices. Vall Technologies managed the project from the beginning to end and made the process easy. “We are leveraging ourselves to be in a great place for a while. It's nice when you have the support and the resources that we did to create a robust infrastructure,” says Jeff.

For user authentication, RFSD uses the 802.1x protocol for students and staff. They also provide a SSID for guests who visit the campus during the day. Furthermore, a public open network is turned on for community use where people can take advantage of having Wi-Fi during an event over the weekends or any time after school hours. Maintained by the Ruckus WLAN controller, the public open network is placed on a schedule to preserve their internet bandwidth for critical educational services.

“With Ruckus, it does what we need it to do and we are able to set it up and make the changes we need. Part of our mission is to make sure our students are succeeding. We as the district see value in knowing our students can connect,” concludes Jeff.

Copyright © 2018 Ruckus Networks, an ARRIS company. All rights reserved. No part of this content may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from Ruckus Networks (“Ruckus”). Ruckus reserves the right to revise or change this content from time to time without obligation on the part of Ruckus to provide notification of such revision or change.

The Ruckus, Ruckus Wireless, Ruckus logo, Big Dog design, BeamFlex, ChannelFly, Edgelron, Fastron, HyperEdge, ICX, IronPoint, OPENG, and Xclaim and trademarks are registered in the U.S. and other countries. Ruckus Networks, Dynamic PSK, MediaFlex, FlexMaster, Simply Better Wireless, SmartCast, SmartCell, SmartMesh, SpeedFlex, Unleashed, and ZoneDirector are Ruckus trademarks worldwide. Other names and brands mentioned in these materials may be claimed as the property of others.

Ruckus provides this content without warranty of any kind, implied or expressed, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Ruckus may make improvements or changes in the products or services described in this content at any time. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.



350 West Java Dr., Sunnyvale, CA 94089 USA

[www.ruckusnetworks.com](http://www.ruckusnetworks.com)