RUCKUS®
COMMSCOPE

RALLY READY DRIVING SCHOOL
RUCKUS helps Rally Ready grow with converged wireless network

RR RALLY READY DRIVING SCHOOL

Customer
Rally Ready Driving School
Location
Dale, Texas

Challenge

- No cellular service
- No IT department
- No existing infrastructure
- Expansive 140-acre campus

Solutions

- RUCKUS® access points (APs)
- ICX® switches
- RUCKUS CBRS radios
- Virtual RUCKUS SmartZone™
- RUCKUS WAN Gateway (RWG)

Benefits

- Extensive network coverage across large campus
- Flexible and scalable network that can grow as business grows
- Private LTE network for facility and safety crews
- Strong data security for staff and guests

The Rally Ready Driving School began as a dream. Founder and CEO Dave "Texas Dave" Carapetyan fell in love with rally racing as a kid and, at 16 years old, started competing in rally racing to eventually become a three-time Pikes Peak Open champion. By 2012, Carapetyan envisioned a driving school as a way to share his love for the motorsport. "I started this company because I thought rally cars were cool," said Carapetyan. "I bought some $500 cars on Craigslist. Then, I rented a parking lot and started teaching rally school."

Three years later, Rally Ready moved south of Austin to its permanent location. This 140-acre tract of land serves as a rally driving school, race tracks and a place where a rally enthusiast could race, work on and store their vehicles. Located just 15 minutes due east from the Circuit of the Americas™, a Formula One race course, Rally Ready was perfectly situated in

the countryside, away from residential neighborhoods.

Unfortunately, residing in Texas hill country also meant limited cellular service. And as more people discovered the rally ranch, providing guests connectivity with the outside world presented a bigger challenge. For a quick fix, Carapetyan invested in off-the-shelf consumer-grade Wi-Fi® gear. But this only provided spotty reception that was dependent on how close you were to the router as well as how many people were accessing the network at the same time.

Poor channels of communication not only affected visitors, they also hindered track maintenance and the ability to stay in contact with crew members. "Everything was literally a 45-minute process," said Carapetyan. "Because, to ask a five-second question, they needed to find me and then drive me in person to assess the situation. For our facility crew being out in the woods running a

tractor, a strong network is productivity. It's safety. It's just every single team member being able to be connected all the time."

Fortunately, the solution to Carapetyan's network challenges also drove rally cars. Dr. Simon Lok visited Rally Ready with the notion of coordinating a corporate event. By kismet, Lok is not only a motorsports enthusiast, he is also a Certified Wireless Network Expert (CWNE) and founder of RG Nets, a premier RUCKUS partner.

"When we showed up there, we realized this is not going to work," said Dr. Lok. "Because when you have a corporate event, you have a lot of people coming here. They're going to need the internet. You're going to invite social media influencers, right? In today's world, if it's not on Instagram, it didn't happen."

Designing the perfect network

To address the lack of connectivity throughout the ranch, Carapetyan invited Dr. Lok and RG Nets to reimagine what a robust and dependable network might look like. But there were conditions. The wireless network needed to be fast and reliable all around the expansive race tracks. A private network needed to be created for facility and emergency crews. And the network must be scalable and cost-effective.

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>
> **Dr. Simon Lok**
> **Founder of RG Nets**

To address these requirements, RG Nets recommended a RUCKUS converged wireless network that included an enterprise-grade Wi-Fi 6 network for racers, guests and social media influencers; a Citizens Band Radio Service (CBRS) network for instructors, facility workers and safety crews; as well as internet of things (IoT) devices.

For the foundation of the network, RG Nets installed four RUCKUS ICX 7150 switches that delivered high-performance enterprise-class switching. Available in a number of sizes and formats, these stackable access switches gave Rally Ready

flexibility, scalability and seamless interoperability with RUCKUS wireless products at an entry-level price.

In addition to new switches, RG Nets deployed several RUCKUS indoor APs to provide coverage to the ranch house as well as the mechanic's hangar/car storage. "We want to make sure that our guys in the shop have the same high quality of internet that we have up in the ranch house," said Carapetyan.

Next came the challenge of delivering capacity and coverage outside to the expansive property. Since Rally Ready's racetracks ranged from five to seven miles long, providing coverage would require some finesse. To tackle this challenge, RG Nets entrenched fiber cabling around the raceway and strategically deployed RUCKUS T750 APs where guests and racers would need Wi-Fi the most.

For outdoor APs, RG Nets chose RUCKUS T750s for a number of reasons. These Wi-Fi 6 APs support more than 1,000 clients at a time. They're IP-67 rated to withstand the blazing temperatures of the hot Texas summers. But one of the biggest reasons was the Beamflex+® adaptive antenna technology they offer, which selects from a host of antenna patterns to establish the strongest connection with each device in real time. "Beamflex+ allowed us to deploy a reasonable number of APs and switches," said Lok. "If we had gone with anything else other than RUCKUS, the number of cable drops alone would have broken the budget."

Another valuable T750 feature that benefited Rally Ready was its 1 GbE power over Ethernet (PoE) output port that can power IoT devices or other APs. By utilizing this port for CBRS

APs, RG Nets was able to energize this private LTE network without having to deploy PoE cabling and repeaters across the large campus. Operating on public 3.5 GHz radio band allowed Rally Ranch to not only have constant communication with racing and safety crews, it could also let them operate the helicopter camera that chased racers around the track from the air.

Simplifying network management via RWG

As with any small business, building and maintaining a dependable wireless network can feel overwhelming. With no IT department, Rally Ready was concerned about running and managing the network. But the RG Nets design made the operations easy to use.

By leveraging RUCKUS SmartZone™ controllers and RUCKUS Wireless Gateway (RWG), RG Nets created a stable and dependable network that required little maintenance. "Recognizing that

we're pretty IT clueless, our up time is better than it's ever been with this hardware," said Carapetyan. "The only times that there's been issues has been on the internet service provider (ISP) side or during a power outage."

With Virtual SmartZone network controller running as a guest VM inside the RWG, the converged wired and wireless network could be easily managed from a single unified network console. It also facilitated the automation of routine administrative tasks such as automatic firmware updates, so Rally Ready staff could focus on racing and not the network.

This new network also provided Rally Ready peace of mind due to the advanced security protocols put into place. With the RWG, Rally Ready can create captive portals for visiting groups or events and secure each user's connection through Dynamic PSK™ (pre-shared keys), a patented encryption key technology only available with RUCKUS.

Easy and safe onboarding

"Another area where they've been able to add efficiency into their process is the onboarding and registration," said Erik Heinrich, CommScope senior director strategic partnerships. "The new network allows for people to arrive, accept waivers and perform all paperwork digitally through an online captive portal that records, captures and employs a digital fingerprint. With the RWG, you can always look back at what somebody submitted, so there's an audit trail."

As a business that's customer service focused, providing free Wi-Fi with easy onboarding was a major requirement for the new network. Now, Rally Ready can create a new service set identifier (SSID) that gives guests secure access to the network until a group has left or an event is over.

"Knowing that we don't have to worry when we create a new SSID and give people access to the same network that

has our printers, our laptops and our media storage has been super important to us," admits Carapetyan. "A roll cage in a rally car would be the analogy, right? Security is something that we hope we never have to need. But you want the best one possible just in case, like safety equipment in our rally cars."

Although visitors and guests may not know what goes on behind the scenes to make the network function, they do see the results of an easy and secure access process. "A good Wi-Fi network is like rally car racing," said Heinrich. "People just want to get on. They want to go fast. And they want to be safe."

Being Wi-Fi ready opens up new avenues

Since RG Nets has deployed the new wireless networks, Rally Ready has been able to host a number of large groups and events. As a true test of how the network performs, they've recently been able to accommodate one of their largest number of guests for a corporate event without a single issue.

"We had 375 people onsite—all using our network, uploading their social media posts, their videos, their photos, all that stuff in real time," said Carapetyan. "That's been the game-changer for us. It's opened up our ability to host that size of events."

With the ability to successfully hold large corporate events now in the rear-view mirror, Carapetyan has set his sights on finding more ways to hold large events to promote the sport of rally racing. One of those was joining the American Rally Association (ARA). Rally Ready has launched a series of rally races known as the Roadrunner Cup. This Rally Sprint series brings rally racing to Texas that would have never been possible to coordinate with the old Wi-Fi.

But, for Carapetyan, this is only the tip of the iceberg. "When we put a network in, I don't want to build to my current needs," said Carapetyan. "I want something that we can grow into, that mirrors what we do in our business."

Why scalability matters

Following the successful deployment of the RUCKUS network, Carapetyan is exploring ideas on how he can make the Rally Ranch more of a destination, such as offering camping in the wooded area surrounding his race tracks. "Right now, we're covering all that main open area," said Carapetyan. "But we haven't really tapped the network to expand into the 80 acres in the back. Surprisingly, from the APs that we have over there, we actually get almost halfway back into our heavily wooded area just off of the one AP that's near the edge of the woods."

By deploying RUCKUS Networks solutions, the network can easily be expanded whenever Rally Ready is prepared to grow. For example, any RUCKUS AP added to the network would automatically configure itself and mesh with the existing APs to extend coverage.

Carapetyan thinks this wireless network can also play a large role in making the sport of rally racing more accessible to motorsport purists. "For every car that runs on our track, we want to be able to capture video from there," said Carapetyan. "We need to be able to pull and look at that, almost like a security camera: That was the coolest jump ever! We want to be able to pull that video and give that to people."

In addition to being able to follow the race through motion sensor cameras, Carapetyan wants his audience to feel the excitement of racing. He also wants to offer live feeds from inside the vehicles. "For every car that runs on our track, we want to be able to capture video from there and bring that back and store that," said Carapetyan. "We want to have live streaming of all of our racing events with multicam live streaming."

From operating a driving school in a parking lot to building a 140-acre rally ranch that one day will offer a visceral experience as to what it's like to be in a real rally race, Carapetyan's vision has come a long way. "We're trying to pioneer and do everything that we do right," said Carapetyan. "Our goal is to break ground everywhere, and we need good partners for that. That's what RUCKUS has been for us."

About RUCKUS Networks

RUCKUS Networks builds and delivers purpose-driven networks that perform in the demanding environments of the industries we serve. Together with our network of trusted go-to-market partners, we empower our customers to deliver exceptional experiences to the guests, students, residents, citizens and employees who count on them.