Verizon

Demystifying Fixed Wireless Access Part 2

CORPORATE PARTICIPANTS

Keith Wellman
Verizon – Distinguished Architect

David Roten
Cisco – Technical Marketing Engineer for Routing Solutions

Bruce Lancaster
Wilson Electronics – CEO

Chad Foos
SOVA – Director of Solutions Engineering

PRESENTATION

Keith Wellman

Hello everyone, thanks for joining us as we kick off the second in our 2021 webinar series. Last time, we demystified what fixed wireless access is all about, how it can deliver fast deployment, mobility, reliability, and the control the business need, drive efficiency and outcomes as a viable alternative to traditional broadband.

In this episode, we'll talk about changing the mind-set around fixed wireless access, and hopefully, bust some myths too. We'll explore how fixed wireless solutions and replace unreliable connections and untangle aging configurations while delivering data quickly and securely, reducing maintenance cost, increasing network reliability, and quickly scaling to tens or hundreds of locations, all delivered on Verizon's award-winning network that covers 99% of the US population.

We're glad to have you with us today and I'm excited to be your host and moderator for this session.

For a little background, my name is Keith Wellman and I am a Distinguished Architect with Verizon, and over the last 11 years with Verizon, I've been involved with many large scale implementations of fixed wireless access, and it's been exciting for me to personally see the adoption of this technology.

Now, let's introduce our panelists for today's discussion. He is Technical Marketing Engineer for Routing Solutions with Cisco. Please welcome David Roten.

David Roten

Hey, thanks for the welcome. Glad to be here.

Keith Wellman

Glad to have you David.

Keith Wellman

He is CEO with Wilson Electronic, please welcome Bruce Lancaster.

Bruce Lancaster

Hey, Keith. Pleasure to be here, looking forward to a great conversation.

Keith Wellman

Thanks, Bruce. Me too. He is Director of Solutions Engineering for SOVA, a Verizon platinum partner, please welcome Chad Foos.

Chad Foos

Hey everyone, thanks for having me.

Keith Wellman

Welcome, Chad.

Thanks to our panelists today for joining us in this discussion about fixed wireless access. And before we begin, let's have a little fun and start with a poll question.

Take a look at the right sidebar of your screen, you'll see a button for poll questions. Just click the button and make your selection, and we'll come back and look at the results a bit later.

The first poll question is, "How reliable is your overall network design across all locations?" and I believe the poll is open right now.

One more thing to note, on the right sidebar just below the poll button, you'll see a Q&A button. If you have questions for our panelists, just type it in the box and we'll try to address it during this session.

Now, let's get started and have a discussion about connectivity options. Some of our audience may not be familiar with how easy it is to slop out an unreliable connection with a fixed wireless solution, as a standalone or even as a backup. We have David Roten here with us, our networking expert from Cisco. David, can you tell us about some solutions if a business wants fixed wireless access for primary, branch office connectivity, or something more robust as part of a software-defined network, or SDN.

David Roten

Sure, we have a couple of different options that we offer at Cisco. We have the built-in hardware that goes into our routers, our PIM and NIM modules that can be installed into our modular branch access platforms where you have your LTE radio that's actually embedded into the router itself, so that your LTE radio is in the radio, in the closet, and that may provide a solution in certain locations where you do have a high quality LTE signal at that location. However, there are going to be situations where your network stack is buried somewhere in your facility or in the basement of a building and you may not be able to get a high quality LTE or 5G signal in that location. So, we offer another product called the Cellular Gateway Platform which operates on Verizon's network, which you can use to position an LTE radio in a favorable location in the facility. You can position it next to a window, next to the roof with an external antenna, and then extend that LTE radio back to your network stack via an ethernet cable, so that you're able to get a high quality LTE signal with fast low latency connection, and have compatibility with the network stack that lives behind it for being able to add LTE fixed wireless connectivity to a location, in addition to the terrestrial connection, or to be able to deploy a location quickly with just that LTE or 5G access as the first means of connectivity.

And of course, all of those are compatible with traditional networking, as well as with SD-WAN networking as well.

Keith Wellman

What about cost? What if I'm barely getting by on an aging legacy connection that's very expensive to maintain every day, and I have many locations scattered across the US, but I don't have staff at these locations to manage the connections. Is there a way to reduce my operational costs with a fixed wireless access solution?

David Roten

Absolutely there is. With the SD-WAN solution that we offer with our vManage management platform, you can deploy routers with cellular access built into them, or the Cellular Gateway Platform's in mass and then use our SD-WAN overlay and vManage system to deploy those systems in a zero touch fashion so that they come up automatically with pre-provisioning, and you can do software upgrades, configurations for custom APNs, performance monitoring, all of that within a single pane of glass with vManage, being able

to do that for your cellular gateways, as well as with your SD-WAN overlay network that those cellular gateways and LTE radios participate in.

The other advantage of having an SD-WAN deployment for those radios is that you can deploy those in addition to other means of connectivity, whether it's terrestrial or cellular, and [inaudible] participate in the overlay, your network continues to function and you're able to quickly and easily distribute traffic across those different means of connectivity and having that single management platform reduces the overall management cost for that platform in mass, so it's a win for connectivity and it's a win for management and operational savings for that platform.

Keith Wellman

Awesome. Great information, thanks, Dave.

Before we hop onto the next topic, let's take a look at the results from our poll. It looks like we have some room for improvement. Some people are experiencing some disconnects that are causing frustrations and lost opportunities, so definitely room for improvement there.

All right, let's throw out another poll question. This one is, "How complex is your current network wiring configuration?" That poll is now live.

OK, let's pivot the conversation to coverage and reception. As you know, Verizon's network covers 99% of the US population. If you're on our network, you probably have a good idea as to what kind of coverage you're going to get. Most of the time, you won't have an issue and our solution will work right out of the box. However, in some challenging situations, let's say, you're in a basement surrounded by concrete or in a building with a metal roof, like an airplane hangar, what can we do to get better reception for a cellular signal? Let's reach out to Bruce with Wilson Electronics. Bruce.

Bruce Lancaster

Thank you, Keith. So, first, let me introduce Wilson Electronics as many people may not have heard of us. Our real mission in life is to expand wireless network coverage to everyone everywhere. This includes network coverage in vehicles, residential applications, or commercial buildings where we're really talking about today.

And the challenge really comes in where... Verizon has a phenomenal network, as you said, covering 99% of the population, but there's a lot of building materials that block that network. So, we operate under the weBoost brand for our residential and vehicle solutions, and we operate under WilsonPro brand for our enterprise solutions. And we are recently, or soon going to be announcing some C-band and millimeter wave products that will be available soon that continue this mission.

So, let me show you a little bit how it works. So, if you can put up the slide. So, Verizon has a great network, as I said before, with our situations where you have building materials that are a problem, Low-E glass, steel, concrete do block signals that try to penetrate that building. So, with the WilsonPro solution, you're able to put an external antenna, amplify that signal through a bidirectional amplifier, and then cover either a small portion of a building or the entire building if that's needed.

So, an example recently we did was 165,000 square foot warehouse in Ohio where they had multiple IoT devices and internet needs that they wanted to run off the Verizon network, but the building was degradating the signal over 50 dB, so we were able to deploy this solution in just a couple of weeks and light up that whole building and really solve their internet connectivity challenges, as well as lit up all the other devices.

Keith Wellman

One other question is, what if I have a kiosk or a store within a store and I only need to improve the signal for a small area for maybe a single device?

Bruce Lancaster

That's a great question, Keith. We have lots of examples like that as well. One recently comes to mind is there was a retail store that had a medical clinic withinside that. They had a little medical kiosk, and you can imagine what that's for in today's environment, and they needed internet connectivity to complete their mission.

Well, they chose Verizon as the carrier to provide that connectivity, because the larger retail store would not allow them on their network. But unfortunately, they did not have very good coverage where their kiosk was located in the store. So, they called Wilson, and we put them together with one of our integrators that deploy the Wilson solution, and was able to light up that small little area inside that retail store and connect that internet router, that was able to allow them to accomplish their mission, and their mission was critical. So, we were able to do that within just a week of getting the phone call to light up that area.

So, we can do large spaces or small spaces to really help break down that barrier that the building is, that may present in some cases and give great connectivity to the Verizon internet solution.

Keith Wellman

Thanks, Bruce. These are definitely great solutions.

Let's take a quick moment to look at our second poll. And it looks like a lot of people are doing some upgrades and repairs, and it's becoming tougher to manage, so interesting. So, there's definitely room for improvement in that area with the network configurations.

OK, let's switch to our next poll question and that one is, "How confident are you in deploying fixed wireless access solutions?"

All right, now that we've discussed connectivity options with fixed wireless solutions and how to enhance reliability in the most challenging situations, let's explore how to streamline hardware deployment to branch offices or work-from-home employees. Chad is a master agent and platinum partner with SOVA. You have deployed thousands of fixed wireless connections for businesses large and small. Can you share with us a recent success story and how you overcame some of the challenges?

Chad Foos

Yes, and good topic. One example that comes to mind was a pretty aggressive schedule, it was about 4,000 locations and the business was going to see savings due to it, so they were pushing us as hard as they could, so we had to do those 4,000 locations in about 11 months. And the reason why I remember it so much is it was during COVID. So, you can imagine that there were some extra curveballs that we had to think through, but we completed the 4,000 locations in 11 months, actually in about 10 months, which really speaks to the ease of deploying LTE as a primary connection to your business.

There were some considerations, though. So, to set ourselves up for success, we like to do a pre-site survey just to get an understanding of what that in-building looks like. Wilson shared about that as well. You can have a really amazing Verizon outside of the building experience, but inside that building, there might be certain considerations. So, pre-site surveys take away all that guesswork.

A couple of different options to do that, either send boots on the ground or even virtual ways for us to do that, but that just makes sure there's no surprises.

And then the other thing we had to work through is, was this a new building or did they already have an existing internet service provider that we were switching to Verizon LTE. So, both of those kind of have their own deployment process, we'll say, with new connections. You just want to make sure all the wiring is in place, and if it's not, you do that first and then you get the connection there. And then if there's already an internet service provider in the building, you want to make sure you don't have any downtime during this. So, we set the LTE up in a way to work with that broadband while we were getting things dialed in, and eventually, we can switch over to that LTE as primary maybe leaving the broadband as backup, or completely phasing it out. But that use case definitely comes to mind, and it kind of proved to me the use case of LTE as primary, just because of how fast and quickly we got it done.

Keith Wellman

Awesome. So, in today's environment, we're seeing a lot of interest in work-from-home or work-from-anywhere space, especially in the healthcare industry. Can you elaborate on that?

Chad Foos

Yes, and another good question. So, with work-from-home, businesses are trying to solve for some of the same things that they're trying to solve for just by putting in fixed wireless in their business. They're looking for standardization of that carrier, standardization of billing, for example, rather than managing hundreds of internet service providers, they just want one, and you can do that Verizon fixed wireless. So, those things we take to the work-from-home use case. And again, businesses seem to really appreciate that standardization.

But in addition to that, the IT staffs of companies today are having a hard time troubleshooting and supporting those work-from-home employees, because they're essentially like a black box when they're using their home internet. So, for example, I could be having a problem and I call my IT staff today and say, "Hey, I can't get online, I can't access my applications", and that IT staff is having a hard time determining is the problem with their home internet provider? Is their problem with the computer itself? Is there a firewall issue I need to worry about? Is there an application issue I need to be aware of? Where fixed wireless in the home takes away that black box.

With the devices we're putting in and Verizon being the carrier, IT is able to quickly troubleshoot that user as if they're in a building. They can quickly rule in or not whether or not it is an internet issue, if it is an internet issue, they can quickly say, "OK, what speeds is this user getting? What is their latency? What kind of uptime have I seen over the last X number of days?" So, all of the things they were able to do if that user was in their building pre-2019 or pre-2020, they can now do for those at-home users. And guess what, those employees are just as critical as the people who were working out of the brick and mortar. So, we need to be able to support them just as quickly and get the same kinds of eyes that we would have as if they're sitting in our building and I can walk over to their desk.

Keith Wellman

What if I have other Verizon solutions I want to bundle with fixed wireless access, for example, Verizon's voice-over-IP solution (One Talk), or maybe a security solution.

Chad Foos

Yes, it comes up a lot, and it goes back to the businesses wanting to standardize or really simplify who they can reach out to for support. So, businesses want one hand to shake. If I have a problem, who do I call? And if Verizon is the phone system, the carrier, and the security suite, that question is very easy to answer. I call Verizon and they can help me troubleshoot the issue. So, that standardization really seems to be a hot button with businesses today. They have enough to deal with and enough to kind of figure out right now with our environment, so we can help simplify that by really making Verizon support them on more than one product.

Keith Wellman

Thanks, Chad, always good to hear these stories.

And I want to thank our panelists for today's intriguing discussion. Now, we're going to enter the Q&A segment of our program and we're going to take a brief pause to give you a chance to submit your questions. As a reminder, simply click the Q&A button on the right side of your screen and type your question into the box and we'll try to get you some answers.

Let's take a look at the results of our third poll. It sounds like everyone is fairly confident in deploying fixed wireless access, so that's a good thing. Obviously, a lot of people have had some experience with it.

So, our final poll question, "What areas would you be interested to explore with a fixed wireless access solution?"

Let me take a look at some questions here. David, here is one for Cisco. “I'm in the finance industry and I'm using LTE as a failover, it’s been working pretty well at branches to ensure my network doesn’t go down. What is the benefit of using SD-WAN with redundancy over LTE as a backup and do I even need it?”

David Roten

So, one of the key advantages that SD-WAN is going to give you is the ability to automatically be able to reroute traffic whenever there is a problem with no intervention from people that are monitoring your network in the branch or back in the data center or in the network operations center for your company.

By using a smart controller that actively monitors the quality of the connections at all times, if there's a degradation in the service across the primary link, then that traffic can automatically be rerouted across a fixed wireless backup seamlessly so that there's no interruption for service for applications that are running at that location. And the same goes even if you're using fixed wireless access as your primary access, and then you have a second LTE connection or wired connection for the backup. Those are monitored as well, and then if there's a problem with that fixed wireless connection in a temporary fashion, traffic can be moved over to an alternate path and then it can resume the primary path whenever the service is restored. So, SD-WAN takes all the guesswork and all the active people intervention out of the process of being able to have consistent network access from remote locations, it’s all handled by a controller, by policies that are set by you ahead of time, and whenever those policies are violated, traffic is automatically rerouted with no interruption to service so that your business can proceed to function with no interruption for customers and for employees. So, it’s a great win solution there.

Keith Wellman

Awesome. Thank you, appreciate it, David.

Chad, I've got one for you. “What brands of routers were you working with when you implemented the fixed wireless access as the new primary internet access service?”

Chad Foos

Oh, a good one. We've worked with a couple. Cisco is amazing. Cradlepoints are great as well. I can probably name a few more and I don’t want to leave anybody out, but those are top of mind at the moment.

Keith Wellman

This one just came in. “How is pricing set for a small business?” Chad, I think I will throw that one over to you.

Chad Foos

So, pricing, I don’t know if we can get clarification. Is it pricing on the LTE plans or is it pricing on the hardware itself?

Keith Wellman

We can get back to the attendee and ask him.

Chad Foos

I will say this, we've supported all types of different budgets. So, some businesses want a CapEx model where they're purchasing the hardware upfront, and then it’s just the LTE service each month. Other businesses are looking more for an OpEx model, where they want a payment plan that includes the router, the service, and support. SOVA offers that as well. So, definitely don’t let price – pricing is always going to be a factor, but it hasn’t been a showstopper in my experience with the benefits that fixed wireless is bringing to the table.

Keith Wellman

Bruce, you're awful quiet, so we'll throw you one. "I don't own my own building and may have to get permission to get anything bolted on. Are Wilson's solutions all bolt-on or are there portable devices that I can place in the right spot on the premise?"

Bruce Lancaster

That's a great question. We have solutions to cover various sizes and shapes of buildings. I gave you an example of 160,000 square foot warehouse that we've covered, all the way down to a small kiosk. Though, the question is are the solutions temporarily mounted?

Typically, no, they're not, because you want a solution that's going to be robust and stand the test of time. So, that said, we've deployed thousands and thousands of locations, and it's not usually difficult to get property management ownership, because it's not a very intrusive solution. But yes, there is a cable that needs to come from the outside of the building to the inside, but that's not typical for a lot of equipment and devices, and then running network cabling and equipment through the building is fairly easy and standard to do.

So, although it's not a true temporary solution, I wouldn't call it a permanent fixture that ruins the aesthetic of the building, and we have thousands of examples.

Keith Wellman

Dave, what's been your experience with 4G and 5G technologies in terms of reliability? Can you talk a little bit about that?

David Roten

So, 4G and 5G technologies, they are reliable at this point. 4G has been out there, at this point, it's very robust, the connections are solid, the coverage is very, very good. With 5G rollouts, again, the coverage is solid in a lot of areas. And so, whenever you do have that fixed wireless deployment, of course, you're going to position your LTE client in a favorable position for that signal, and once you do that and it's in that fixed location, you're going to have a really good, solid signal with low latency and high performance.

So, of course, with mobile wireless, you always have some variability, but when it comes to the fixed wireless solutions, once you've got it nailed down, you're in really good shape and you're going to be able to have a lot of reliability and to be able to depend on that connection with that fixed wireless deployment.

Keith Wellman

Thanks, appreciate it, Dave. One more for you, Chad. This customer has 13 branch locations in the South and Midwest regions. Can you talk a little bit about the implementation of a fixed wireless solution to replace their port connections at these locations?

Chad Foos

Yes, pretty straightforward. So, the step one would be we do a coverage test with Verizon on those addresses just to get an idea of coverage. Then we want to do a little in-building test. We can either send boots on the ground to do that for you, or we can work with any staff that's available to get a good reading of what's going on inside. Believe it or not, your cell phone is a pretty handy tool that we can leverage to get an idea of what's going on in the building.

But the good news is if that's the direction you want to go, there's nothing you really need to figure out. We're there for you to make sure if an external antenna is needed, we can leverage partners like Wilson, we have all the great hardware experts on this call already mentioned through Cisco. So, if that's something you're interested in, step one is we do an outside coverage test and then just figure out what hardware we need to put inside it to deliver that Verizon coverage to your devices.

Keith Wellman

Awesome. Great discussion. Plenty of great questions here and so, I want to thank everyone for the questions.

That's really all for today's webinar. Thank you so much to David, Bruce, and Chad for a thoughtful discussion.

You've heard us talk today about fixed wireless access and how it can deliver fast deployment, mobility, reliability, and control the businesses need to drive efficiencies, improve connectivity and deliver critical data securely and quickly. Keep an eye out for a follow-up email with information on where you can reach out to us to learn more about what we discussed today. And as always, you can reach out to your account manager for information if you're a Verizon client.

I'd like to thank our audience for joining us on this webinar today.