

Verizon

Fixed Wireless Access and the Art of the Possible with Verizon and Cradlepoint

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PRESENTATION

Dave Grady

Good morning, good afternoon, or good evening, depending on where you're joining us from, and thank you for joining us for this webinar today. Today, we're going to be talking about the art of the possible with fixed wireless access. Today, we have some great insight from some experts at Verizon and Cradlepoint. We're encouraging questions all throughout and toward the end of this session today, be about 45 minutes or so, but we're really excited about this because it's fun to talk about the art of possible, and when technology is there to make things new and exciting for businesses and for employees, and even for the customer experience, it's great to be able to share ideas and inspire ideas, and we'll do today with the help of our guests.

So, before we move on, I just want to remind our audience that the material here is only being used for this today, although this webinar will be available on replay. So, if you get a lot out of it, you can watch it with some of your colleagues or friends at work on-demand any time you want, about an hour after it ends today.

So, my name is David Grady. I'm a Network and Security Marketing Manager here at Verizon, and we're joined today by Dee Dee Pare from Cradlepoint. Dee Dee has 20 years of experience in networking. She's become a subject matter expert as part of the strategizing messaging team, introducing to the market 5G, LTE wireless WAN, enterprise routing, switching, everything. Wi-Fi, network security, smart grid, Internet of Things, Dee Dee, you've been involved in just about everything in the last couple of years in terms of the evolution of this technology, and we're really glad that you're here.

Chris, my colleague from Verizon, Chris Russell, a distinguished architect, 5G enterprise solutions. Chris has served as a mobile technology consultant on cellular technology. Just to make sure we're where we're at, I wanted to make sure that the audience understood where both Verizon and Cradlepoint play in this enabling area, so it looks like you're going over the map, right?

Chris Russell

This is a slide, actually it was updated over the past month when we launched 5G Ultra in more markets. So, that included the inclusion of our C-band coverage. So, most of this is a public-facing site, so you could actually put in your address and see what coverage is like today, both for 4G/5G nationwide, and as well as millimeter and C-band coverage. So, you can really see where 5G Ultra is reaching more people today.

Dave Grady

Excellent, all right. So, yes, Dee Dee, why don't you tell us a little about Cradlepoint. I know you're a valuable partner for Verizon out there in the market, enabling organizations to achieve their business goals.

Dee Dee Pare

Sure, and thank you so much, David, and thanks for the opportunity to present here with both you and Chris as well. But Cradlepoint, for those who may not know us, is the leader in worldwide wireless LAN or fixed wireless access, and we're best known for business and in

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public sector. And Cradlepoint has been a pioneer in fixed wireless access, wireless WAN since about 2006, and we've taken those learnings and that experience, and we've built that into something that we call Cellular Intelligence that is within our 4G and 5G routers and adapters, which is managed by cloud-managed NetCloud capabilities as well. And our customers look to us to partner with Verizon and help to deliver reliable secure networks that can be deployed in fixed locations, in vehicles and mobile scenarios, as well as IoT and remote workers. And in the last two years, we were acquired by Ericsson, so, you know, with this new partnership with Ericsson, we can now dig in even more into wireless WAN and the workings. So, that way, we can build up even more Cellular Intelligence. So, that's a little bit about Cradlepoint.

Dave Grady

Alright, well, we're going to talk a little bit later about some of the use cases, some of the ways that real organizations are using the combination of these technologies, again, to advance their business, to improve the customer experience, to be more efficient and more effective. But what I wanted to ask you both, again, from your own perspectives and experience working with your customers, we talk a lot about innovation-- in the last few years, the idea of digital transformation has really caught on, and even before COVID, organizations were looking at new business models, new operating models, new ways of serving their customers, and they were also looking at new technologies to advance their cause. And then when COVID hit and everything changed terms of work from home and remote workers, and even customer habits and customer demands and expectations changed as well, innovation became really such an important thing in companies to be able to survive the last two years and to set themselves up for failure-- not for failure, excuse me, set up for success and avoid failure in the future. So, I want to ask you, and I think I'll start with Dee Dee, how does this idea of wireless Business Internet, the speed of 4G LTE, or 5G, depending on which one you're working with, create opportunities for companies to innovate?

Dee Dee Pare

Absolutely. What we're seeing-- you know, you mentioned digital transformation, and that's something that is really impacting the other end of the WAN. If you think about it, all the transformation happens out in the field. It's not-- the transformation doesn't happen in the headquarters, it happens out in the field. So, it's even more important to make sure that the people or even technology that's deployed out in the field, that's where the real transformation happens, and so you need to make sure that your networks to the WAN, you know, over the WAN are reliable, they're secure, and agile especially, so you need to adapt to locations. And what we've seen with our customers is, they are able to get closer to their customers, their patients, their constituents, things along those lines, and they are able to have the freedom to connect wherever they need that internet to be. And that's really where wireless Business Internet helps make sure that customers are able to achieve their digital transformation, and it's by having that agility and that, but yet having the enterprise class capabilities along with that, so they're able to really enjoy that.

Dave Grady

Chris, are there particular areas that you're seeing where companies are taking advantage of this technology to change the way they do things for the better?

Chris Russell

I think the most obvious is just anywhere that you're interacting with your consumers or your customers. So, one of the unique things about bringing your own connectivity with you, that's wireless, is that even if you're-- it's not your location, so you're a store within a store, if you're a small business that's hosted inside of a mall, a kiosk, you think of any type of environment where you can bring your connectivity with you and you don't need to rely on what's there at that location. So, retail has definitely large opportunities there. And like Dee Dee mentioned, hospitality, healthcare, et cetera, well, you touched on it earlier about the pandemic, we had new ways to interact with everything as consumers. So, whether it was a virtual visit to a doctor, or whether it was using for online ordering for delivery of groceries, or food pickup, et cetera, all those were enabled through this digital transformation that became essential.

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Yes, it certainly accelerated by the last two years, and I think it's probably going to change for the future. Even after everything settles down, you're going to see all businesses that primarily had tried to drop draw shoppers into the store physically, now, they're going to probably stick with that hybrid model of curbside pickup or more online delivery. It's an exciting time. I wanted-- what about the idea of collaboration across remote workforce? It's so important to have your far-flung team feel that they're all part of the same team and staying connected. How does this sort of technology enable that to happen?

Dee Dee Pare

Well, I think you were talking a little bit about hybrid. Hybrid seems to be kind of the buzzword, or the word that describes what we're experiencing these days, is because whether it's a hybrid workforce of needing to be sometimes at home to deliver productivity, or to be in the office, you know, it's... a lot of what we're seeing is hybrid scenarios. So, it's having that ability to mesh in-between different worlds and maintaining that agility that really helps from that standpoint. But, you know, it is all about having a hybrid scenario so that way you can have the connectivity where you need to have it for the most productivity from the workforce.

Dave Grady

Yes, the idea of innovation includes agility, right? Chris, did you want to say something?

Chris Russell

Yes, just add to our own experience at Verizon with our Work Forward, and many employees like myself are hybrid. Just last week when travel does bring me into the office, there's Verizon's Boston Innovation Hub, and... but was able to collaborate both in-person and with those that were still at home or at another office remotely by taking advantage of the video conferencing that was in the office. They were able to seamlessly connect, many of them over wireless. Applications like this, whether it's Verizon's BlueJeans application to connect as well. So, all those enabled that hybrid connection for everyone.

Dave Grady

OK, well, you touched on a couple of industries, and I know you mentioned retail and healthcare, but let's dig into that a little bit more, okay. So, I wanted to hear a little bit about which industries are best positioned to leverage wireless Business Internet. Verizon and Cradlepoint, we work with customers in all sorts of different industries, so clearly, this technology's applicable to many or most of them. But Chris, in your experience, what kind of industries have been either early adopters or early proof points for the power and possibility of wireless Business Internet?

Chris Russell

Yes, over the past decade, just about every customer has adopted wireless into their fixed environment, whether that was intended initially for business continuity, just backup, disaster recovery, having a plan when your primary plan fails, but then others would be able to actually take advantage of it in the field as well. So, mobility obviously being where we continue to excel. So, if I think about a roadside service provider, so whether that's provided by your insurance, whether you're... a part of connectivity within your vehicle, so there a consumer has access to someone else that's mobile, as well as someone that might be fixed in the location, such as a dispatcher that's going to contact a tow truck driver, and send them to your location. So, the ability to work seamlessly between things and people is kind of key and Business Internet offers that.

Dave Grady

Dee Dee, how about from Cradlepoint's perspective, you mentioned retail, how can this technology, this enabling technology, again, that Verizon and Cradlepoint bring, make that customer experience consistent across multiple locations? Have you seen that?

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Oh, absolutely. So, if you think about a retail environment, some of the characteristics about retail is the fact that they are highly distributed, they're dynamic, meaning they have things change continually, they're constantly trying to stay on top of the current trends, and at the back end, and IT staff, it's usually run by a very lean IT. So, all of these conditions have made them very able to adopt and embrace fixed wireless access, and making sure that we are able to deliver where they need it, when they need it, and have that reliable connectivity. But if you think about it, also, PCI-- I'm sorry, their POS capabilities, I mean their revenue is everything, so they need to make sure that it's reliable to keep their point of sale up and running at all times, and so the idea is that, basically, whether they are distributed and able to monitor remotely, and then also, if they're able to have zero touch deployment, they can't send their IT staff to wherever the people are, but they also need to make sure that they are getting their revenues coming in quickly, so they need to be able to be connected quickly, and not have to wait a long time to get a wired connection, they need to have-- as soon as the lights are on, they need to be able to attract customers as well.

So, all of those capabilities or all those thoughts are part of why retail really looked to fixed wireless access as their connection of choice. But you can take some of those learnings from retail and also apply it to healthcare, for example. As you mentioned, David, there was a lot that shifted over the last two years and healthcare has had to really become highly agile and meet with patients wherever they can. And so, they've needed that same dynamic and agile connectivity for healthcare.

But even before COVID, Cradlepoint had been delivering wireless to clinics mostly, like dental clinics or healthcare clinics, dialysis clinics. And then additionally, if you think about it, another industry that is pretty ripe for fixed wireless access is financial services, and part of that is insurance, and brokerage, and everything else. They've also had to become a little bit more agile in the last couple of years to be able to meet where their customers are as well.

And finally, with the advent of 5G, another area that has really picked up with fixed wireless access are logistics as well as construction. And if you think about it in both of those scenarios, they've needed to-- construction, by nature, doesn't have the infrastructure in place, and so they need to set up their office and have everything run with really massive files on location and be able to talk to the customers. But some innovative construction companies have even built in a little virtual reality, so that you can imagine what the site looks like fully built out. And so, they've been able to use that for, not only customer interaction, but they've used it in terms of being able to understand their architecture and make sure that they've got everything in place and that they're not missing anything from a safety and security standpoint.

Dave Grady

With construction, I'm particularly intrigued by the possibilities with this, because the cliché or the thing to go to is about the backhoe, the dreaded backhoe that might cut into a cable. And what has more backhoes than anything else? A construction site. You set up a construction trailer for the next big office tower that's going up, or the next big infrastructure project that you've bid on and you've won because of this infrastructure funding that's come from the Federal Government, you need to be able to quickly set up, as you said, so fixed wireless access, particularly 4G can help you get that connectivity quickly onsite and on location. And then as you said with 5G, to really handle those massive new applications and files. So, yes, I think that construction's pretty exciting, and whether you go with wireless, again, you don't have to worry about that backhoe. So, that's a good thing.

I wanted to ask if Chris had any other thoughts. Are mid-level businesses, are they looking at IoT as well as the way enterprises are, because I know that 5G and fixed wireless access can really open up new opportunities for bringing IoT into operations.

Chris Russell

Yes, whether they're consuming it as a service, something that you might not think of as an IoT, you might consume it at home as part of your, say, as an automatic failover to cellular for your alarm system. And so, there's small businesses that can take advantage of that today in their own environment. Or there are many that, actually, is their business is that they are developing the next generation of what can

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be done with IoT. So, businesses themselves are coming up with new ideas to leverage both our 4G connectivity that leads into the 5G, as well as some of the other services such as our public and private clouds, so when you get to multi-access edge computing bringing the cloud closer to where you are, that fits in perfectly with both the IoT and internet, so moving that compute to the cloud.

Dave Grady

There's also some public sector use cases for this, aren't there, in terms of public safety?

Chris Russell

Yes, absolutely. So, priority for our Frontline customers is always key, so having that access to the tower and across our network is something that Verizon always prides itself in providing that connection both during blue sky days and dark sky days.

Dave Grady

Well, I was just checking to see if we have any questions in here. And again, I want to encourage our audience to ask questions in the Question box if they do have some.

Why don't we take a-- move forward here a little bit, because we've been talking a little bit about 5G, and I'm interested because, again, you two and your companies are both out there in the trenches with companies, customers making this journey. We use this word "journey" too much sometimes. People roll their eyes, but it is a journey, particularly going from 4G to 5G. When you've worked with customers-- I'm hoping you can share some insight-- how can these customers get ready for 5G? How can the folks who are listening here get their organization ready to evaluate the art of the possible when it comes to 5G?

Chris, do you want to go first?

Chris Russell

Just on digital transformation in general, we talked a little bit about retail and how, as consumers, that's changed what our expectations are. So, consumer preferences are driving demand for all business owners to adapt to change. And so, for example, years ago we would have been amazed to find a place that you could tap your phone on and be able to complete a payment. We had transformations that took place over the past 10 years where we were able, on vending machines, to move from being able to need exact change to get the item you wanted, to being able to swipe your credit card and have that done wirelessly over the internet, to today being able to tap your phone, or even more so, use the application on your phone, let the machine know you've arrived and then it distributes the item at that time.

There's so many nuances that have been added over that where we've gone from both a digital experience where it only happens online and you're having something shipped to you to wanting that same convenience of a frictionless checkout experience, for example, when you arrive at a store to be able to just walk in, grab the item and go. So, all those are things that I've seen that have come up over the past several years and then 5G is just going to further enable that.

Dave Grady

Dee Dee, what about lessons learned, have you seen... let me rephrase it, what have companies done right, and what did they wish they could have done differently when they look back at their evaluation implementation of 5G technology with Cradlepoint?

Dee Dee Pare

Sure, absolutely. Really, in most cases, in some ways, there are new nuances and then there are things that are just standard practices that have always happened anytime that you do an infrastructure refresh, or you rethink how you want to equip your offices and locations, and the edge as well.

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And so, some of the standard practices are listen to your constituents in terms of-- or your business units, or understand what they're trying to achieve, and what applications they need to deploy. Or listen to if they need to be responsive, more responsive, be able to reach their customers better. That's kind of something to listen to and it sounds like, okay, maybe you need to have the agility and mobility of 5G as well as LTE. And just understand what you need in terms of applications to achieve those goals and then what kind of bandwidth do you need.

And then from there, then it's a matter of just really talking to your partners, whether it's Verizon or whether it's through a partnership, just make sure that you understand what kind of coverage do you have in your area. If you think about it, there's also-- do a site survey onsite, so that way you understand what part of the buildings have the best reception, what parts don't.

An example that we've learnt from some of our customers is if they are trying to put their WAN equipment in the basement, then it's a little-- 5G has a little bit of propagation differences. So, you need to make sure that you have that understanding and have that-- you get the great performance that you have with 5G. But at the same time, if your equipment is in the basement, it may not be the best location.

So, one thing to keep in mind is that Cradlepoint is able to separate the equipment, so that way you can have an adaptor that's small-form factor in a location of the building where it's going to have a great signal, but then connect by ethernet with a Cradlepoint router in the basement or even third party equipment as well.

But the idea is thinking through those nuances in terms of where you're going to have the best performance, and understanding how you can make sure that that works the best with 5G. But with some very minor considerations in terms of placement of equipment, then you get the benefits of great performance that you will rival other wireline connections, whether it's broadband for 4G, or even approaching fiber speeds as well.

Dave Grady

I want to pick up on something that you mentioned earlier in your answer about how important it is to collaborate between IT and the business line that's going to avail itself of these new applications and new capabilities. It's great that you're advising the technology teams to listen to the requirements, and the hopes and dreams of the business. But I come from a security background, and what I always preach when I have an opportunity to talk about 5G and innovation is the need for that collaboration also between the security team and the business that is advocating for innovation and digital transformation, and 5G adoption.

What I mean by that is sometimes organizations can get so enamored of the art of the possible that they rush to market with new things that bypass the security oversight. And security, I think, has matured to the point where they recognize that they can add value to the implementation, they can bring security value to the overall customer offering and not slow it down, but actually help get it up there and make it work right.

So, I just wanted to say thank you, because I'm a big believer in that idea of collaboration and stakeholder engagement in organizations. You don't rush into this future technology capabilities without really getting a big table and getting the right people at the table together. Is that right?

Dee Dee Pare

Absolutely. And 5G has brought in quite a few enhancements having to do with security that really builds upon the defense in-depth that are typically within an enterprise security stack. But at the same time, now, 5G has those security capabilities that are enhancing the security and privacy of the traffic that goes over the network as well.

Dave Grady

Yes, absolutely. Well, I think we have our first poll question. So, folks, if you look on your interface here, there should be a poll question that's going to be launched here. And the question is we'd like to get a feeling for where you are in your decision-making process relative to evaluating fixed wireless access or broadband-anywhere, whatever you want to call it, wireless Business Internet in your organization.

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We're hoping to see if you're far along in the journey, or if you're just starting it or where you are. And while we're waiting for that poll to launch and be populated with your answers, I just wanted to reiterate before we move to some of the uses, I want to talk about how companies can use this technology to achieve different scenarios and use cases.

Just to reiterate some things here, so Verizon has taken 4G to new heights. Clearly, we believe that 4G is very good in and of itself, and for many organizations, 4G provides the capabilities they need to run their business. But at the same time, Verizon is investing heavily in its 5G capabilities. We're investing heavily in the availability of 5G on the consumer side. Nearly 2 million businesses in the United States currently have access to 5G. You can use 5G, as you mentioned earlier, for really good quality video for collaborating, but also for intelligent video, for remote diagnostics and for mobile command centers and such.

So, we know that the-- what we call at Verizon, the Currencies of 5G, they include the speed, obviously, and the latency, the low latency for particularly sensitive applications.

Chris, you mentioned some other of the currencies of 5G when we were talking earlier in the week, one was about power consumption. Is that something you want to speak to?

Chris Russell

Yes, energy efficiency is kind of key, and so something that Tammy Erwin has mentioned is that once we launched 5G Ultra with C-Band, it was the second phase of 5G for Verizon. The first being our millimeter wave. And so, combined with millimeter and midband and then also our MEC, we're basically enabling a 21st century infrastructure. And with that, energy efficiency comes into play with one of the currencies of 5G. And so, we can enable the combination of applications running close to the edge in the cloud, and then also on the mobile devices. The devices themselves don't have to be as-- they don't have to do the processing or heavy lifting themselves, so if you think of... as you touched your glasses there, it made me think of AR overlay, Apple-- I'm not announcing anything, but Apple, Google Glass, Microsoft, others have all developed glasses or wearables that either take into account an augmented reality. The only way that can really be possible is if the compute doesn't have to happen right there on your glasses, whether it's a companion device or it's going to be actually the compute happening in the cloud. That's where you can take advantage of energy efficiency on the device because you're able to concentrate all that compute in one location.

Dave Grady

Well, we've got so many obvious benefits here from 5G, but I think we're going to talk a little bit about how these things that we're seeing here play out in different scenarios when we move to the use cases in a minute.

But let's look at our poll, we asked where people are in their decision-making process in terms of evaluating the art of the possible here. 54% of the people on this call today are still in the information gathering mode, and only 16% are actually evaluating solutions.

Does that number surprise you that 54% of the people who have selected to be on this and want to learn more, obviously, are still in that information gathering mode, or is this where we are in a market right now?

Chris Russell

Good timing.

Dee Dee Pare

Exactly. So, what I would say is it's not too surprising, because I think there are quite a few industries, early adopters have already purchased and put in place their fixed wireless access capabilities and they're trying that. Sometimes it's by necessity that people who have looked to wireless, for example, in rural areas or places that I call the "islands of unconnectivity". They may be in an urban or a suburban place, but they just are not serviced well by wireline. So, they've been forced to look into, and then they've remained with wireless WAN as the capability.

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But at the same time, it is something-- the mantra for anything networking is that it needs to be wired, but even if you think about switching in decades ago, migrating over to Wi-Fi, the same thing is happening with the WAN. And now that the capabilities are there from the standpoint of the performance and the reliability, so now it's just making sense.

Now, we're reaching out to the pragmatists, and so everybody else in the 54% are the pragmatists and they're saying, "Show me first", and so it makes perfect sense that they're waiting for the early adopters to adopt and show them the benefits. That's what we're seeing right now.

Dave Grady

Well, since they're in information-gathering mode, let's maybe look at some of the use cases to give them some of the information that they need. Chris, did you want to add anything before we move on?

Chris Russell

Yes, I think just the one thing to add there is that 5G Ultra for us being relatively new this year, but we reach over 2 million businesses, and that's something that probably most people were not aware of, of 5G Ultra. And then the additional 99% of all businesses are going to be covered by our 4G network.

As companies can move or migrate from just relying on backup connectivity, they can start to see both and look into the use cases. But the ability to either rely on primary or dual connectivity.

Dave Grady

Thanks. I was just looking at some of the questions here and I thought maybe we could quickly do a question. And this is-- "Are you finding any companies are asking for a static external IP address for their Verizon Cradlepoint? And if so, is there a way to rollover from wired WAN to the Verizon SIM?" I'm not sure if that question is...

Chris Russell

Static IP is definitely available for any of the devices on Verizon's network, and certainly Cradlepoint, so public static. And then Verizon also offers a private network, so wireless private network, global private network which would allow you to create a private APN using the only-- private address that you might want to bring with you. So, it becomes a leg of your network on the wireless network. And Cradlepoint also supports that.

Dave Grady

And another question we have here, and I think, Dee Dee, you touched on this a little bit. But it says, "You've said a lot about agility, but what about resiliency? Is this technology stable and robust enough to be a standalone approach to remote communications for high demand crucial path communications? Can these communication paths be made self-healing?"

So, if we break that down, is the technology stable and robust enough to be a standalone approach to remote communications for high demand crucial path communications?

Dee Dee Pare

Sure, and even within cellular, there's a lot of redundancy built in. So, for example, in a Cradlepoint router, we have the ability to have dual SIMs. We can have dual modems. And then if you think about it also within the towers themselves, the cell towers are-- if some kind of connection goes down in one cell tower, then redundant towers pick up the connection from there. So, within cellular, there's a lot of resiliency and reliability because of just a lot of redundant characteristics within the network itself.

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But everything that we've done, for example, I'm running... I think one of the questions also was, are you guys delivering this over wireless? And I'm working with a Cradlepoint wireless router, and when things went down, it was not my router, it was BrightTALK, so just for that...

Chris Russell

We have to put out that.

Dave Grady

It wasn't me either. Great. Another thing too is we had a question about when we talked about construction sites a few minutes ago. Some construction sites, it says here, last more than 12 months, some more, a lot of services ask for a lot of contracts. Is that the deal with Verizon?

I can say that with 4G LTE, particularly, there's month-to-month, so there's none of that annual contract, so you can set up your shop for three months or five months or seven months depending on how long the job lasts.

Chris, do you have anything to add about the 5G?

Chris Russell

Yes, you touched on it for mobile, but for fixed with 5G.

Dave Grady

Yes, say, the construction sites that they set up for...

Chris Russell

Well, let me just finish the thought that it's not construction sites, but as an address where you actually sign up for it, we do have a 10-year lock on the price, so that's something that's unique to Verizon, so you don't have to worry about the rate changing on you in the future with fixed. For mobile sites, of course, you can plan ahead of time where do you need it, and within that same construction site, you might need it at a different location and then those devices themselves can network amongst each other. So, take advantage of the access points that you might be connected to for distributing Wi-Fi if you need to create your own network that's hubbed off of wireless WAN.

So, there's so many different things that you can do once you have built your network.

Dave Grady

So, there's other questions that I think we're going to answer when we go through some of these use cases, and I want to make sure we give enough time to those.

So, let's talk about some of the scenarios in which companies, large, small, just about any size might find themselves in. So, the first one we're going to talk about is the challenge of supporting home offices or even office shares. You've got home-based workers who are sharing bandwidth at home with their kids on their commercially available internet competing with all the streaming that's going on, and the gaming, and the school conferences and such. The challenges that you need to be able to have reliable, predictable performance for your employees who are connected from home or from somewhere else, and you need the costs to be predictable as well.

So, how can Cradlepoint and Verizon work together? I don't know if you want to talk a little bit about some of the solutions for this particular challenge.

Dee Dee Pare

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So, I'll jump in, David. So, basically, for remote work, Cradlepoint and Verizon offer a solution. One way to think about it, it's a branch of one. It's an office of one. And so, you want to still have that reliability-- thanks to the person that asked that question earlier-- you need that reliability and security because, in a sense, if you are in a home situation, you don't want to have to depend upon who their internet provider is. Maybe they chose well, maybe they didn't. And then also being able to have the segmentation from whatever is happening, if their kids are gaming or maybe there's lax security on their home network, you have the ability to have everything segmented and have it be a dedicated reliable connection going in as well, especially for mission critical workers as well.

And the solutions that-- the equipment, the hardware that Cradlepoint provides, it's basically an all-in-one router, it's capable of... the E100 has a battery backup, but it has Wi-Fi, it has switch ports, it has the modem and the WAN built in as well. So, it's kind of-- the best way to think about it is an office of one or a branch of one.

Dave Grady

And the benefits are pretty clear.

Dee Dee Pare

Yes, exactly. And so, we have a starting point, then there's also higher performance or if you need POE for voice-over-IP equipment, there's other platforms that cover that as well.

But one of the benefits that-- as we were talking about it is the fact that, sure, you may be having employees expense their home connections or things like that, but you lack the visibility of what's happening in the network as IT staff, and you lack the ability to control how things are performing. So, if your applications don't work, you have no controls at your disposal if you're depending on the home network.

But then there's also the accounting hassle. If you're having to process how many thousands of... where's the cost control in that? You're not able to control those costs because those are borne by the employee.

Dave Grady

Having 50 employees submit reimbursement for 25% of their internet that they use four days a week part-time, et cetera, that administrative overhead can really—

Dee Dee Pare

Oh yeah.

Chris Russell

Yes, you've lost your economies of scale and your buying power by splitting it up one by one.

Dave Grady

So, in this case, this would be provisioned through Verizon and Cradlepoint, through the company to the employee remotely, not to the employees directly, so there's one bill to the company.

Chris Russell

Exactly.

Dee Dee Pare

Exactly.

*Fixed Wireless Access and the Art of the Possible with Verizon and Cradlepoint***Chris Russell**

If you were to stage the devices ahead of time, all configured through NetCloud Manager, the devices are locked down, they arrive, shipped powered on, whether it's through Wi-Fi or plugged in through an ethernet directly into the device, depending on how that home router might be set up. They're very simple and user-friendly, because there's nothing to think about on the actual work-from-home user.

Dave Grady

Well, that's certainly important in the last few years and will continue to be. Let's talk about more than just a branch of one, but business branch connectivity. So, we're seeing organizations taking advantage of the demand to be closer to customers. They're opening up new branches. They're moving into new territories. But the speed that's needed to stand up the technology and the connectivity sometimes can be challenging, the wait in terms of bringing in a wired connection. And then the idea of needing high performing, application-aware routing for those critical systems to make sure that business branches are serving the customers-- that they're able to connect consistently with those common platforms that all the branches use to serve their customers. So, again, how can we look to Verizon and Cradlepoint to solve those challenges for setting up and keeping branches connected in a robust way?

Chris Russell

The businesses should be thinking, where do I need internet access for my business? And when do I need it? How long am I going to need service there? They shouldn't be necessarily worried about who's the provider. So, by being able to work with a national provider, you know that ahead of time. You're able to leverage that against all locations where you need to set up service, rather than try to manage, individually, whoever again is that local provider in the area.

But branch connectivity does-- and we mentioned before-- give you the opportunity to add either backup connectivity or dual connectivity, so that if you do have existing connections out there, you can leverage wireless as a supplement to it. Many might offer that as a way to handle their guest Wi-Fi, for example, at a branch or just their internal Wi-Fi for certain services, and a way to separate that traffic.

And then applications themselves can be prioritized on the Cradlepoint.

Dave Grady

We're talking about both 4G and 5G, right?

Chris Russell

Correct.

Dave Grady

Great. And again, some of the benefits there, low latency application support, particularly for 4G, that quick install that you were mentioning earlier, out of the box, preconfigured, good to go. And sort of that upgradability to 5G over time. Cradlepoint routers can go from 4G to 5G, is that correct?

Chris Russell

That's true.

Dee Dee Pare

Yes, they have-- we call it Dual Connectivity, so you may deploy, because your infrastructure refresh requires you to buy this equipment now, but maybe the coverage is not available. But at the same time, you can purchase 5G equipment now, but at the same time it's kind

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of 4G compatible, it has CAT20 4G capabilities, so it runs on 4G until the coverage is available in the area then they're able to switch data plans and move over to 5G. So, it has that flexibility as well.

Chris Russell

I kind of like how Dee Dee mentioned earlier also when you think about branches being able to set up connectivity where signal is the best, whether it's outside or inside the building, and then using Power over Ethernet to power that adapter. So, if you have an existing router, you can take advantage of the Cradlepoint to power that for the internet over Verizon's network for 4G or 5G. Or if you need a branch router as well in captive mode, I believe, so for Cradlepoint being able to provide that branch router inside and then, perhaps, an adapter wherever that signal might be best, indoor or outdoor, could be a solution as well for a branch.

Dee Dee Pare

Absolutely. And then touching upon one thing that Chris-- sorry, one thing Chris was talking about just in terms of applications, there may be different applications that you need to treat separately or differently, so we've been able to leverage and fix wireless access, some of the principles of SD-WAN, so that way you are able to prioritize applications a certain way. Also, utilize the Cradlepoint in a hybrid mode. And so, that way if you need to have both wired connections and then have the cellular for diversity just to make sure, the backhoe doesn't hit. At the same time, you have that capability of prioritizing different applications based on the conditions on the WAN or different applications or set those things up as well.

Dave Grady

Let's look at another scenario here called Mobile Deployment. You need connectivity where your mission takes you. I like this idea of your organization has four wheels but not four wheels. How does wireless Business Internet Cradlepoint enable organizations to be more mobile?

Chris Russell

Good question. So, certainly with our 4G network-- and I think there was a question earlier about in transit fields, that's something that Cradlepoint, whether it's their R1900 or a device that's more designed for a rugged environment, as well as vibration and other capabilities that you might have with four wheels. So, there's certainly hardware available for it, and then the network connectivity is seamless, whether it's 4G or 5G, wherever we offer it.

So, when you set up, if your mobile environment becomes stationary for a period of time, you can take advantage of that, whether it's Wi-Fi on the go or at that location. So, if it's processing payments because you're a food truck, or it's a pop up retail location, et cetera, any of those can be supported.

Dee Dee Pare

The scenario I was talking about like insurance, insurance agents who need to go out and process claims or things on that lane, they bring the connectivity with them in the vehicle itself. And then also logistics is another scenario where mobile is definitely-- if you need to have telematics and understanding what's happening in the machine itself, or how long before it needs to do maintenance, that's another scenario.

Dave Grady

I think reviewing stuff like this, reviewing this information hopefully helps you, as a business leader, think about the things you can do that you're not doing yet. You can, like you said, get four wheels and go out and bring your business closer to the customers. You don't have to stay in that building that you've been in all the time. I like the idea that this could inspire new ways of thinking.

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What about collocation connectivity? This is sort of like a store within a store, or you need to set up your organization inside someone else's building. How can this combination of Cradlepoint and Verizon make that possible when you can't do a physical buildout because it's too expensive? You said earlier it may be a store within a mall.

Dee Dee Pare

So, yes, this is a scenario that also relies very heavily on Cradlepoint and Verizon for fixed wireless access. We call them Parallel Networks, and so it's a store within a store, because if you are a tax preparation sitting inside of a large, big box retailer, the big box retailer is not going to allow you into their production network.

So, you have maybe not a branch of one, but maybe a branch of two or three inside with a parallel, completely segmented network that operates securely and reliably. So, this is one example of collocation.

We also have scenarios, for example, what if you have a kiosk or you have some kind of IoT within a location, so that's another collocation connection as well.

Chris Russell

Another would be a mobile clinic. So, a clinic that's set up within a pharmacy or retail environment, a grocery store, et cetera. All those are independent, they need to be secured, because they have patient data, all those records that would not want to be run over the retailer's network. And the retailer wouldn't want to have that on their network as it is. So, all that's critical to be able to segregate your data.

Dave Grady

We do have a question about Cradlepoint. "Is the R1900 the only device with Cradlepoint to support 5G?"

Dee Dee Pare

Oh no! So, the R1900 is a mobile 5G, but at the same time-- so that one is for mobile scenarios. We have three different adapters that will connect with SD-WAN, firewall, routers, and of course, Cradlepoint routers as well. So, we have the W1850, the W2005, and W4005, which are 5G compatible adapters. And then we have an E3000 router that has a 5G modem built in. And we're expecting to have a 5G modem that will also be able to plug into previous versions of Cradlepoint equipment to be able to provide 5G capabilities.

Dave Grady

Before we move onto our last quick scenario here or use case, there was a question, which I've got to ask, "Is LTE Business Internet another name for fixed wireless access?" And quite honestly, I think that that's a fair question.

Fixed wireless access is this broad term. Personally, I'm gravitating more toward the idea of wireless Business Internet, and not just LTE but 5G as well. So, when you think about fixed wireless access, we're really talking about business broadband anywhere. I'm sorry to give it so many different names. But we're really talking about wireless Business Internet, that sort of enterprise-grade, strong, robust, reliable that could either be LTE, 4G LTE or 5G. So, if that's confusing, we're going to take that as feedback and maybe the next webinar will be called Wireless Business Internet and the Art of the Possible, instead of Fixed Wireless Access.

Chris Russell

Like most acronyms, it depends on who you ask.

Dave Grady

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That's right. All right, one quick more scenario here, one more thing. Using 4G, 5G, LTE or Cradlepoint devices to do Business Internet backup. So, the challenge here is that demand for high availability, and that main concern around resiliency. So, how can we, as two organizations, team up to help provide it?

Chris Russell

Dee Dee mentioned whether the devices themselves have secondary SIMs or secondary modems, and then that's if you're relying 100% on wireless or if you were using wireless in combination with a primary wired connection that you may have. If there was an example of an MPLS network that you might have with Verizon, and you have a wireless failover back into that MPLS network. That's back to that private APN setup that we described before.

Finally, the connectivity, and you mentioned the backhoe, so if it takes out the wired connectivity to that building, you have access to the Verizon 4G macro network and other cell sites that might be serving it. And oftentimes, those cell sites are there going to be backed up by battery themselves, they're going to be backed up by generators in many cases. So, oftentimes, power is going to be the only thing that you're going to need to prepare for in addition to having connectivity, so make sure you have backup power.

Whether it's the E100 having a standby battery backup or, more often than not, you're going to need full battery power to run your store or shop in times of emergency.

Dave Grady

Well, we want to ask our audience here, which use cases are the most relevant to your business. There's another poll up there. So, if you want to jump in, because we are getting close to the end of this session today, but we'd like to see which ones of these really resonated with you, and hopefully they all did, and they all get you thinking about the possibilities that you can take advantage of when it comes to the connectivity and innovation that Verizon provides through 4G/5G and our partnership with Cradlepoint and all the technology they bring to the locations to make it all possible.

So, while we're looking here, it looks like business branch connectivity is popular, but Business Internet backup is getting 75% of the votes, so it seems like maybe the idea of people getting out of the old paradigm of it has to be wired-wired, and it has to be two different providers, et cetera, et cetera, maybe people are opening their minds up a little bit to the idea that business wireless, Business Internet could be a good internet backup solution. Does that surprise you?

Dee Dee Pare

So, the backup-- the Business Internet backup is kind of what Cradlepoint has been known for, for years. But once people have tried us for backup and got to understand the data plans and understand just deploying cellular, they come to see the benefit of having a nationwide footprint from one provider, and the cost efficiencies that come with that as well. So, that's kind of how the transition to primary connections has begun.

But the Business Internet backup, I can tell you how many times at the trade shows people have come up to me and said, "You saved me during the aftermath of this natural disaster or this manmade disaster", or something along those lines. Because cellular is something that comes up-- one of the first things as well. For example, in hurricanes, people will be running on Cradlepoints long after the-- whatever has happened, and then before they are able to get their wired infrastructure back up and running.

So, it's kind of the basics of business-- wireless Business Internet.

Dave Grady

Well, listen, we answered many of the questions today, but we are out of time. But it seems like this is pretty fertile territory for conversation. So, we would love to hear from you in terms of ideas for future webinars and talking to our audience here. And you can go in and rate this experience and, I think, comment on it. So, maybe if you want to suggest a topic or two for the future, that would be great.

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But thank you so much for joining us everybody who dialed in. I want to thank Dee Dee Pare from Cradlepoint and Chris Russell, my colleague here from Verizon for sharing their insight and their experience with customers. Thank you all for joining us and, again, this is available on replay. If you learned something and you want to share some of the insights with your colleagues, come back to BrightTALK, skip the first five minutes and then jump right into the rest.

Thank you both for being here and thank you all for dialing in.

Dee Dee Pare

Thank you, David.

Chris Russell

Thank you.