Episode 12
Banking on 5G and IoT
Guest: Pete Bernard, Microsoft
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Speaker 0   00:00:00   I'm Danielle Royston and this is Telco in 20. Of the big questions Telco execs keep asking, especially with 5G is how do you monetize the network and get the ROI on your huge network investment? It's a tough question. And that's because it hasn't become super obvious how an investment in a new network will pay for itself with every announcement of every G. This question invariably comes up. Telcos spend a lot of money buying spectrum, buying equipment and rolling it out, crossing their fingers that big revenues will follow with each cycle. It's getting more and more expensive.

I'm sure many business cases have been built showing that they will be able to charge more for the better network, but so far that hasn't panned out. For example, Verizon in the US originally planned to charge subscribers more for access to 5G , but when no other provider matched their lead, Verizon was forced to drop the increase.

But let's be clear. 5G does open the door for some interesting new revenue opportunities. 5G solves a lot of the device to tower bandwidth issues, which allows us to have much more interesting applications at the edge. One idea that keeps being tossed around is that 5G coupled with IOT might be a way to monetize a network. And so today on the podcast, we're going to talk about exactly that – IoT. What are some great new applications coming our way, how you can monetize them and how to get the most out of your network investment. So let's take 20.

Pete Bernard is Microsoft senior director of Azure edge devices, platforms, and services. He's also the host of the IOT unicorn podcast. Pete, welcome to Telco in 20.

Speaker 2   00:01:56   Thanks for having me, I appreciate being here.

Speaker 0   00:01:59   Yeah, it's going to be super fun. So I guess to start, tell us about, you know, what you do at Microsoft.

Speaker 2   00:02:05   Well, I've been at Microsoft about 15 years currently. I run a team inside of Azure edge devices, platforms, and services. That's part of Jason Zander's Azure org. And what we're really trying to do is help customers solve problems by connecting really interesting things to Azure, typically edge AI-type devices as part of the overall Azure solution. And, uh, my team works with telcos and partners to try to figure out how we do that best over 5G and LPWA.

Speaker 0   00:02:33   Perfect. Awesome. And so today you host the IOT unicorn podcast, but you recently tweeted that you're planning to launch a new podcast. So what's going to be the

focus of your new podcast and who you really targeting with the new podcast in terms of an audience?

Speaker 2   00:02:49   So I started the IOT unicorn in 2020, and it was a great learning experience. You know, I had lot of different guests from different partners on there, a lot of different topics. One of the things I learned, I wanted to narrow the topic a little bit, you know, IOT is just so huge and what really is exciting is kind of the intersection of 5G , AI and edge. Yeah. That's the theme of the new podcast that I'm currently working on, sort of the trends, you know, what are some of the things that we can look forward to?

Speaker 0   00:03:18   I wish you the best of luck with your new podcast. I'm sure this audience will be super interested in your topic because Telco in 20 focuses on the technology disruption that I believe is coming to telco for the next 20 years. Right? A big part of that, I yell from the tallest mountaintops about how I think public cloud is going to be a big part of that disruption, both at the core and at the edge. And I think one of the big questions that you hear a lot from executives, we're all going to groan here in a second, but, you know, especially with the rollout and their huge investments in 5G is. "how do you monetize a network?" And so as you talk internally at Microsoft and talk to different guests and people in the industry, are you seeing any interesting ideas at the edge that can be monetized by a telco now?

Speaker 2   00:04:11   Yeah, I mean, for sure. I was actually on three calls yesterday with pretty big telcos morning, noon and night. So, you know, what's interesting about what we're seeing with telcos is they really want to become more solution providers than just communication pipes. And a lot of companies out there are going through their own digital transformations. And that typically involves something around instrumenting their business, instrumenting their factory and instrumenting their retail store, their supply chain. Yeah, yeah. Supply chain, hospitals, you name it, uh, energy, and then taking that data and analyzing that data and taking action.

And that really is what kind of IOT and the edge is all about, that a lot of these telcos are saying, "I have a great infrastructure. I have a huge sales force that's been selling to enterprise already. I have some solution provider skills where I can partner up as a GSI or a system integrator and then actually bring solutions to local businesses and governments and Fortune 500s." I think what we're going to see is telcos, over time, leaning in harder as being solution providers that leverage their 5G network, as opposed to just providing access to 5G .

So we're hoping, and we're trying to help them to say that this is an opportunity for you, and we can help, you know, digital transformation of your own business through our platforms where we can also provide you with platforms and tools and ecosystems to help you expand your business into this area as well.

Speaker 0   00:05:30   Yeah. And so with 5G , so many more devices can connect to that network and you don't necessarily need WIFI to do it, like it's been in the past. And I think a really good, easy example for everyone to grasp is connecting your Apple watch to your phone

plan. Right? I guess now Google bought Fitbit. And so maybe we'll start to see Fitbit kind of getting some of that technology, but is the best way for telcos to think about monetizing the edge to have plans to connect our IOT device and then just charge for that?

Speaker 2   00:06:03   Yeah. That's a good question. I think the business model is evolving and they're coming from a place where they have a tariff model or a plans model in many cases that doesn't necessarily apply well, especially in consumer markets and also in some of the big commercial deployments. So like in China, we're working with a parking meter OEM or device builder and they had a LPWA module for sending the data back and forth. It's a perfect example of where you'd want cell connection, right? In every parking meter. And they included the connectivity with the parking meter. So we bought the parking meter, it came with all the connectivity you need because over LPWA or, or NB IoT, or some of these very low bandwidth networks, it costs virtually nothing to send that data back and forth. And so why not just include it with the price of the hardware?

Speaker 2   00:06:47   I just upgraded my garage and, um, it's not connected to my house. And I wanted to get one of those Google assistant powered garage door openers. So as I drove up my driveway, I could, you know, kind of Batmobile like bat cave style, you know, it was sort of open as I came up the driveway. So, but you know, it's WIFI based. So then I was like, okay. So I have to figure out how to get this thing connected to WIFI because the signal out to the garage was pretty weak. So I had to like put a little extender out there and then of course, you know, to get it connected, you have to run an app and like stand on a step ladder and hold three buttons down and, you know, say the alphabet backwards or something. And this is a perfect example where just have an LPWA or a 5G radio in it and just turn it on. It just connects back to headquarters and I'm done. Yeah. So I think, hopefully we'll see that happen more and more.

Speaker 0   00:07:38   Yeah. I mean like the Nest thermostat is probably the famous example that everyone's sort of connected it to the WIFI it's in the home. It tends to have that conductivity and it's pretty easy and it works exactly, but it's really, cloogy still.

Speaker 2   00:07:52   It's cloogy and it's SSIDs and passwords, which are prone to problems. And, you know, also from a security perspective, having something on a more dedicated network, that's not part of your home network is not a bad idea. Even though I was going to say in the commercial space, you know, being able to go in and put something, a smart shelving or something in a store where it's not reliant on the store's WIFI network, that's also being used by customers is a good idea. And then it's a dedicated network over cellular that, you know, the quality of service and it's not being touched by anyone that's on their iPhone in the store. The other thing that's nice about cellular in the edge and IOT space is that the cost of deployment is much lower because you're able to just turn these devices on and have zero touch provisioning back to the cloud. And it just works. Yeah. It's easier to do. And also we've heard, you know, in some cases, the cellular based as opposed to power over ethernet, for example, you don't have any cables. So we call it infrastructureless IOT. So you're talking about no power, ideally it's solar powered or battery powered, and it's connected directly to the cloud. Yeah. No plug in the wall.

Speaker 0   00:08:56   And then you can put it anywhere.

Speaker 2   00:08:58   Or, you know, we have companies that are instrumenting their oil pipelines, right? So you're out in the middle of nowhere. You can put a solar-powered sensor on there and, uh, it lasts basically forever and it's talking to Azure and you're getting telemetry on the pipeline.

Speaker 0   00:09:12   Awesome. And so I think probably one of the biggest monetization opportunities people talk about at the edge is gaming. Right? My kid's a gamer. I have a 15 year old son that that's all he does. And so in 2016, uh, Microsoft introduced the HoloLens and I am not a gamer, but I'm kind of a nerdy girl. And, um, I had the opportunity to play a game called RoboRaid, which at the time was like the best AR game. And I put on this like kind of heavy headset and you could see cracks in the walls and like, you know, bugs were crawling out and I had to like shoot them down and it was pretty cool. And so have you ever tinkered with these AR VR games?

Speaker 2   00:09:51   Yeah. I'd say it's a really cool space to be in. I mean, no pun intended. I think that it's just early days, frankly, on some of that technology and, you know, things are going to get lighter and easier to wear. And of course the horsepower is going to improve, you know, in more better rendering and things. One of the interesting areas though, for HoloLens and we've been really successful in is, is it actually in the commercial space, which is not as, you know, maybe as sexy as, as the games, but we have a lot of folks using HoloLens in the commercial space for inspection and, uh, and remote work and ability to look at a patch panel and be able to bring up data in a holographic display about the health of the panel and the telemetry around it. So it's interesting to see sometimes this technology crosses over from consumer to commercial pretty easily. You know, those are WIFI based. Ultimately, someday those things will probably leverage 5G as well, which would make perfect sense, especially if you're like in a construction site where maybe there isn't WIFI set up yet, you have this thing on your head and you're walking around the site and you want to superimpose what the actual design of the building looks like against a structure that you've built. So there's lots of applications for 5G in that scenario over time. Uh, but yeah, I think we're just kind of early days still.

Speaker 0   00:11:03   Yeah. And so you switched from consumer to enterprise, which is exactly where I wanted to go. Um, during the pandemic, I stumbled across a startup called Spatial and they have a very sort of enterprise demo video on their home page, which is like kind of conceptualizing what an AR business meeting would be like. So everyone has on their headsets, you have this avatar that represents you in your AR field division. You see, you know, sort of the people in the meeting appearing, there's the concept of a whiteboard that you can write on. You can put it like sticky notes and so you can collaborate. And so it feels like you're together. And especially after this weird year that we just had where we haven't been together, I think a lot of people's minds are now more open up to this kind of style of collaboration. Yeah.

I think if COVID happened 10 years ago, I mean, it would have been even more devastating than it's been just because the tech wasn't ready.

Speaker 2   00:12:02   Yeah. Imagine that. I was talking to Rob Tiffany of Ericcson. I'll give him credit for this quote, but he was saying that the internet is one of the heroes of the pandemic, you know, back then it was able to really be there and be as constant and consistent as possible for so many people trying to learn and work remotely and communicate. So it's been one of the unsung heroes of the pandemic. Imagine if this happened 10 years ago, that would have been really, really rough, but to your point about kind of virtualized meetings and things. Yeah. I mean, I would love to send an AI bot to some of the meetings that I go to and then have them just listen in and they report back to me any action items and then I can go on my way, maybe three meetings at once. You know what I mean?

Speaker 0   00:12:44   Yeah. No, I mean, I would love to design my avatar. Let's start there, make myself like, you know, awesome and attractive and thin and tall. We'll get there. We'll get there. Yeah. So you guys have a big show coming up, Ignite, which will be virtual sadly. And the telco space has a really big show called Mobile World Congress in Barcelona. They've shifted it out to June. And so I'm really hopeful that will happen. But your show will be March 2nd through 4th.

Speaker 2   00:13:14   Yes. Ignite's coming up. And, uh, you know, we're always talking about things that we're doing here with edge AI and solutions with Azure, but I would definitely encourage people to tune in, to ignite and look for Azure edge devices. Cause I think what we're going to unveil there and talk about is really going to help people accelerate a lot of the things that we're talking about today, the edge AI solutions. I know that your show is called Telco in 20. I think the next 10 years worth of work is going to be pretty tremendous as well.

Speaker 0   00:13:41   Yeah. I noticed on January 10th there was an interesting announcement from Lenovo and Qualcomm with these, uh, super cool glasses. And so you were talking about how the headset is kind of heavy and things are moving to be more lightweight. Yes. They had this little teaser video and we'll link to it in the show notes, but it was like a commercial application where you could see up to like five monitors in your AR field division. And so a lot of technical people use multiple monitors where you have all these screens of the information that you're frequently accessing instead of all tabbing, right. Just looking at different screens. So this is now a virtual screen, you know, an augmented reality. And so Microsoft has partnerships with both these guys, um, Lenovo, and I think Qualcomm, I guess that's what you're talking about when you talk about things, getting lighter things, being focused on the enterprise.

Speaker 2   00:14:33   Yeah. I think in that space, I mean, that's a really cool, uh, device. I think I did actually see that. Um, and could example of using, uh, holographic computing for new uses there. Yeah. The partnership with Microsoft and Qualcomm goes back quite a few years. I mean, actually it goes back to the phone days, uh, and it's interesting to see how Qualcomm keeps evolving as a company. And when we keep finding interesting things to work on together and, uh, you know, they're doing a lot of great stuff on edge and AI as well. And of course the

5G innovation coming out of San Diego has been pretty unprecedented and we're looking forward to working with them on some cool stuff.

Speaker 0   00:15:11   And they just bought it a little chip company NUVIA. And I think that they're going after it pretty hard. So go Qualcomm.

Speaker 2   00:15:18   Yeah. No, it's, there's a lot of innovation going on in the Silicon space these days. So that's kind of the other part of my job is working with telcos and working with Silicon partners and the innovation, especially AI acceleration at the edge.

Speaker 0   00:15:30   Yeah. And so is there anything that needs to happen with AI and IOT? Like are we there and it's just a matter of software developers pairing it, coming up with cool applications and taking it to market or is there still work to be done on the AI side or IOT side and sort of make this magic happen?

Speaker 2   00:15:48   It's interesting. When we formed our group, we spent like the first few months just talking to our commercial customers and our partners and trying to understand about the space. And it turns out there's a bit of a catch with all this stuff and the catch is that it's really complicated. And what we heard from our customers was that there really aren't any really good end-to-end blueprints around edge AI solutions as a team sport. So there's lots of different partners and companies involved. The security for how do you do secure edge AI and security in the cloud. You know, it can be challenging. Also the developer skills, you know, those traditionally embedded developers and then there's also data scientists and those are two different people. And how do you kind of cross pollinate skills? So what you don't want to do is do a 24 month proof of concept and spend a bunch of money on it. And it's so complicated that you never even launched the thing.

And so, you know, what we're trying to do is take a lot of friction out, like with Azure IOT and some of our platforms, IOT central, get to kind of a low code, no code, or, you know, a much more frictionless way of putting these pieces together and getting your solutions out there a lot faster. So, you know, you, you spend time on the value added things and not the basics. It's like, boom, you're done. And I think with AI it gets more complicated. I mean, you don't want to hire 12 PhDs for a year to recognize a can of soup. That's expensive. So you need to actually get out of the box pretty quick and get your solutions deployed so they can get your business outcomes as fast as possible. So that's one of the big challenges, there's tons of tech, but how do you put it together in a solution that makes sense and can be managed and be secure and be updated and you know, all the stuff that you need for a proper business.

Speaker 0   00:17:27   Yeah. I know it's a lot of work to do that, right. It's like messy and everyone sort of has different ideas on how to approach it, but I think there's building blocks. And I talk about this a lot with just public cloud in general, right? Where you have, you know, an organization like Microsoft or Amazon or Google doing these, you know, Lego pieces, these components that you can just sort of put together in different ways and, you know, build a private ship or build a hospital or whatever. And it just it's like this foundation that you just get to focus on the, the important stuff, not wrestling with the foundation.

Speaker 2   00:18:00   That's the whole concept behind public cloud. Is that there's a platform out there that provides all the plumbing and electrical, let's call it. And, you know, you're then able to put your value, add on that platform and that could be whatever your services are and your, your customers and all the value add that you have.

Speaker 0   00:18:16   Yeah. It could be industry specific knowledge, like let's say telco …

Speaker 2   00:18:20   Exactly. Yeah, exactly. So it's the same thing as you get to the edge and we need to make sure that you provide plenty of room for people to experiment and do new things that haven't been thought of before. So you don't want to over compartmentalize a platform early in the cycle. You need to make sure that there's lots of room for innovation until things get more mature. So there's a little bit of balance there.

Speaker 0   00:18:40   Super exciting. I love it. I love, I mean, I'm like, I guess I can call myself a computer scientist. I have a computer science degree. And so it's just, it's amazing. I mean, I used to remember like, you know, just struggling with the whole stack, right? Just the whole thing.

Speaker 2   00:18:53   Yeah, it's, uh, there's so much to learn. I mean, I've been doing it forever as well. And um, every day there's just kind of an unlimited new bucket of stuff that I need to figure out. We have a day of learning, uh, once a month at Microsoft and we take the whole day, no meetings. And basically there's some things you can do online to learn and stuff. And I usually read a book and attend a few different internal lectures, but it's really kind of an unlimited space. And especially if you talk to partners, that's why I love working with partners is, you know, they're doing cool things you've never heard of either. So you learn a ton from them as well, which is fantastic.

Speaker 0   00:19:29   So switching to fun stuff, I was scrolling through your Twitter, um, just sort of getting ready for today. And I noticed you bought a robot window cleaner. And that was like, all right, I want your review. How did it go? Did it really work?

Speaker 2   00:19:46   Yeah, actually it worked really well. And these days it's like trying to find the right robot for the right job. So, you know, when the pandemic hit, unfortunately we couldn't have our house cleaners come over anymore. So I bought a couple of, uh, robot vacuums, which worked out pretty well. We have this nice house here in the Northwest and we have these giant windows and I saw something that was like robot window cleaners. And I was like, what, and how does that work? They have these two disks and there's a vacuum suction that's created. It's like

Speaker 0   00:20:18   Vertical.

Speaker 2   00:20:19   Exactly. I mean, it's not perfect, but it's like you getting on a ladder. I was a little skeptical, you know, I kept the box and I'm like, Hm,

Speaker 0   00:20:27   You might return it. Yeah. Well this was a super awesome talk and I wish you and the Microsoft team, good luck with Ignite and I'm sure you guys are super busy with that. And maybe we can catch up again soon.

Speaker 2   00:20:39   Sounds good. Yeah. Appreciate the time. Thanks for having me on

Speaker 0   00:20:42   Stick around because we're ending each podcast with a Telco in 20 takeaway. I have 20 seconds to tell you something you need to know.

I was CEO of Optiva for four years, and I've only been to Mobile World Congress two times. I'm a baby. In case you don't know, MWC is the largest mobile event in the world. I'm talking 2,400 exhibitors, 8,000 CEOs and a hundred thousand of the industry's VIP's attend this event every year. There are always exciting announcements made. It's really the uber networking event of the year. Just like every other event, MWC was canceled last year because of COVID. But this year they're back and TelcoDR is gearing up in a big way.

We're going to throw an Epic party. You're not going to want to miss it. We're working on our plans, scouting out venues and talking to big name talent. So go get your vaccine and book your flight. The event runs from June 28th through July 1st. Stay tuned for details on how to score your invite by following me on Twitter @TelcoDR, connecting to me on LinkedIn or signing up for my email newsletter at TelcoDR.com.

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