THE CONVERGENCE OF 5G, EDGE & CLOUD: TRANSFORMING YOUR FUTURE TODAY

VIDEO TRANSCRIPT

Hosted by: Accenture's Jennifer McLaughlin & Teresa Tung

Jennifer: Hi, everyone. Welcome to the next event in Your 5G Journey's series. My name is Jennifer McLaughlin. I'm Accenture's Northeast 5G Lead and I'm pleased to welcome you for a discussion around 5G, Edge and Cloud technologies. Today I'm happy to introduce my friend and colleague, Teresa Tung, and we will be discussing 5G cloud and edge. Hey Teresa, welcome.

Teresa: Hey, thanks for having me.

Jennifer: So good to have you. Can you take a few minutes to just tell us about yourself?

Teresa: Yeah. Thanks Jennifer. So as cloud first chief technologist, I get to incubate the future of cloud. What's going to happen tomorrow, I get to do that today. And this really is important because as new technology is coming out, a lot of it is about applying it to create new experiences, and so we really don't get to do that unless we experiment with it. So that's really my job, to really get to apply it as the first of its kind.

Jennifer: Awesome. So I'm going to kind of just start at the basics here. I talk about 5G day in and day out with all my clients, I'm sure you talk about cloud. I never talk about 5G without also talking about edge and cloud and how it relates, but I feel like it's a bit confusing out there. Can you give your perspective on why these conversations merge?

Teresa: Yeah. I talked about really inventing the new experiences of tomorrow and that's really what 5G and cloud do together. It's really about coming together as a combinatorial effect with these two technologies to really bring intelligence into our everyday systems. So you can't do this without cloud because cloud makes it super easy for developers to imagine experience, build an experience, scale an experience, and you can't do this without 5G because that everyday system that's happening, it needs to be controlled. You need to make sure it has the right version of software. It needs to make sure that the data that is coming from it is able to be read, and then you can do something about it either to power AI or to make an action, and having a quality of service guarantee is really what 5G has made possible that we couldn't do before.

Jennifer: Yeah, I think it's really about the exponential effect when you bring all this together. But I love this story, so I'm going to kind of change a little bit because what comes back to us as, well, cloud's been around for some time, 5G has been building out for some time, and edge compute has certainly been around for some time. Later in this conversation, we'll get into how those things come together. So Teresa, I love your example about edge compute and French fries that you talk about on your blog. Can you just tell our audience a little bit about that?

Teresa: Yeah. This is a problem that I'm sure all of us can get behind is crispy fries. Part of that is really about the timing of the fries. You don't want to place them in too early and then you have these old stale fries and you also don't want to have your customers wait for a long time. So this is a fast food chain and they were doing analytics all along. So within the cloud,

THE CONVERGENCE OF 5G, EDGE & CLOUD
VIDEO TRANSCRIPT

they could take all the data from all the stores and really forecast down to the minute level how many fries to cook. And this was really important for their supply chain and to make sure they had enough fries, because you definitely don't want to run out. But it's really at the edge, in the store using the smart kitchen, the point of sale. That's where they're determining exactly when to cook the fries. So that way, whether it's an empty afternoon and it's slow or you're behind an unexpected rush of families after a little league game, it can make sure that everybody's fries are crispy. That happens at the edge.

Jennifer: Yeah, I think as you start to think about 5G, the edge becomes almost anywhere. So while edge compute now is applied certainly at locations, once you have 5G network, edge can be wherever your devices are, wherever data needs to be collected, whatever number of devices you're collecting it from, and then making those types of decisions. But I just love the fast food thing because we were always talking about remote surgeries and industrial type applications and it just catches my eye every time. So I love that.

While we're talking about devices, can you talk a little bit about the IOT applications and how 5G and edge compute can really start to capitalize on massive IOT?

Teresa: Yeah. I would say generation one of internet of things and IOT, this was I can see. So there's sensor data and it goes into the cloud and it was great. We could see real time right across our stores if we're talking about the fast food example. And then generation two, what I was talking about with the fries, it's pushing out some of that intelligence and the AI that was created on the cloud using the IOT data, but really pushing out that decision making, when to cook the fries, right to the edge.

And 5G, as you alluded to, that makes this all better because no longer do I only have the choice, edge, the store and the cloud as to where to put that intelligence, I can now put some of that let's say within maybe a regional server room within a shopping mall that all the stores share, or I could put it within a local network that the tell-co provides and 5G is what's really going to guarantee again that quality of service, the latency, the bandwidth that you get, the right impact that you could cook the fries or that your video analytics works or that your surgery works.

So all of this is made possible by 5G, and if you think about that, that new continuum is what we call it, edge. The local data center, within the tel-co, within the public cloud, within the private on-premise cloud. That new choice gives us so much more flexibility to deliver these new services. It's so much easier to roll out to the tel-co data center and update than to require all these stores. Let's say the fast food examples, they're not going to all invest in new GPGPUs. Now I can put that within that local data center and service all the stores because of 5G.

Jennifer: Yeah, it's very interesting how it's going to be. It's kind of the convergence of these technologies, or not so much convergence, but the complimentary facets of everything that comes together. I mean, in the examples you talked about, some machine learning, some applied intelligence, they all start to come together and it's really this exponential effect of how that happens. Can you talk a little bit more about these other technologies that are further enabled by 5G and all cloud events as we've had?

THE CONVERGENCE OF 5G, EDGE & CLOUD
VIDEO TRANSCRIPT

Teresa: Yeah, and I think one of the things that I've realized when talking about, again 5G, edge, AI, robotics, that these are individual technologies, but the change is really not the technologies themselves, it's this common [inaudible] effect that introduces a new typology. So it's not technology, but it's a typology. And that typology is again that continuum that stretches intelligence, a cloud-like development environment. Everything's connected via a quality of service guarantee into our everyday systems. So the experiences that we're going to see are going to require internet of things to see, it's going to require AI to analyze, and it's going to require robotics or pushing containers to the edge to act. It's going to require 5G to make sure all of this works seamlessly and we don't mess things up. But I think that it's not just one technology by itself. If you only had one, you're not getting this vision and we're not getting the experiences that I hopefully brought to life with the French fries example.

Jennifer: You know, every time I talk to you, I have to confess, that I steal something in the way you've described things and today I'm going to steal typology. I love that. I use the term architecture, but as soon as we talk about architecture, everybody goes to a certain space of what we understand technology architectures to be. It really is a typology of different things coming together. The whole value chain and how each technology impacts the other is really changing and evolving. So I'll be stealing that one from you, Teresa, along with the French fry example.

Teresa: Yeah, no problem.

Jennifer: Yeah. It's good stuff. I love it. Let's talk a little about industries. I think there's a lot of conversation about manufacturing for very, I think not an obvious but apparent, reasons of IOT and the applications there. Can you talk a little bit about what you're seeing other industries that will be impacted? I think it's our perspective, as you and I are aligned, that all industries will really be impacted over the next probably decade with these technologies. But what do you see as some of the applications of the 5G and edge combination coming together and in which industries?

Teresa: Well, the manufacturing, which a lot of it will be automated. I really think that the biggest impact will be upon the human experience, so whether it's the consumer experience or the worker experience, that's really going to be the change. I use the retail example. The retail example typically when I go to the store today, I, like many of us, have done much more digital shopping during the pandemic. So I still drive to the store, I park. Only after do I park, do I click Teresa's here, which space I'm in, and then I wonder how long my stuff is going to come out. It's not really a seamless experience.

If we think about what could happen with this new continuum, with this new typology, as soon as I place my order, almost like in a reverse smart driving car share ride, they should see Teresa coming and they should be able to see. I don't have to wait until I'm actually in the parking spot to say I'm in parking spot five. They should actually see where I am. I should see that Jennifer is actually the one bringing my stuff and she's getting the milk so it's cold. And then we just know what to expect.

THE CONVERGENCE OF 5G, EDGE & CLOUD
VIDEO TRANSCRIPT

And I think that's a change that happens maybe in retail, but whether it's health, it's insurance, it's really much the human experience. Insurance is a great one. So whether you're the person filing a claim or you're a worker, there's a lot of things that you have to think about. And so being able to take a photo of the scene and making sure that you could connect to the best worker and the response to that sort of situation, that really changes again that human experience.

Jennifer: Yeah, I think the consumer applications and enterprise applications will be very different, but the expectations will be set and they will merge. We saw a lot, and you mentioned the pandemic obviously, what we experience is that our expectations of what enterprise life and work life would be started to really blur with personal life. So therefore the kind of cool things that we all do with our games or with our devices are our expectation in everything now. It isn't just about, oh, if I sit down to play a game and I put a headset on, I expect X. Now I expect those same capabilities or that kind of coolness factor everywhere.

And then when you take it on how it can actually impact the value to the customers and also the revenue streams of the enterprises, that's where it starts to get really exciting, and I think we're going to start to see that more and more so totally agree with that one.

Can you talk a little bit about Accenture and how we're positioning? I know you and I have talked a bit about obviously our cloud first initiative, edge, and 5G coming together. Can you talk a little bit about how we're approaching this with our clients?
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Teresa: Well, I really look at it as industry led in the same way that we talked about it. It's really about human experiences. So whether it's retail, health, insurance, automotive, even manufacturing. Really thinking about that human experience. In a digital factory, we might be doing a lot of robotics and automation, but at the end of the day, you need a plant operator, somebody with decades of experience in that field to really feel comfortable to install new sensors, adding the analytics there in a very easy way.

So how do you give that person the trust and the enablement that democratizes a lot of that use? And so there's an experience factor and even just the rollout that really gives trust so that that person at the end of the day can make the right decision and even trust that the process that we're going to automate is going to work and improve their factory. So really a lot of what we can do as Accenture is to help our clients reimagine and dream big because we have the ability to know these capabilities.

So I sometimes talk about my kids watch a lot of Harry Potter movies and so the magicians and knowing the spells and the tools. They need to learn that so they know how to apply it in the right situations. So in this case where we have these new experiences, there's network, there's 5G, there's public private 5G, there's Wi-Fi, it's hard. There's cloud and this new cloud stack that's emerging, whether it's AWS outpost as your stack, Google Anthos, all this weird new exciting stuff that people need to know. And the infrastructure, the hardware itself. There's GPGPUs, FPGAs, [inaudible], quantum how do you apply that?

So again, knowing the spells or the tools if you will, is really what Accenture can do well, and we can complement that with our client's ability to dream big. We know how to apply it to make that happen.

THE CONVERGENCE OF 5G, EDGE & CLOUD
VIDEO TRANSCRIPT

Jennifer: I totally agree, and I'm going to steal a Harry Potter example as well. I love that one too. But it's really about not here are all these technologies, what do we do with them, versus what is the industry need? What are you trying to achieve as a business and objectives? And then with the spells or the formulas if you will behind them, then you can start to say, if this is what I need to achieve or this is the growth trajectory I'd like to have or I'd like to open up new businesses, I have all of these technologies to my avail to make that possible. And we can work on... we always talk about workshops and bringing together, but it really does require a lot of minds and a lot of different expertise to come together, as well as the actual business objective we're trying to achieve.

I think sometimes you can get lost in the technology of how cool the technology in and of itself is, but if you're not applying it to a business objective, it's kind of all for naught so to speak, so I love that.

I want to first of all just say thank you for doing this with me. I always enjoy talking to you. I always learn from you and that is the best thing that can happen to me in a day, so I appreciate that. I think we might be calling on you. If our audience wants to have additional conversations or has any further questions, we may be setting up some time with you if that's okay.

Teresa: Yeah. I would love to. I mean, I think reimagining that experience is really, again, that embedding of the future of tomorrow today, and would love to join such a discussion.

Jennifer: Teresa, thank you again for joining us in this event in the your 5G journey series. And to our audience, we hope you enjoyed it and that you have a great day and you'll join us again for our next session.