

**Episode 31**  
**Verizon's public cloud journey**  
**Released December 14, 2021**

Danielle Royston 00:00:00

I'm Danielle Royston and this is Telco in 20.

For telcos in some countries, it's easy to move to the public cloud. A big part of the reason is that they're located near one or more of the hyperscalers data centers. CSPs in the United States, for example, are close to a ton of data centers. AWS has six data center regions. GCP has seven, and Azure tops them both with nine. That's a whopping 22 data center regions. Carriers in the US have no excuse for not moving to the public cloud. It's literally right there in their backyards. And we're starting to see movement. DISH, a Greenfield network, quite famously and surprisingly has gone all in with AWS, going as far as to tie their edge to AWS and putting their 5G core on the public cloud. This summer, AT&T sold its network cloud to Microsoft Azure – the whole thing – selling off their IBM people, and said to Azure: "You deal with it."

Another telco who has been quietly working on their move to the cloud: Verizon. Today, I'm stoked to have Nanda Kumar, executive director of cloud engineering at Verizon on the podcast to share what the company is up to, how it kicked off their move to the public cloud back in 2016, and what's next for them with the public cloud. So let's take 20.

Nanda Kumar is Executive Director of Cloud Engineering at Verizon. Nanda, welcome to Telco in 20.

Nanda Kumar 00:01:45

Thank you. Thank you for having me.

Danielle Royston 00:01:46

As you know, Telco in 20 is primarily about the telco industry moving to the public cloud. I've seen bits of news about Verizon doing stuff with different hyperscalers, so to start – what percentage of workloads have moved to the cloud? And do you guys have a goal to get a certain amount moved by a certain date?

Nanda Kumar 00:02:09

Sure. Actually, if I roll back the clock, we started thinking about public cloud way back in 2016. We were initially thinking about maybe mostly from an efficiency standpoint: how could that work and how do we really take advantage of the public cloud? So we actually put together a five-year business case program that involved us migrating workloads to the cloud. And then also as part of it, find define what data centers we can consolidate, rationalize and retire eventually, so that we can be efficient about it and manage your workloads between the cloud and the data center. I'm happy to announce that by end of 2020, we actually completed that effort. Albeit it was not the same as what we planned. There's a lot we learned along the journey and we also, along the way, realized that it's not just about cost. What really excited us about it was the speed innovation factor that really can come with the cloud. And we started to edge towards 'how do we also bring in those factors into our strategy?'. And that is why we have this strategy as we call it 'ESI' – stands for Efficiency Speed Integration, ensuring that we can go after all those three dimensions and not just focus on cost.

Danielle Royston 00:03:21

Yeah, I think it's really interesting. You guys started in '16. That's pretty early, I think, from just talking to so many different CSPs around the world. You start with this efficiency idea and then it evolves. What I've been talking about, it's not just about outsourcing your data center here versus there. It's about the software of the public cloud that you can leverage to really accelerate some of your business ideas. So it sounds like you guys actually discovered that.

Nanda Kumar 00:03:51

Absolutely. In fact, I can give you a quick example just last month when we supported our iconic launch with Apple. We had hundred percent of that initiative running on the public cloud. Before that, it was probably around 40%. And we also were able to drive our innovation in terms of how we serve customers. Case in point what we did with Google, with our call center AI, where we transform how we want to serve our customers. How do we reduce their wait time in terms of engaging with us and making sure that their needs are addressed? So it's kind of really expanded, as I mentioned earlier, beyond efficiency. And critical workloads are now running in the cloud, and we're able to meet the business needs and support our customers.

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Danielle Royston 00:04:30

The way you and I met, we were on a TM Forum panel together. The topic of the panel was working with multiple hyperscalers and multi-cloud – and this idea, you know, some people think of multi-cloud as a way to build in redundancy, or not putting all your eggs in one basket, and moving the same workload to different hyperscalers. And so I have seen your Google Cloud announcement, Thomas Kurian highlighted it in his keynote at last year's Google Cloud Next. And then I've also seen you guys working with AWS Wavelength. And so how are you guys thinking about multiple clouds and what workloads you move, where?

Nanda Kumar 00:05:09

That's a great question. What we realized is that it's basically trying to align with our strategy and integrating from an ecosystem mindset, right? It's not about just a workload that runs. And more importantly, we want to make sure that it meets our business and customer needs. So with AWS' entire ecosystem is drowning in AWS, and that is why we're able to successfully launch and support our iconic launches last year and this year. With Google, as you pointed out, we partnered there more in terms of the AI/ML capabilities, and also data analytics. Similarly with our partnership with Oracle, where we realized we get better efficiency of scale with some of our Oracle workloads. So that's how we approached it. It was not so much of edging against them, but it's more about how we could have an ecosystem run, that meets our business needs and serves our customers.

Danielle Royston 00:05:55

This is a little bit of a combination of the technology as well as the business case, right? Like sometimes, you know, Oracle workloads work best in Oracle Cloud.

Nanda Kumar 00:06:03

Yeah, yeah, who else can run it better than them?

Danielle Royston 00:06:05

Yeah, yeah, exactly. And so you mentioned this – your great three letter acronym, ESI: Efficiency, Speed and Innovation. Are there posters in Verizon with ESI on them, reminding people why you're doing things and how you're supposed to work as you move workloads to the public cloud?

Nanda Kumar 00:06:23

In fact, that is because it's an initiative that was led by our CIO Shankar Arumugavelu. We realized that we have to operate all three dimensions. It's not like one versus the other. You can't just focus on speed, and do it at a rate that's not going to be efficient to the books. And you cannot lose sight of innovation. So that's where this framework was put together. It's something that's well ingrained in how we operate as an organization, especially in IT. And that, in fact, also translated into our public cloud journey. As we got started, I think our developers got excited about the cloud and the capabilities they can bring in terms of scaling innovation. And that translates into us being able to achieve all the paradigms of our ESI framework.

Danielle Royston 00:07:05

I spent some time in HR, and when you're driving change through an organization, it's really important that people are aligned to the 'why'. Like, why are we doing this? And not just, how is it good for the company, in this case, Verizon – but what's in it for me? I think people get really energized when they get to work with new stuff. And the way that you design applications in the public cloud, it's like a whole new way of thinking. You're like pulling in all these different modules and building different things. And your example with Google, you start with this base, but then you build it out specifically for what Verizon wants to do, leveraging their great AI. But then, you're putting your spin on it. And it's such a different way of thinking. But like when you start to get your team saying like, no, I'm going to stand on the shoulders of Google or AWS or whatever. And now I can push things out to market so much more quickly and really delight our customers and have an impact on the bottom line because we're efficient and we're saving money. It's energizing to people. Your employees are psyched to work there.

Nanda Kumar 00:08:08

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Oh, absolutely. You touched upon a few things that maybe I could elaborate a bit. Think about how cloud has shifted the purchasing power of an organization, right? Back in the day, before the cloud, a developer comes with a great idea. All right, good. And then you have to go through 17, 18 steps of approval. But think about the shift in power. A developer decides it's a great idea, and within a moment's notice, he or she can just go and push a button – and the infrastructure is right there. Completely collapses that ecosystem of how you would get things done. It's so powerful, when you think about it.

Danielle Royston 00:08:40

It's not this huge investment in this big, huge fight in business case. You can sit there and start with one server and just this prototype. And the prototypes turned into little baby experiments, that turn into products, that then get deployed. It's so empowering to people that are, you know, 17 layers down in the organization. And so that is a shift in power and it increases the speed of IT. But I think now you're getting bills. The company is starting to get bills from AWS or Google on a monthly basis. And they're not used to seeing these kinds of bills. And they fluctuate – and they're like, 'Whoa, what are we doing? What are we doing in IT?' So how have you brought that finance department along to understand this is why we're doing it and you're going to see variability, and this is how we manage it and get them comfortable with that whole process?

Nanda Kumar 00:09:28

Well, that's a great question because the dynamics of how your costing works and our billing process works is completely different in the cloud. And the beauty of this is it's actually creating transparency that you never had before. And in fact, most of us talk about how you do lift and shift, and you start complaining that the apps are not efficient and using a lot of compute. And so late than they should be. But that's the same app that is running the data central all along, and we never talked about this, right? I mean, that's the irony of this conversation. They say, it's the same app, but why are we talking about it now? It's because of the transparency.

Danielle Royston 00:09:57

And that's a great point. I mean, I think IT departments are famous for overprovisioning on capacity because they don't want to get yelled at when it goes down. And it's totally understandable. You have a lack of capacity and their subscribers are impacted. I mean, someone's getting fired over that. And so they bumped it up 10, 20, 30%, but all of that idle compute has been sitting and depreciating in your data center. But I think once you lift and shift, that's where the work comes – it's refactoring those legacy applications so that they are more efficient either way, on premise or in the cloud.

Nanda Kumar 00:10:29

Transparency is what I think we've started coming to appreciate and accept, as opposed to trying to fight it. But back to the question that you asked about bringing in finance, I think that is one of the important aspects of any transformation, because with the collapse of the buying power, there's a need to understand why certain things are being spent. And incidentally for us, when we were trying to have these conversations with finance, we were trying to explain, 'Hey, our compute cost went up, our storage cost went up.' And Finance is like, why did it go up? So the light bulb moment for us is: We shouldn't be having conversations about why compute and storage is increasing. When you translate the quantity, let's say, 'you know what, this month we added a new product launch and that required more customers coming in and looking at our products and services on our website'. And that translated into: why we had to purchase more, because there was a higher demand coming through our website. And that shift in the narrative of how you articulate is going to be critical because it's tied to a business event.

Danielle Royston 00:11:25

Marketing goals, right? It's tied to your marketing goals and your sales goals. And previously you would have had that sitting idle and then the event is over and then it's still there and you own it. And in the public cloud, you have a spike around the event and then it unwinds and it goes away and everyone sees that result. It's amazing.

Nanda Kumar 00:11:43

And if it gets informed with the Apple launch and because of the promotions that we add, a lot of people are coming in and extending their phone. So we could see that as a spike in the change plan transactions.

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Danielle Royston 00:11:53

I mean, this is one of the reasons why I focus my podcasts on telco executives, because a move to the cloud is a senior person, CTO or CIO, or maybe even the CEO deciding, Hey, we're going to move here. And so it's not just a technology decision, right? Finance, the way that we buy infrastructure is changing. And you're going to see variable bills, and it's a lot less CapEx. CapEx is going to drop on the IT side, but it's OpEx right? And so this is one of the first times we brought it up on this podcast, but internal teams in telcos don't understand the technical trade-offs coupled with the financial implications of different technical decisions. And they need to start to build that muscle. That's in IT, not in finance.

Nanda Kumar 00:12:36

Absolutely. And the partnership that we have with our finance teams – and they have come to recognize that they're used to seeing things being flat because you make a budget, you work towards that budget. But yeah, we were showing them, 'Hey there are times we want less than what the budget is because we have been efficient and there's no need for us to spend. And there are times when we want to grow.' So that's the cyclical aspect of it, understanding it and supporting it is very critical.

Danielle Royston 00:12:58

And now there's tools out there and there's consultants that will come in and analyze your bill and they're experts around a particular cloud, AWS or Google. And, you know, I've been doing this for CSPs where I go in without even having confidential data access. We can scan your environment. And so when the telco starts to move and they're moving and spending millions and tens of millions, and a hundred million dollars with a public cloud vendor shaving off 10%, 20% of your bill – with an automated tool that totally works and doesn't impact your stuff – is awesome. (It goes a long way.) It's amazing. And so we touched a little bit about bringing the people along this journey. I mean, they're the ones that are doing the work. So they gotta be excited about the "transformation" – I hate that word because everyone uses it – but I mean, this is a big change for Verizon. And we, five years ago, you weren't doing this, right? And so how have you approached getting your people ready, getting them upskilled and trained, and started learning how to design with the public cloud?

Nanda Kumar 00:13:55

No, I think that's very important. And I think you touched upon this earlier, articulating the why. Why are we doing this? And helping individuals understand how their role is going to evolve and what skill sets are needed. We were pretty clear from day one that we have to make sure we invest in our people. And we actually came up with a program that helps our employees get certified and trained. They actually set a target of 2000 engineers that we want certified in the first year of our operations. Now, that number has grown. What we need to do as leadership is provide a path for people to come in and experiment and get their feet wet in understanding it. And then we also want to make sure that there's a grassroots moment behind it, right? It's not just top down.

Danielle Royston 00:14:35

...and want to do it, and be excited about it, yeah.

Nanda Kumar 00:14:38

Yeah. So a goal really helped us create that momentum. And now that momentum has been established for the last four or five years. It's just been significant growth.

Danielle Royston 00:14:47

And I think you guys created a little competition, right? It's like the Stanley Cup, I think, internally at Verizon.

Nanda Kumar 00:14:52

Yeah. So one of the things that we tried to do as part of it was 'how does it translate to a customer and their business?' One of the things that I'm pretty passionate about is 'how can I get employees engaged?' And just to excite things up, we actually add a full-sized replica of a Stanley Cup as the award for the team that wins. We wanted

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it to have momentum, carries on from year over year over year, just like the Stanley Cup. The rule is you can't drink out of it. That was the number one rule. That's not allowed.

Danielle Royston 00:15:18  
...Care for champagne, and chug?

Nanda Kumar 00:15:21  
...You can't do that. So, the goal behind it was to really do it as a grassroots. And when you can do things on a day-to-day basis, you don't need special programs then. And you're accepting that, 'Hey, this is the way that we should be doing things.'

Danielle Royston 00:15:33  
Yeah. This is a huge change management program. And you guys are doing everything from setting the goals at the top. You created a plan and that plan changed, and that's okay. You learned along the way. I think you engage the people, right? You change the work. You're like, we're moving it over and now we're getting bills. And now we need to figure out how to make that more efficient. And it sounds like people were on board. It starts as a snowflake and ends up as an avalanche of change. It sounds like Verizon's really on their way. And I think it's super awesome what you guys are doing. I'm a new Verizon customer. I switched from some other people and went through the whole experience. I used your chatbots. I use your mobile app, it's been great!

Nanda Kumar 00:16:18  
Thank you for being our customer. And we certainly appreciate that. Well, we are known for our brand in terms of our network, right? For the last 12, 18 months. What we have also started to focus on is how we can bring that to our experience in terms of how customers engage with us.

Danielle Royston 00:16:35  
It's everything I talk about. That's really where the differentiation is going to come for telcos. It's really hard for subscribers to really tell the difference from the network. It's a technical thing, and most people can't really describe it, but people really understand the experience. I'm like, "Mom, are you on 5g?" No clue. "Do you have a 5g phone?" No idea. But she knows if her experience is good with the support person, right? And if it's really easy to pick a plan and it speaks in a language that she understands. So I think you guys are onto something super awesome. I call it Customer Love. And I wish you guys the best of luck, both as a subscriber and as a public cloud evangelist. So Nanda, thank you so much for coming onto the podcast. I really enjoyed our conversation.

Nanda Kumar 00:17:17  
Thank you for having me, and I'm looking forward to future discussions.

Danielle Royston 00:17:19  
Yeah, for sure. Thanks!

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:

Nanda talked about how important it is to bring our financial people along on the journey to the public cloud. But chances are, they're going to be surprised when the public cloud bills arrive each month, and start asking why it's so expensive to run in the cloud. The truth is like Nanda said, it was this expensive to run on premise, they just didn't know it. So it's up to your techies to help the finance team understand the public cloud technology and pricing. And it's equally important for the techies to understand the financial implications of the technical choices they're making. If you manage it really well, you'll save up to 80% on your TCO. But it's a partnership and the two functions are going to have to work together. But there's good news for you: I can help!

We have a new tool called CloudFix. That's super easy to use, just connect it to your public cloud management console, and it goes to work to identify cost savings opportunities. with the touch of a button, It then automatically

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deploys fixes with just one click. Seriously, it's that easy. All of this happens in minutes and you get immediate and ongoing savings right now. CloudFix works with AWS and we'll be offering it with Google Cloud and Microsoft Azure down the road. So if you're an AWS customer and would like to save up to 50% on AWS costs, give me a call. I promise it will take you longer to decide to do it than it will take to find the savings. Until then, don't forget to tune to AWS is annual conference re:Invent, which is running through December 3rd in good ol' Las Vegas. Head over to the TelcoDR website to check out my blog about sessions that telcos shouldn't miss. And I'll also share the most important headlines from the event after re:Invent wraps up. So if you want to keep up on all the haps in telco in cloud, don't forget to follow and share our podcast with your colleagues. And if you liked what you heard, leave us a review, sign up for a 60% open rate newsletter at TelcoDR.com. Follow me on Twitter @TelcoDR. And connect with me on LinkedIn. You can also call or text me at 925-TELCODR. Later, nerds!