DR: [00:00] I'm Danielle Royston, and this is Telco in 20.

[00:14] So much has changed since we started this podcast just three years ago. Back then, hardly anyone in telco was talking about the public cloud. Now, it's everywhere. Telcos are either already using the cloud, on their way, or being left behind. You can see the surge in public cloud adoption in the big three hyperscalers combined annual revenue, which doubled from $77 billion in 2020 to more than $163 billion in 2022. Microsoft Azure in particular has been working hard to become a carrier-grade hyperscaler for telco. For example, it purchased Affirmed and Metaswitch in 2020 and acquired AT&T's Network Cloud in 2021. With flagship customers like AT&T and MTN, they're giving AWS a run for their money in telco.

[01:01] Today, I'm joined by Microsoft's Chief Technology Officer for Worldwide Telecommunications Industry, Rick Lievano. We're going to talk about their latest announcement, the general availability of Azure Operator Nexus, Microsoft's jaw-dropping $13 billion investment into OpenAI, and how Azure should be paying me royalties for pushing telcos into the public cloud. So, let's take 20.

[01:27] Rick Lievano is CTO for Worldwide Telecommunications Industry at Microsoft. Hi, Rick. Welcome to Telco in 20.

Rick: [01:35] Hey, DR. Great to be here.

DR: [01:37] I'm so excited to have you back on our podcast. You are a very select crew of people who have been repeat guests. You appear on episode five. We've now had more than 70 episodes since then, and so, great to see you or hear you.

Rick: [01:52] Amazing run. I can't believe the last one was in 2020. It's ridiculous.

DR: [01:57] I know. Back then, if we can remember three years ago, that was the middle of the pandemic, telco was pretty

resistant to moving to the public cloud. And so I wanted, from your perspective, from Azure and Microsoft, how do you think the telco industry has evolved when it comes to thinking about migrating and pivoting to the public cloud? What are you guys seeing?

Rick: [02:16] Well, first of all, congrats on the incredible job that you're doing bringing public cloud to the forefront of telco because you're really helping open minds and dispel myths. And so, maybe you should be on our payroll.

DR: [02:28] I would love to be. Feel free to pay me.

Rick: [02:31] But with the rest of your question about cloud, public cloud's come a long way in the past few years. You've seen it firsthand.

DR: [02:37] Oh, totally.

Rick: [02:38] And you're absolutely right. It's been a slow start. A lot of telcos had these public cloud ambitions of their own for a long time. And luckily, those days are behind us. Most telcos are really full steam ahead with the public cloud. And yeah, there's that occasional naysayer with objections about the security, or data sovereignty, or regulatory constraints. Hey, they're telcos, man. They're really conservative. They have reasons to be. But for the most part, telcos are moving to the cloud to be cloud-first and on-prem by exception. So, it's a flip over what we saw, say, three years ago.

DR: [03:07] It's crazy.

Rick: [03:08] Exactly, and a good stat I like to use is, I talked to telco ISV partners and they're deploying these telco-specific solutions and about 80% of those net new solutions are going to the public cloud. So hey, if you're not on the cloud now, you're going to be left behind.

DR: [03:22] No, it was a big risky bet back then. I had started exploring the idea of moving to the public cloud when I was CEO of a charging business up in Canada. And that was in 2017, I had the idea. And in 2018, I started really moving

the R&D in that direction. And everyone was like, "You're wrong. This is a wrong bet." And I was like, "You're wrong. This is going to totally work." And it's so rewarding. We just talked to a big European telco yesterday about charging, and they're like, "No, no, no. Charging needs to be private cloud." And by the end of the conversation, about two hours later, they're like, "No, you're totally right. Let's try it on the public cloud." I'm like, "Yes!"

Rick: [03:59] Yeah, absolutely.

DR: [04:00] So awesome. So, at this year's MWC, you guys went crazy. You had so many announcements. You announced the public preview of Azure Operator Nexus, which is a new platform that helps operators use cloud technology to monetize network investments that will lower TCO, which is great. We need to do that all over the place in telco. And so, on August 1, you guys announced that it's now generally available. And so, tell me how Operator Nexus helps telcos.

Rick: [04:28] Yeah, you heard about this little thing called Nexus. So, Azure Operator Nexus. Sometimes we're cool and we want to call it something different so we call it AON because that's hip. But it's really Microsoft's carrier-grade and hybrid platform. And notice that I use that term carrier-grade. I don't use it lightly. We fully understand what that implies. We've made huge investment in acquiring Telco talent over the years. This is telco-grade stuff—extreme SLAs, the five-nines, high QoS, regulatory compliance. All that stuff that telcos worry about? It's in there. You know like the ragù sauce? It's in there.

DR: [05:01] Yeah.

Rick: [05:01] It's in Nexus. So the platform, it's built to empower telco operators to modernize, to monetize, to transform their networks using cloud technology. All the stuff that the IT folks have been doing for years, now they can do in the network using cloud-native technology. And what that means to them, it's going to lower their TCO, as you said. It's going to drive operational efficiencies, resiliency. It has AI baked in and automation. Helps improve their security.

And I've got a highly distributed, hybrid, software-based network. So in short, it's like the modern way to orchestrate, to host, to secure and manage your most mission-critical network functions.

DR: [05:37] Well, I would imagine for telcos who are like, "No, you can't do some of these things that you're talking about in the public cloud. We need to set up a private cloud," … but what people don't really understand is all the tiny technical decisions that go into setting up a private cloud.

Rick: [05:54] Immensely complicated.

DR: [05:55] Right. And you're betting on these different vendors, that are moving at different rates, with different investment profiles or trajectories. And so, what I always talk about with public cloud is they have all these tools, big investments. It's a safer bet. And some of these little tiny decisions have been solved for you if you go public cloud-native and you go all-in with your vendor. And so, is that kind of what you're doing? You're simplifying some of those decisions so that people can just get to work a lot faster?

Rick: [06:24] Yeah, and we're also homogenizing cloud technology. So, we're pushing the cloud out to the edge, the near edge and to the far edge. So, you basically have one consistent DevOps and SecOps process that you can follow to deploy your applications, but it's essentially the same technology, the same approach. The edge, or in this case Nexus, really becomes a deployment target for your applications where you're pushing them out to where it makes sense. And the edge is critical and hybrid is critical for telcos because we know that the public cloud as it exists today, and these large regions, massive hyperscale data centers, isn't going to solve every single problem. There's going to be certain things, whether it's latency or security, or just the sheer laws of physics, that are going to force you to have a piece of hardware that sits a little closer to the end users. And so, that's a problem we're solving, doing so consistently, and doing it again in a carrier-grade capability because we are truly understanding the unique needs of operators.

DR: [07:16] Yep. And you guys made big news in 2021 when you guys bought the Network Cloud business from AT&T. And, at least the press release when you go back in time, you're going to refactor it to run natively on Azure. And so, I guess I have two questions, which is, is Operator Nexus, that purchase, refactored for Azure? And I guess my second question is, is AT&T using Nexus?

Rick: [07:39] Yeah. No. Great questions and great memory, because that's a few years ago already. But yeah, get the horns and the streamers out because mission accomplished from that sense.

DR: [07:47] Wow.

Rick: [07:48] That's exactly what we did.

DR: [07:49] That's great.

Rick: [07:50] We acquired it back in 2021, but we had been working with them and network cloudification since at least 2019, maybe earlier. And you're right. So, Network Cloud was a platform that helped AT&T cloudify their network. They made announcements where they stated that over 75% of their network was now software-defined, fully virtualized, and Network Cloud was that platform. So, that's what we acquired, and now, we've productized and evolved into Azure Operator Nexus. So now, other communication service providers can take full advantage of these modern networking capabilities. And it's truly amazing stuff in that it's production-ready.

[08:24] It's been running their network for quite a long time, and so it's proven. And now, as you said, it's with full support now that we've announced that Operator Nexus is generally available. We've been running their Network Cloud for a while already, since 2021, and they continue to work very closely with us and Operator Nexus, back from the very early access into general availability. And they've already begun deploying their network function workloads in their lab. And this is with the latest GA bits, the Nexus, with the intent to deploy them into a production

environment. So, we're definitely high up there and hope to get them on the latest Nexus bits ASAP.

DR: [08:58] No, that's awesome. I don't know that people understand from a software perspective how difficult it is to take something that was probably highly customized and bespoke for AT&T, and then take that on a journey and refactor for the public cloud and just optimize it for a truly cloud environment. I would imagine Azure would go 100% native to Azure, and no holds barred, which would be great.

Rick: [09:21] Yeah.

DR: [09:21] And then number two, to productize it so that other people can use it. It's secure. It's a product versus a solution that was installed.

Rick: [09:30] 100%.

DR: [09:31] Yeah. Totally. And so it sounds like, from reading the literature and stuff that you've put out, that it's an easy way for operators to set up their platform, almost like a skeleton, and then you drop in your own core and southbound and northbound interfaces, and then you just go.

Rick: [09:44] Yeah.

DR: [09:45] And so my question is, is it multi-tenant? Are you rolling out releases to all customers at once? Or, I think, it would work in a way where operators have control over their own instance and they can control when new features and changes are being made to Nexus for them.

Rick: [10:02] Yeah, this is mission-critical stuff. This is infrastructure that you cannot mess around with. So, the one thing that I can state here, that I can't be any more clear, is that operators always, always, always own their network. It is their network. They always own their

customers. So, Operator Nexus is really just the technology they're using to power their network and service their customers. They'll always have full control over the network. That includes the platform. That includes the releases and how those are pushed out. It includes the network function partners that they choose to run on Operator Nexus. So, we'll work with whatever partners they've got, and they're in complete control of their own destiny.

DR: [10:36] That's awesome.

Rick: [10:36] And you pointed out, we obviously made some investments in this space to build out the platform, but we've got some network functions of our own as well. We've got Azure Operator 5G core, for example, but we really built Nexus to support all the capabilities that telcos routinely run. And the telcos are super heterogeneous. They got the kitchen sink out on their network, so they've got functions from virtually every vendor running, and so, we've been working with those network-function vendors and have them experience early access to Operator Nexus. We've got a program called Nexus Ready, and the Nexus Ready program allows them to certify their cloud-native network functions or their virtual network functions, or really any other function. It could be an OSS function, for example.

DR: [11:13] Yeah, no. Charging. Yeah.

Rick: [11:13] Exactly. Charging.

DR: [11:14] Totogi. Totogi needs to be Nexus Ready.

Rick: [11:15] Well, hey, let's have you join the program. Absolutely.

DR: [11:17] Yeah.

Rick: [11:18] And so, we have a program that basically certifies that these ecosystem functions can run on the platform, and there's close collaboration between Microsoft and all these partners, and that's enabled them to use real-world

workloads to start prioritizing and then build on platform features. And maybe the last thing I'll say around that, because we've been running this Nexus Ready program for a while, we've gotten more than 80 network functions that are certified as part of this ecosystem already. They're platform-ready. And that includes the usual suspects on the net space. So for example, we're working with Nokia that successfully executed an end-to-end 5G standalone call using their 5G core CNFs running an Operator Nexus. They've got a reference design guide for their 5G core on Nexus. Ericsson's another one that's building on the success of working with us at AT&T, and now they're ready to begin trialing their cloud-native 5G core with other operators on Operator Nexus. So, it's pretty exciting. So again, tons of partners already on here, and let's talk about Totogi.

DR: [12:12] Yeah. No, for sure. And it sounds like you guys are standardizing those interfaces, and you got to be really careful when you use the word standardize or standards in the telco industry because everyone thinks about some industry body that's doing this, but what I'm just saying is, a common way for these apps to integrate more easily. And I think that's a big thing with telco, where they always say, "We move very slowly." And I'm like, guys, that's not a good thing. It’s a bad thing, right?

Rick: [12:37] Exactly. And then, handling a lot of the non-functional logistical stuff, whether it's monitoring AI ops or security all consistently across the entire environment. It just makes it much, much easier. It simplifies telcos’ work in monitoring and managing their network.

DR: [12:52] Well, yeah, the world is moving super-fast besides moving to the public cloud, which we are both excited about, right?

Rick: [12:57] Yeah.

DR: [12:57] Generative AI has come, like desktop computing, like the internet, like the iPhone. It's huge. And so your CEO, Satya Nadella, made a huge bet on generative AI with a reported $13 billion investment. It was the call,

maybe, of the century. He'll be in stud status forever. And so, it's been huge for Microsoft. It's amazing. So, congratulations on that.

Rick: [13:20] No, thank you.

DR: [13:21] How are you guys seeing telcos leverage generative AI? Are you starting to see business value actually being delivered or is everyone still early days experimenting? What are you guys seeing?

Rick: [13:32] First of all, I paid the $13 billion myself. That came out of my salary.

DR: [13:37] I should spend more time with you then, Rick.

Rick: [13:39] So no, I'm going to give you an exclusive because I've been calling generative AI, Gutenberg AI, because it's like the printing press. It allows you to generate immense amounts of information. So, I think I might've just coined the new term, and now we've got the podcast that's recorded so that I can take full credit when people start using it.

DR: [13:55] Totally. First use.

Rick: [13:57] But generative AI, I mean, it is exploding across telcos. I think back in November of last year is when the ChatGPT genie came out of the bottle. And it really opened our eyes to what generative AI could do because before ChatGPT, these large language models, they existed, but they were stuck behind APIs. So, most mortals really couldn't try them, couldn't experience them to discover their capabilities. So, with ChatGPT and Big Chat, they slapped a chat front end on top of the GPT models, and then they let everyone into the party. And then, the cool thing about this technology once you've tried it, is that it's apparent how you could put it into use by having it increase your productivity, automating repetitive tasks, generating really good targeted content and so, really exciting stuff. And not a day goes by that I'm not talking to a telco or a partner about what they can do with generative AI. It's huge. So, there is hype, there's a lot of excitement,

but in my opinion, it's warranted. I've seen value in so many different areas. For example, we've collected already over 100 use cases where generative AI can help telco streamline their business. And for the most part, we'd see them categorized across five areas, and maybe I'll just touch on them really quickly.

DR: [15:01] Sure. Yeah, please.

Rick: [15:02] The first one was customer care. That's pretty much the front door for gen AI, given how much natural language flows through the contact center. That is huge and everybody's doing something with this already. We've got a lot of cases around operations as well, like automating BSS processes, in the network using AI to analyze just huge volumes of data that stream through the network. Productivity is a broad one, but that's essentially AI agents that can help you be more productive. But I think my favorite one is around new services. How can telcos use AI to create entirely new communication services, or maybe enhance existing services, which can in turn create new revenue streams? That's a super critical one. And, of course, telcos love to hear about how can they make more money.

DR: [15:42] Yeah. Can you share a couple of examples, ideally some customers, how telcos are putting this into action?

Rick: [15:48] Yeah, I'm happy to share a lot of the names. We've got a lot of great public references already. But on customer care and the contact center, that is top of mind. The contact center is a cost center for a lot of telcos.

DR: [15:59] Oh, for sure. Huge.

Rick: [16:00] So, it's a great place to streamline operations, reduce costs, and so forth. And so, the most common use case, I'm hesitant to mention it because it's overkill now, but it's call summarization. It's so easy. We can go automate that call wrap-up process on behalf of the human agent, and we can give these human agents three to seven minutes back to their lives and they can be more productive. They can go take another call. They can go out

and smoke a cigarette, DR. Whatever it is that they want to do, they've got five minutes. And it's so easy, and the value is like, boom, immediate.

[16:30] They've got some process that records the call, and so we've got a .wav file of that recording, so we can easily transcribe it. We can hand it off to an Azure OpenAI service with a prompt that gets me some juicy insights on that call. So, for example, not only can they summarize it, that's the easy one, but I can do things like I can extract the reason for the call. I can categorize it using whatever taxonomy I have. I can determine if the call was successfully closed. I can go and get the steps that were taken to close the issue so I can, for example, go and generate a KB article on that. I can get a sentiment rating so I can judge that as well. And all that insight can be extracted from the transcript and saved to the customer CRM record so we've got it the next time this person calls. And we've got this in production already with a handful of telcos. It's a really, really popular use case because it's just so easy.

DR: [17:19] No, totally.

Rick: [17:20] And think about reinventing voice for telco. Mobile or PSTN voice hasn't changed in decades. You pick up the phone, you get a dial tone, you punch a number and maybe you click send. It hasn't kept up with services like Teams, for example. And so, when you look at what can be done there, poof, your mind will explode. Imagine if you had AI in your voice call, so it could create a transcript of the call. It could securely store that transcript in a personal vault. You can index it. You can make it searchable so that you can have it for later times. You can create call summaries and notes. You can do all the intelligent things that you can do in Teams, translation, and activity tracking, and so forth. But maybe, a telco could offer this to the SMB market for seven bucks a month.

DR: [18:04] Well, any place where you're using voice calls to gather information, right?

Rick: [18:08] Yeah.

DR: [18:08] Like, you call into the doctor's office and they're like, "Date of birth-

Rick: [18:11] Yeah, it's huge.

DR: [18:11] ... insurance number, name, address." And it would be so great if voice is starting to synthesize this and be like, "Here, I'm just going to send it to the other side and stop all this typing."

Rick: [18:21] Exactly.

DR: [18:22] And so there's just these little time savers.

Rick: [18:24] And it's a revenue opportunity.

DR: [18:25] Yeah, absolutely.

Rick: [18:26] More to come as always, DR.

DR: [18:27] Yes, so awesome. And so, I always like to end the podcast with something fun and so, everyone knows, I think, that I'm a big tennis player, and I have been playing pickleball, which is the fastest growing sport in the United States right now.

Rick: [18:41] I can't believe it. Tennis players hate pickleball players.

DR: [18:44] You know what? I am not that opposed to it. I think tennis players are really upset it's taking over the public tennis courts, but you live in Florida. I would imagine it's just taking over Florida like crazy. So, are you playing pickleball?

Rick: [18:55] Yeah. In fact, if you're moving into Florida, it's now required. So, when you actually move into the state, they issue you a paddle.

DR: [19:02] Right, a paddle. Yes.

Rick: [19:03] Yeah. I picked it up about a year ago because I figured I'm either going to do golf or pickleball, and I

figured there was marginally better health benefit to pickleball.

DR: [19:11] Yeah. For our rest of world listeners, I don't think pickleball has really spread internationally.

Rick: [19:16] No, but paddle is very big in Europe.

DR: [19:18] Yes. So, I described paddle as tennis and racketball had a baby. This is the way I describe pickleball: tennis and ping-pong had a baby. And so, you play with a wiffle ball, which is usually used to train baseball players. It's like this plastic ball with holes in it. And you play with a paddle that's a little bit bigger than a ping-pong paddle, but you play it kind of on a tennis court with a net and all that stuff.

Rick: [19:44] Yeah, it's a baby tennis court.

DR: [19:45] It's a baby tennis court.

Rick: [19:46] 20’ by 44’.

DR: [19:47] And so, the game is a little bit slower because that ball doesn't travel through the air as quickly.

Rick: [19:53] Not when you play me, DR.

DR: [19:55] I do play speed-up pickleball because I kind of play on tennis speed all the time. It's super social. The games are about 20, 25 minutes long. It's easy to like, enjoy a cocktail on the side. So, it's a super fun thing.

Rick: [20:10] If you started, just get ready to be humbled because you're going to get owned by some 70-year-olds.

DR: [20:15] No, for sure, right? With their angles. You know, Rick, I have this dream that someday I have a pickleball court at MWC that we just set up and we're playing.

Rick: [20:22] Oh, man.

DR: [20:23] And so, maybe at an MWC soon we'll play some pickleball with each other. It'll be great.

Rick: [20:27] Yeah, exactly. It'll be the most popular area. No question.

DR: [20:29] It'll be so fun. Well, Rick, it's always great catching up with you. You've got to come on the podcast more and tell us what's going on with Microsoft and AI and Azure. So awesome.

Rick: [20:39] Thanks, DR. Love it.

DR: [20:41] Awesome. Take care. 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. Rick was being funny when he compared GenAI to Gutenberg's printing press, but movable type led to a huge boost in productivity and the spread of information. Sound familiar? Telco execs, if you're wondering if the buzz around GenAI is real or hype, I'm here to tell you it's real. You need to be driving the use of it in your business with a minimum goal of doubling the productivity of your teams. Everyone should be using it, from your finance and legal teams, to marketing and even IT. And you, as an executive, need to be learning how to build excellent prompts too. I know this sounds scary. I see the anxiety growing about GenAI replacing people. The hard truth is, the people it will replace are the ones who don't know how to use it.

[21:36] It's the must-have skill of the 21st century, much like reading was back in Gutenberg's day. The good news is there are tons of resources on X, YouTube, and other platforms to help you learn how to write great prompts and master generative AI skills. I'm going to be talking more about how MVNO should be embracing generative AI and machine learning in their business to help them reduce churn, grow ARPU, and increase productivity in my keynote at MVNO Nation Live, running October 23rd through the 25th in lovely Valencia, Spain. Ole! If you'll be there too, let's hang out. Shoot me a DM on LinkedIn or X @TelcoDR. While you're doing that, don't forget to hit that follow button, share our podcast with your colleagues, and

leave us a 5-star review. And sign up for my totally fly email newsletter, now with over 4,200 subscribers, and check out our YouTube channel. It's great. Later, nerds.