

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

In 2021, AT&T rocked the telco world when it sold its network cloud to Microsoft Azure. This deal followed Microsoft's 2020 acquisitions of Affirmed Networks and Metaswitch and it left the industry wondering about what the hyperscaler was up to. Was it friend or foe? Was it coming for telco? There's been a lot of chatter since then and we've all been hungry to hear how the AT&T Microsoft partnership is going, who does what, is it working, and what would you tell other operators if you had to do it all over again?

So today on the podcast, I'm joined by Shawn Hakl, VP of 5G strategy at Azure for Operators. We're going to catch up on what's been going on and who's doing what. So, let's take 20.

Shawn Hakl is VP of 5G strategy at Microsoft. Hi Shawn, welcome to Telco in 20.

Shawn Hakl: [01:09] Hey there, it's great to be here.

DR: [01:11] I'm super psyched you're here. I think we're going to have a really great discussion. And so right off the bat, I discovered a really super cool, fun fact about you. You spent most of your career, 20 years, at Verizon, but now you're at Microsoft. So you're a telco guy, now working for a hyperscaler. What made you want to make that switch?

Shawn Hakl: [01:33] Every once in a while in your life you get lucky with certain things. I was lucky enough to be involved with the IT portion of the business when I was at Verizon and I saw the impact of cloud and how cloud transformed that piece of the business. And then in my product job, it was increasingly obvious about how software-based solutions and network virtualization could drive a lot of value at the carrier. And so when the opportunity came up to spend some time with Microsoft, it felt like I was shifting to the winning team. It was clearly obvious that as 5G got involved, and particularly 5G SA, that there'd be a shift in telecom architectures, that there was an opportunity to move to a more cloud-based model and it really felt like this was a good time to make that shift and really have a chance of impacting the industry in a very positive way.

DR: [02:14] Well I'm super psyched that you saw the cloud coming. I sometimes feel like a little lone bird over here screaming about the public

cloud. And so it sounds like you were at Microsoft when in 2021, AT&T sold their network cloud to Microsoft. The plan was to refactor it to run natively on Azure. And so I've been totally been following this story. I talk about it all the time, and big deals like this need to make sense for both sides for them to work. Why did Microsoft and AT&T form this partnership?

Shawn Hakl:

[02:45] When we have the folks from AT&T with us to present, they'll tell you that they had a pretty ambitious goal. They wanted to virtualize 75% of the network within a certain timeframe and they succeeded at that and they built network cloud because there was just no practical cloud alternative when they started the journey seven years ago. But they built it because they had to, not because they wanted to. Over time, obviously, they have multiple iterations of this. There's seven years of lessons learned and plowed into the platform, really leading the industry. What they were finding is they were spending a lot of money on things to update the platform to get to features that the hyperscaler providers now had intrinsically. Some of the security extensions they wanted to do, the log management analytics, the operability, the management, the CI/CD capabilities were all stuff that were existing.

In addition, they were spending a lot of time mapping their platform to the security capabilities, the different CNF or the application providers capabilities, but are all stuff that weren't specific to AT&T, that in fact could have value across the industry. So when we came together with AT&T, from a Microsoft side, we had a long, trusted relationship with them. We had an announcement with them where we were taking over a significant portion of our IT workloads. Our technology powers a lot of AT&T's offerings in IOT, in edge compute. And so there was a trust relationship there where we could take over the platform element of their network cloud, such that they could stay really good at building 5G networks and deploying 5G networks. And we could offer the infrastructure. I think the reason that this came together is there was a TCO model behind it that made sense for AT&T, there was an alignment of expertise on who would do what that made sense and there was a common vision around where the network could go to transform the industry. And on that basis, both sides decided to move forward.

DR:

[04:23] I talk about this a lot, this idea that before the hyperscale of clouds came about, telcos had to build their own data center from the ground up, and now with the hyperscalers that provide this as a service, paying for what you use by the minute, by the hour, which is insane, and they are

becoming carrier grade. And this insight that telcos can now hand over the infrastructure management and really focus on, like you said, building the 5G network, which is their core competency. That is their value to their subscribers. They should give up the infrastructure management and then focus on what really is their business, which is building the network.

Shawn Hakl: [05:04] Yeah, what I'll always point out is, we have common interests. Most of the time it's a mobile user trying to get to a cloud-based app. So the closer that the operators partner with the cloud providers, the more secure, the more resilient and the simpler the user experience is going to be. So we have a vested interest in working together and that was a big chunk of Microsoft's strategy in making partnerships with folks like AT&T, is around the positive impact it has on both our businesses. And then there's the opportunity to grow revenue because operators move to software based solutions. The chances to take advantage in network slicing IOT and stuff like that, again, that's bringing their capabilities back to the developer community that we fostered over time on the cloud side. And it makes a great marriage, great mix up.

DR: [05:44] Yeah, and in the end, I think you're just improving that subscriber experience, which is what really matters. That's the people paying the bills at the end of the day. And so given that you have this partnership, what is AT&T responsible for? And then where does that line with Azure start and where do you guys collaborate and work together?

Shawn Hakl: [06:00] It's super important to note, AT&T still runs its network. If you think about it, the most simple layer, AT&T has the app layer, they choose how their packet core is configured, how their policies are set, how their network runs. They have access to customer data. Microsoft doesn't see any customer data. We don't want to see any customer data. So AT&T still retains all the access to that. Microsoft provides the hybrid cloud-based infrastructure. So both on-prem elements as well as in the public cloud elements of the solution. So we provide the infrastructure, AT&T provides the application. The most important part about the relationship is we're aligned around common SLAs and SLOs, so that in the end what matters is the end user experience. How reliable is the AT&T network? How positive is the experience when someone makes a 5G phone call or browses on their 5G phone? And so we've got a shared set of objectives around making sure that those services stay up and are consistent. And so that's the most important part, that it's really focused on the successful delivery of services to the business.

DR: [06:55] And within the Azure side of that, as long as you're meeting those SLAs, you guys just refactoring that and trying to move it more and more to Azure native setup or are you just keeping it where it is and not really changing it that much?

Shawn Haki: [07:11] No, I think we're a little more ambitious than just straightforward refactoring. What we acquired from AT&T was a very good quality set of software that essentially mapped the features and functions that you needed, specific to supporting telco workloads. In this particular case, the 5G SA and NSA packet core. We integrated them into Microsoft cloud management, so bringing on the power of Azure AI and analytics to increase the observability and automation of the network. We automated the management of the underlay, for example. We integrated with Azure security to take advantage of the Azure security functions.

So essentially what we did is we took the AT&T assets, we brought them together with Microsoft capabilities and then we wrapped it in a layer where there's a common cloud management layer across it so that you have the option to place workloads, your applications, whether you want them on prem, at the edge of the network, or whether you want them in the public cloud, they come up through a common management layer. So you have common orchestration, common security, common life cycle management tools all embedded in that. So you could choose how you want to configure your network and how you want it physically distributed over time. And that's really what gets delivered back to AT&T and that's what we deliver out to the market, which is the Microsoft product.

DR: [08:23] Yeah, that's awesome. And I think you've already touched on this. A point of confusion when the announcement came out in 2021, whether or not Azure is running AT&T's core. A lot of the analysts had taken some words in the press releases and run with it. And so John Stankey had to correct it on the earnings call. And so is Azure running AT&T's core?

Shawn Haki: [08:45] AT&T manages the application. We're not gate-keeping their software, they can pick who they want to use just like you could in any cloud capability. But overall, right now that network cloud platform is running their 5G SA and NSSA core, which is millions of users.

DR: [09:00] If you're running all of the consumer subscribers on AT&T, it's a publicly available number, they share it in their earnings. I think the last count is 101 million. So tens of millions is probably right.

- Shawn Haki: [09:13] Fair enough. Yeah. We run consumer workloads, we run enterprise and we run the FirstNet public sector responses also located on network cloud.
- DR: [09:21] That's what's so great about the public cloud, is the scale that they can support. These are internet planetary level capabilities of workloads that Azure, Google, Amazon run. These aren't just any old data centers. They think Google downloads a copy of the internet every day. That's, I think, the big insight that's happened with the hyperscaler data centers is that they can handle the scale of telco, which is super awesome. I imagine you guys get asked a lot if this was an outsourcing of the network, when telcos start to same partnerships, a lot of the pundits if you will, journalists in the industry are like, "Oh, you're outsourcing your network to a hyperscaler. You shouldn't do that." I don't think that's what it is. I think you're just managing the infrastructure and providing chips, compute, storage, databases, software and telcos are absolutely still on the hook to make sure that their network meets SLAs and quality requirements for their subscribers.
- Shawn Haki: [10:17] Yeah, let's just be categoric. Our agreement with AT&T was not an outsourcing deal. We worked with AT&T to acquire their technology. We are providing a service back to AT&T, that's the same service we would provide to any other operator who decided to become a Microsoft customer for the carrier grade cloud. So AT&T enjoys the benefit of an industry based solution and obviously they're a lighthouse customer for us. It's super important. In addition to the team that came over, obviously we have a large amount of Azure resources focused on the functions that AT&T is consuming. So it's much more as a service-based relationship than it would be a traditional managed service, which in fact Microsoft doesn't really do that.
- DR: [10:57] And I think that pivots us into my next question, any advice for other operators looking to do a similar thing with Azure?
- Shawn Haki: [11:06] Yeah, as people look at this, I think it's helpful having done this from an operator side as well, is know what you're trying to get out of it. If you truly believe that infrastructure is not your differentiating factor, that it's actually the application layer and your knowledge of the market, great. If you still have a desire or a need because of the specifics of your business to tightly control all that, then obviously you're just going to be struggling against the cloud model because the cloud model involves bringing the value of hyperscale infrastructure to the table.

Next thing is the technology is not that hard to pick up. It's the people transition. Be cognizant of the amount of people transition that you have to do in terms of upscaling people to take full advantage to the cloud capabilities that come to the table. Because essentially you're buying a platform which means a lot of stuff just comes bundled in. For example, all the analytics and monitoring stuff comes bundled in with the platform. There's a whole API structure set and the management of APIs and life cycle management we bring, github with the DevOps tools, but it's understanding how to train the folks to take advantage of those capabilities so that you get the best possible TCO.

DR: [12:04] But it's a complete rewrite of the run books and the processes because so much of it is now console keyboard coding with components and not so much the old way of doing things and that's where people get confused. I'm like, "This isn't a lift and shift to the cloud and you run things the way you used to run, it's a lot of change but massive savings."

Shawn Hakl: [12:27] A hundred percent accurate. We have a several hundred page operations and procedure manual draft that we start with people that we can work from to help them make that leap from mainstream telco operations to a more cloud friendly model. And on the flip side, we're learning from the carrier community too, that the great thing about the partnership with AT&T, is that there's some bend from our way too. We want to be humble and learn. We can't just say, "Hey here's the cloud way, you're going to do it this way." We're working very carefully with the operators to make sure that we learn from them as well and adjust the way that we do business to fit their needs. And that's been a great partnership aspect with AT&T.

DR: [12:59] That's super awesome. And so, what also is super awesome, is that I hear you're super into woodworking. That was a nice pivot. I imagine that given your background as an engineer, that fits really nicely. And so my question for you is, what's the coolest thing you've made out of wood that you're most proud of?

Shawn Hakl: [13:19] I just love woodworking just because a lot of our pursuits are pretty intellectual and I really enjoy doing antique period furniture reproduction. For my wife's 40th birthday, I made her a William and Mary-style raised cabinet construction. She liked it and so I'm obviously super excited about that and it was a lot of fun, learned a lot of new skills.

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- DR: [13:38] I think of what you could do with wood and antique furniture and what comes to mind are puzzle pieces. I'm a big National Treasure fan with Nick Cage. Have you seen this movie?
- Shawn Hakl: [13:50] I have.
- DR: [13:51] And they go in and they go to the resolute desk and it's like turn a knob, open a couple drawers and then another secret drawer pops out. Could you do that?
- Shawn Hakl: [14:01] Yeah. So actually, well, you'll be excited to know that in the William and Mary cabinet, there's actually two secret compartments. It's built so that you can latch off the back and that exposes both a secret drawer in the back as well as a secret document stash sitting in the top of the cabinet. And so very common for that time period to do that and a lot of fun to try and build.
- DR: [14:18] That is awesome. Well Shawn, this is a fantastic conversation. I'm super psyched I heard about those secret compartments in that [inaudible]. Shawn, thank you so much for coming onto the podcast. This is a great conversation about Microsoft's work with AT&T. So thank you.
- Shawn Hakl: [14:34] Appreciate it. Thanks you very much for having me. Awesome.
- DR: [14:37] 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.
- [14:49] Did you catch what Shawn just said? Microsoft did not take over the running of AT&T's network. AT&T is absolutely on the hook for that. But what the Microsoft deal has done is free AT&T from infrastructure management. It no longer needs to worry about things like servers, compute and storage. The hyperscalers can manage those things better and more cheaply. And so let them. This is exactly what I've been talking about for a while now. Give infrastructure management to the hyperscalers. While you're still on the hook for making sure your network is great, it's the experience to provide your subscribers that differentiates you from your competition.
- Focus your time and resources on that. I call it customer love. You and your hyperscaler can grow together in a partnership made in heaven just like AT&T and Azure. You know what else is made in heaven? My freaking podcast. Don't forget to share it with your colleagues. Follow us

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