

Episode 9
Microsoft's big move
Guest: Yousef Khalidi
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Speaker 0 00:00:00 Hi, I'm Danielle Royston. And this is Telco in 20.

Microsoft totally rocked the telco industry with their announcement that they are building a carrier grade cloud for telco with the announcement of Azure for Operators. Jason Zander, executive vice-president of Microsoft Azure, put out a blog at the end of September, which put the other BFCs on notice that Azure is the cloud to pick if you are in telco. They are planning to go after the telco industry in a big way to get their business.

This announcement is on the heels of their Affirmed acquisition, which they announced in March of this year and the announcement of the Metaswitch acquisition. Everyone in telco has been wondering, "What's up with that?" Are they going to come into the telco business or do they just want to win their business?

Well, today is your lucky day because today on the podcast we're going to hear straight from the horse's mouth. We're talking with Yousef Khalidi, one of the original founders of Azure. Yousef is corporate vice-president of Azure for operators. And we're going to find out just what Microsoft is up to. So let's take 20.

Today I'm talking with Yousef Khalidi . It's not every day we get to talk to one of the founders of Azure on our podcast. So welcome, Yousef.

Speaker 2 00:01:19 Thank you DR for having me on the show.

Speaker 0 00:01:21 Awesome. This is going to be really fun. So I wanted to start just a little bit with your background and your history. You've been at Microsoft for about 18 years. What have you been doing for Microsoft for almost two decades.?

Speaker 2 00:01:33 Sounds great. The work here at Microsoft is really fun because we do fun stuff. To be honest, I like to build systems. Um, many, much of my career was building software and platform for the enterprise. So back in 2006, when we started, uh, building the cloud, it was a natural extension of progression. What I've done in the past. Basically, I like to build platforms and see customers, people, enterprises, others using it.

Speaker 0 00:02:00 Yeah. Super impressive career that you've had yourself. So that's awesome. Thank you. So Azure came about around 2006, Google cloud platform was still not on the scene until 2011. AWS kind of came around the same time. So take me to the room

where you guys are deciding to start Azure. Why did you guys decide to make it commercially available for the world and not just keep it for yourself?

Speaker 2 00:02:27 Ah, that's a good question. To be honest, when we started, we were thinking to build the platform that we needed for internal services. If you remember, we had search services, Hotmail, et cetera. We realized quickly that everybody needs this. So let's go back 2005, 2006 ... at that time enterprises or IT, if you will, was moving quickly to so-called virtualized environments, moving from bare metal to virtualization, right? That trend was happening. Companies like VMware, , Microsoft itself with hyper V and so forth was individualization business.

But some of us realize that there's more to it than just virtualization. It's all about automation of large-scale computing infrastructure that can bring economies of scale, automation, and very importantly for our customers, our agility to react quickly to markets.

So we took existing technologies, applied them at scale and offered them for everybody for internal services and for third parties. And it has been a journey to be honest.

Speaker 0 00:03:38 Bing was already built. I imagine you built a lot of data centers maybe for internal purposes for Bing so was this all built? And then you just sort of opened up the doors for external third parties to start to leverage?

Speaker 2 00:03:53 Oh, definitely. We've had more than a decade before we started Azure building global networks, data centers and large-scale systems. So that definitely gave us a head start, internal expertise and so forth. But I have to tell you, there's a big divide between building something for yourself, then building a platform that everybody can benefit from.

Speaker 0 00:04:14 Totally. I think this is the part that a lot of telcos miss. Maybe a week ago, I was speaking to someone in Bolivia, a telco executive. He thinks that there's data sovereignty issues and he can't take his data outside of the country. And he's like, well, I'm just going to build my own public cloud. I don't think people quite understand how difficult that is.

Speaker 2 00:04:33 It's more than the the brick and mortar and the wires and the machines, which you can buy off the shelf. It's about building the ecosystem. You have to get the ISV developers, their programming models, the huge set of applications to run on your cloud. So customers can use it. Building developer ecosystems is really hard and frankly, you need to have DNA to be able to do so.

Speaker 0 00:04:59 And I think that DNA ... telcos think it's managing the hardware infrastructure, but I think that's what really makes Microsoft and Google unique because they're really software houses, right? They're bringing so much software capability to understanding dev tools and development environments and making it really easy for people to come in and use these tools off the shelf and deploy things without ever having to touch a machine or being anywhere close to where the workloads are.

Speaker 2 00:05:29 Exactly that software mentality is what we apply to everything from the application APIs and tools that a customer would use, all the way to running the infrastructure itself. You know, we don't actually have an army of people watching the machines. We can't because we have millions and millions of course, out there. Yeah. We have software automation, machine learning and AI driving much of the infrastructure. So unless you have this very deep software DNA, it's really very hard to build very scalable systems.

Speaker 0 00:06:01 It's super difficult and it's super expensive. And most telcos don't have the history of hiring software talent, right? They have network engineers and they do have developers, but software talent tends to go to, you know, these big tech companies. I mean, forever Microsoft has been a fantastic employer and they tend to get the best talent.

Speaker 2 00:06:20 You know, I have a lot of respect for operators and carriers around the globe. They have a difficult job. I mean, can you, can you imagine your smartphone not working for a few seconds? I would go crazy. So they have to build carrier grade networks and systems. And I know how difficult this is because we are in somewhat similar business. Having said that, the plumbing or building clouds, why would an operator have to worry about that? We are plumbers, leave the plumbing to us and go add value by adding services and value add for your customers.

Speaker 0 00:06:54 Exactly. And I think what's really interesting as you were talking about the virtualization wave, that kind of happened in the early 2000s. And I'm new to telco. I've been in telco for almost four years. And I was CEO of Optiva, which is a BSS OSS manager based in Canada. And when I started to visit customers, I was really surprised about the lack of virtualization. You know, it's 20 years old basically, but so many of the workloads are #1, on premise, and #2, running on bare metal. I was actually receiving servers, physical servers in a country, loading it up, installing from the OS level, right. The libraries and code, and then shipping servers to locations. And I'm like, am I in a time machine? This is like, it's like 1995 over here. It was kind of crazy.

Speaker 2 00:07:50 It sounds crazy. I agree. I mean, to be honest, that telco industry has been going through virtualization and decentralization starting five years ago or so. Yeah. So if you look at that analogy, where we are today and where say it was in 2005, they're somewhat similar. And that's why we believe a similar journey that enterprises did with the cloud. The same journey can now be applied with different parameters of course, to operators and carriers.

Speaker 0 00:08:19 Yeah, totally. I totally agree. Okay. Well, let's shift a little bit into talking about Azure for Operators. So this past September Azure announced the carrier grade cloud. And so this is now your latest project. And so what is Azure for operators?

Speaker 2 00:08:36 So the discussion we just had right now about the beginning of the cloud, uh, it's really the same reasons why we started Azure for Operators. So let me explain,

uh, as I mentioned back in the 2000s, the industry was going through virtualization and the cloud, they brought in high scale automation and economies of scale not seen before. And in the process adding ultimate agility, we want to do the same thing for the telco industry. And that's why we started the Azure for Operator project. We want to apply the same principles, same investments, technology, the huge ecosystem of developers and APIs to serve the needs of operators to run their core network workloads, not just the back office.

Speaker 0 00:09:25 And so is this like bringing in managed services to help them move their workloads, or are you guys planning to build specific software to help them move from incumbent software vendors into your offerings?

Speaker 2 00:09:39 We are a software company and we believe in software being delivered as much as possible as a service under the control of the customer. So this is not us going to an operator and saying, "I'm going to take something off your hand." Not at all. It's about empowering them with platforms, tooling mechanisms, automation, so they can go build the networks as they see fit, control the networks. They control the data, they control the network, they own the customer. That's very important. We provide them the plumbing, if you will. We want to do the same economies of scale we've done for the public cloud by doing more automation. But the control is with the operator. That's extremely important to note.

Speaker 0 00:10:20 Yep. And so you guys had two pretty big acquisitions that happened, one in March and the other one in May, with Affirmed Metaswitch. What are you guys trying to accomplish with adding them to the Azure offering?

Speaker 2 00:10:36 In a nutshell, we wanted to bring the DNA for building carrier grade telco software into Microsoft. That's really in a nutshell what we want to do. So as we've been discussing, we have the infrastructure, wires, buildings, ecosystems and the like, but there are still unique characteristics of building this kind of software for operators, the software that backs your phone, be it a packet core or the voice stack or the gateways or OSS BSS, it's different than your classical enterprise software

So we decided we needed to bring the best DNA we can find into our ecosystem, into our company if you will, as a house brand to drive the platform. So this house brand, the engineers and their products will make the platform better for everybody because we also want to play very well with the partner ecosystem, including the incumbents, including the existing equipment providers, because solutions as required by operators can include mixing and matching from different providers, whether they use our house brand or the third party. We're totally fine with this as long as it drives the cloud, which what we want to do.

Speaker 0 00:11:55 And so where are you guys on the integration of these two new companies? Have they been fully integrated into Azure? Are they still running separate?

Speaker 2 00:12:03 It's important that when you bring new DNA in to learn from them, so they have a lot of independence, but they're part of the core Azure team. So we're actually

learning from them how to do this kind of software. If you will, we are modifying, improving the platform components for their needs and at the same time, providing them with the infrastructure and support and the backing. They are no longer small companies. Now they're part of one of the biggest companies on the face of the earth, to be honest.

Speaker 0 00:12:32 Yeah. Like I said, I was CEO of Optiva and we had a little BSS suite that actually used Microsoft Dynamics, your CRM product. And I know a lot of telcos use this product for CRM. Will you be moving Dynamics into Azure for Operators or making a version that's, you know, more telco-specific? So it's like an off the shelf offering that people can modify to their needs.

Speaker 2 00:12:57 Well, in due course, we are planning to bring in the very rich portfolio of software and services to serve the needs of the telcos and the operators. That may include, of course, components like Dynamics, the development tools, databases, and so forth.

Speaker 0 00:13:12 So will you take the Azure offerings and then give it features that are specific to telco?

Speaker 2 00:13:16 Yeah. I keep saying we're plumbers and we build platforms and that's why I'm going to be quite flexible. So yes, we have many components already that can be evolved and customized. And again, available for the end customer in this case, being the operator or the ecosystem that serves them, even equipment providers, the traditional ones.

Speaker 0 00:13:40 You know, we really try to tailor our podcast to our telco executive audience. And so having a founder of, of Azure and the guy who's running Azure for operators, if you're in the room with the telco, what is your reason why a telco should select Azure over your other competitors? What do you guys think you're bringing to the table that makes you unique and different?

Speaker 2 00:14:03 I have to tell you the truth, many execs and CTOs are already there. The first step is to think of how to shift the way business is done from the classical bare metal buy boxes and so forth to more virtualized environment and more agile environment. So we can then go add values on top of that. I have to tell you many of the forward-looking operators are already at the juncture. And Azure is one of the few hyperscalers out there to help you on this journey.

Now, to answer your specific question, I have a lot of respect for my competition. I have to tell you, we don't compete with our customers. So in Microsoft, in general, and Azure, in particular, we don't monetize our customer's data. We don't sell devices to compete with them. We don't sell video services to compete with them, et cetera, et cetera. We truly keep ourselves to be a software company, delivering software over an infrastructure as a platform company. That's a main thing we do though. We're not just running around and saying to an operator, let's learn together. No, no, no, no. I'm going to learn quite a bit and then we can go on a journey

together. So the other differentiator is we are quite serious about this thing. And, um, the acquisitions are an indication of that.

Speaker 0 00:15:30 No, for sure. I mean those acquisitions, there were articles for a week. And in terms of your messaging, right, Jason Zander's blog that came out, that was very targeted towards telcos. I mean, I guess Thomas Kurian done a little bit on telco. He put out a blog and a talk, I think in March, but that was it. And so this has been my perspective watching the three hyperscalers, the most pointed messaging to telcos that I've seen.

Speaker 2 00:16:02 And we are actually looking forward to the journey as well. And as I mentioned, we are very cognizant of the needs of the operators to really control the environment and for us to play well with the ecosystem. So we're in dialogue with many of the first-year operators on making sure that the rules of the game are very clear for everybody.

Speaker 0 00:16:22 Well, it's interesting because in a couple of weeks, I'm participating in a thing with TelecomTV called the Great Telco Debate. And this idea of "are the hyperscalers friend or foe?" And I think a lot of people in telco are really concerned that the hyperscalers are going to come and take over the industry. I'm not concerned about that. That's really kind of at the heart of your message of we don't compete with you. We're a software house. We're here to help you and we're investing our own money. We're acquiring real businesses and we're really gonna understand your business and build the tools that you guys need to leverage our technology, leverage our plan.

Speaker 2 00:17:02 Indeed they are. And to be honest, we have actually even published some of these principles with our customers as well. So we have it clearly articulated we will not going to compete with you. We're not going to monetize your business. We, we all know what happened in the 4G generation, frankly, the money was made by the others over the top. Um, this is not our business. We are very much in the plumbing business.

Speaker 0 00:17:26 So, you know, again, most of our listeners are telco executives. Like the person I met in Bolivia that has data sovereignty issues, planning to spend hundreds of millions of dollars on CapEx to build a public cloud themselves. Do you think they can replicate 10%, 50%, 80%? Like how easy is it to replicate what you guys have built?

Speaker 2 00:17:48 To build a public cloud at scale? Uh, there are literally three big ones on the face of the earth. And there's a reason for that. It's really expensive. And after a while you get into Coke, Pepsi, maybe an RC Cola. If you know what I mean, it's just, you're going to have a few who can actually afford to build these things. I mean, even in the high-tech industry, without mentioning many names, many companies frankly have exited the idea of playing in the public cloud space. There are some very narrow cases where you may want to build something. So like a private lot on premise. Uh, maybe you have geopolitical considerations, sovereignty aspects, and so forth. Yeah. And even for that, we in Azure have products for you to do that. So you can deploy your own mini cloud on premise.

Speaker 0 00:18:39 This was exactly what I was encouraging. I was like, you should totally use the public cloud. He was like, I can't use it. And so I'm like, if what you're saying is true, right? Data sovereignty issues, and you've made this decision and you have enough money. The next thing I would do is leverage as much as you can from the public cloud vendors software that you can use in your own data center. They've already built it for you. Just use it.

Speaker 2 00:19:03 And I want to emphasize that this is actually a part of our strategy, the so-called hybrid strategy. So even with the enterprise journey, we started almost 15 years ago. You know, everybody, every CIO have investments already. They have their own DCS on hardware that they need to, you know, run, run its course. So we met the enterprise where they are. We ran software in a hybrid fashion between the current existing products and investments and the public load. We'll do the same thing with the operators. We're going to meet them where they are. They all have some costs on premise, 5G to be somewhat technical. We'll probably be on premise for a long time, but other aspects can run in the public cloud. And in between, um, the public cloud can help you scale your private cloud deployments.

Speaker 0 00:19:50 Yeah. I do think that the public cloud is a journey, right? It's not something that's going to happen overnight. Like you said, data center investment will run its course. I definitely encourage people to try to do it in a way so that you don't have to go through another hardware refresh cycle because it just continues to extend your timeline. But yeah, I think it's a journey and you got to get started.

Speaker 2 00:20:13 Indeed, indeed. I mean, you mentioned the OSS and BSS, some of that can potentially move to the cloud and between that and a spectrum of software and services that may have to be running here or there, I'm going to go on this journey together.

Speaker 0 00:20:26 And so what do you think about the use of public cloud today in telcos? What would you say to them on how they're using it?

Speaker 2 00:20:33 Uh, as I mentioned, OSS and BSS, much of it can run in a public cloud. Um, that software should be a no brainer, uh, functions such as data storage and the like, voicemail, would be moving to the public cloud soon. Yep. Then you're going to find things like the control plane of your core network can be running in certain aspects of the public cloud as well. Maybe the edge of it. For example, only the very low latency user plane, maybe IOT inner loop has to be on the real edge or on premises. So there could be multiple clicks on that spectrum here. But the key point, the key point is you want to have uniform orchestration and management across the spectrum. You want to have uniform programmability models and APIs and a partner ecosystem across the spectrum. Not having silos that are built separately by different teams, because they want to have their own small things here and there.

Speaker 0 00:21:33 Yeah. I think there's a ton of opportunity and the consolidation of things like storage and databases and testing pods, right? As you start to move non-critical workloads, right? Maybe things further away from the customer and the network and working our way in, and you can start to consolidate and actually have more with a lot less spend.

Speaker 2 00:21:56 Experimenting. Exactly. And then people move to disaster recovery, having a copy of everything in the cloud, just in case. Yeah. Now many enterprises have the other way around. They may keep some, a small footprint on premise as the backup, but the production is in the cloud. So the journey has many similarities. I believe that will happen for the telcos as well.

Speaker 0 00:22:36 Yeah. This is such a no-brainer, it's amazing. And I'm, I'm looking for a telco who is doing it so we can tell the story. I'm like, would you ever go back to the old way? They're going to be like, no, that's like being a caveman. Like, I don't want to go back in time. I want to live in the cloud because it's cheaper. It's faster. It's better on every dimension.

Speaker 2 00:22:57 And we see some of them already moving by the way. So I'm very encouraged. Right?

Speaker 0 00:23:02 Yeah. I'm super pumped. So talk to me a little bit about the speed of software development in the public cloud. And I think this is a part that a lot of telco executives miss, and I like to say they think of it as a place. And they don't really understand this mindset change around the speed of business they can provide to their subscribers once they are deeply integrated into a public cloud. And so people keep talking about keeping things cloud agnostic, right? They want to design things in a way that they can move to a different hyperscaler. And it's a way to negotiate with my hyperscaler of like, Oh, I'm not beholden to you. And I think it is a really wrong idea. I really think you should deeply embed and deeply use the elements of a public cloud. Using all of those tools and get the maximum benefits.

Speaker 2 00:23:57 What's important is to start thinking in a way that the cloud is the destination. You want to follow the principles of a cloud, and that has to do with scale-out architectures, highly available virtualization, et cetera, et cetera. Writing portable software is always a good virtue. To your point, you want to embrace the cloud because it is a cloud. It's not the hosting environment. It's not a bunch of machines and you're, you're getting racking and stacking of the machines. What you are consuming is services, including the low-level services, like virtual machines, all the way to high level services like data and AI and ML. You can really unlock the ability to move very quickly and then add value very quickly. I mean, very simple example today, if you want to build a new service, part of your calculation is where's my capital budget for the machines, for the floor space, as all the usual stuff you have to get done. And then you have to think of, I need an IT team to manage the machines and the software and the wires and the physical network, blah, blah, blah. All of that is software in the public cloud.

Speaker 0 00:25:19 Price by the minute, right. Or the hour.

Speaker 2 00:25:21 Of course. And you can buy in bulk and get a discount and so forth.

Speaker 0 00:25:25 That's fantastic. And so if you could speak directly to a telco executive today, as they consider moving more critical workloads, what would you say to them?

Speaker 2 00:25:36 Well, first we understand how difficult the job is. We understand the importance of running carrier grade networks and services. So we at Microsoft and Azure, we're going with this thing with our eyes wide open that we're going to have to go on a journey with you on this. Having said that, we also believe that there's a secular trend toward virtualization and the segregation of the core network to give you more flexibility, how you build it. And importantly, very importantly, how to add value on top of the network to build new services and products. So you can go and basically increase your top line as well.

Speaker 0 00:26:12 I think that gets operators really excited as they start looking towards future Gs and how they're going to rationalize the huge investment that it takes to build out a new network and excite subscribers.

Speaker 2 00:26:24 Indeed, indeed. Especially with 5G and beyond. There is an intersection now of communication and computing, because the way you're going to add value out of 5G is going to be for things like IoT and machine-to-machine communication and new scenarios like augmented reality and gaming and so forth. And for that, you have to compute, not just move bits around. And who else is competing better than a hyperscaler like Azure.

Speaker 0 00:26:52 That's awesome. Well, Yousef, it's been a fantastic talk with you. So thank you so much for coming on the podcast.

Speaker 2 00:26:59 Thank you.

Speaker 0 00:27:02 Awesome. 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.

A question that I get asked a lot is whether or not the hyperscalers or the BFCs are friend or foe. And I was thinking about this exact issue when I was prepping for TelecomTV's Great Telco Debate. I was lucky enough to stumble across Benedict Evans' latest blog, "Are you a seal?" Talk about perfect timing. He uses this great analogy about seals, which is when a shark bites a surfer, it's by accident. It's because the surfer looks like a seal.

Unless you think telcos are a bunch of seals, the sharks – in this case, the BFCs – are probably not going to go after you. Could the BFCs eat the telcos? Absolutely. They could. The question is will they?

Here's a little test taken from Benedict's blog to figure out if it makes sense for the BFCs to consume telco. First, can a Telco's primary business be naturally added to the BFCs existing skills that they already have? Second, could the BFCs turn your business from networks to low friction, automated, scalable software? Third, would they have to create a whole new capability that they don't have today? If the BFCs can turn your business into a trivial part of their current business, they will. But since you would have to totally recreate a telco inside a BFC, they probably won't mistake you for a seal. Remember back in 2015, when Google announced

they were going to build an MVNO? It was called Project Nova, which turned into Google Fi. It's now 2020. Uh, do you sit around worrying about Google Fi all the time? My guess is probably not. And so answering Benedict's Evan's question, is telco a seal? My answer is no. Read his blog for yourself. I'll be sure to put it in this episode's show resources. And while you're surfing around on the internet, you big bad shark, check out the Great Telco Debate, where I discussed this.

Now, hopefully I'll convince you that the hyperscalers aren't the enemy. They want to help telco. So vote against and submit some questions. We'll do a live Q&A on the 10th of December. Be sure to tune in, look for a link in our show notes. Also be on the lookout for a special year-end podcast during the last week of December.

I want to give a huge thanks to Yousef Khalidi, and thank you to all of our listeners. Don't forget to hit that subscribe button, share our podcast with your colleagues. And if you liked what you heard, leave us a review. Let's connect on LinkedIn and on Twitter @TelcoDr. And one more time, sign up for our email newsletter at telcodr.com. You can also WhatsApp me at 925-TelcoDR.