Speaker 1:   [00:00] 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0. Ignition.

DR: [00:12] And liftoff. It's the 100th episode of "Telco in 20."

[00:28] Remember when I first started this podcast back in 2020? I had a vision for telco, to move the industry to the public cloud. I guess that's because I think I'm the Elon Musk of telco.

[00:40] I believe in the next 20 years telco is going to radically change, and everything we know about the software that runs the telco industry is going to move to the public cloud. Okay, I just compared myself to Elon Musk again, but by now you know I am that bold.

[00:56] It was a radical idea that everyone said would never work in a bajillion years, and so to celebrate the 100th episode, I thought I would take us through the evolution of my vision. Look back at some of my favorite episodes with some of telco's biggest thought leaders, to tell you the story of this journey, where we're at, and how this transformation has unfolded.

[01:16] When I came up with the idea to pivot the telco industry to the public cloud, I knew it was a big idea. I knew the telco industry was about to undergo a huge transformation with the public cloud.

[01:27] So for the first episode, I wanted to talk to my good friend Jim Abolt. Jim is a strategic HR leader and has been one of my longtime mentors. He started us off with some great advice.

Jim Abolt: [01:39] If you really want to do things differently, there's two characteristics that you have to have that differentiate you from all other leaders. One is you've got to be brainy. And number two, you've got to be bold. You need to have way better plans than other people, way bigger plans because those are the plans that people call visions and they change things.

[02:03] Big leaders, they don't care if everybody thinks they're wrong. The most famous executive of the 1990s was Jack Welch at GE. I was always struck by how he didn't fear criticism or opposition. In fact, he seemed to love it. It was almost like he got an adrenaline rush from confrontation. He used to analogize change leadership to a military bombing mission. He said, "If you're not being shot at, you're not over the target."

[02:26] And that kind of combative desire to prove everybody else wrong, I think that's endemic to transformational leaders. Because if they were just trying to do what everybody else was, there's no way they can be distinctive. They're just going to be me too instead of better.

DR: [02:41] Jim's right, you've got to be brainy and bold.

[02:45] One of my favorite pieces of advice Jim gives leaders who are embarking on a big change, like moving your telco to the public cloud, is that you need to unite your people around a common goal. But like everything, an undertaking of this magnitude is easier said than done.

[03:00] At the beginning I was a lone reed, me against the status quo. I wasn't doing it just to be provocative. I was evangelizing about moving to the public cloud because I knew it was going to happen. It was inevitable. I knew I was right, but still I was faced with some staunch opposition.

[03:18] Just listen to some of these early headlines about moving to the public cloud with esteemed journalist Iain Morris from Light Reading.

[03:25] You report on conversations you have with telcos and with vendors, and so I thought I'd start by reading a few of your headlines about the public cloud.

Iain Morris: [03:33] Okay.

DR: [03:34] So here we go. This is going to be hilarious. "Telcos have no easy escape from public cloud lock-in."

Iain Morris: [03:40] I remember that one.

DR: [03:42] "The public cloud is starting to look like a ripoff." Ohhh

Iain Morris: [03:45] Is that one of mine, really? Wow.

DR: [03:47] Yes.

Iain Morris: [03:47] Okay.

DR: [03:49] And the latest from January, "The public cloud has failed to crack telecom."

Iain Morris:	[03:54] Ooh.
DR:	[03:54] Yeah.
Iain Morris:	[03:55] That's pretty hard. Those make me sound really opposed to the public cloud now, don't they?
DR:	[03:59] They do.
	[04:02] I can't blame Iain for writing these headlines. Iain's just reporting what telco execs were saying about the public cloud. But who were these telco execs who weren't getting it? I needed a bigger stage to get the word out.
	[04:15] And then a gift came down from heaven. Ericsson bailed on MWC21, something that never ever would've happened in any other year of MWC, and so I pounced on the opportunity. And I used their iconic space in Hall Two to create CLOUD CITY.
	[04:33] We have breaking news from TelcoDR.
David Haselwood:	[04:37] I think I speak for everybody that knows you or is familiar with you, and it sounds absolutely crazy, is that even true? So what are you doing with this?
DR:	[04:46] Really what I want to do with this space is change the conversation from what it's been for like ever, which is the big guys dictating the old messages. The same old, same old.
	[04:59] And what I'm all about is public cloud disruption, I've been talking about it for years. I was planning to have this small booth and basically stand in the aisle, and wave and try to flag people down to get people to come.
	[05:11] I'm now in the Ericsson space. Everyone knows exactly what I'm talking about. And those Ericsson customers know exactly where it is, and so they're just going to walk right through my front door.
	[05:24] All of Ericsson's customers did walk right through the front door of CLOUD CITY, and we even threw in a Jon Bon Jovi concert too.
	[05:40] [music]
	[05:40] Are you kidding me? It was epic.

[05:43] Big mistake, Ericsson. Huge. CLOUD CITY served notice that the public cloud was coming to telco.

[05:50] I also had the chance to give a keynote on the big stage, called "The Paradox of the Public Cloud." And I used the opportunity to outline both sides of the public cloud argument.

[06:00] Some people have been saying that the public cloud is still a ways off. Your own people may be telling you that. I know vendors are telling you that, but the public cloud is here now. That means you, as leaders of our industry, need to figure out what you're going to do about it. Today.

[06:21] The public cloud is both a massive threat and a massive win for telco. You have to balance both of these things in your head. You can't just listen to one side. For example, the DISH deal with AWS announced to the telco world that the public cloud is not some theoretical decision you need to make years from now. It's something you need to think about today.

[06:47] The debate around should we or shouldn't we about the public cloud is a lot like the iPhone debate. Are the hyperscalers trying to be carriers? What's the risk of tying yourself to a public cloud vendor? Should you let hyperscalers do whatever they want? And are the trade-offs of lower CapEx really worth it?

[07:10] So how should you make this decision? Even as the queen of the public cloud, I have to acknowledge there could be some downsides. But if you embrace the public cloud, there are some really huge upsides. And most importantly, if you do nothing, you are screwed.

[07:31] After that I set out to convince every single telco exec that the public cloud was the way of the future. Thought leaders in the industry were beginning to understand the benefits of utilizing the services and software of the public cloud. Like my friend Ferry Grijpink, partner at McKinsey & Company.

Ferry Grijpink:

[07:46] No, I think we're extremely excited. The public cloud is transformational for many industries, and I think for telcos it's especially on what we call the platform as a service layer.

[07:55] They have a bunch of infrastructure on-prem, they own a bunch of data centers, but what they don't have is this powerful ML machine learning, AI analytic tools.

DR: [08:03] Mm-hmm. The software, yeah.

Ferry Grijpink: [08:04] Which you get with it. And I think it's just hard work to get there, but you need these capabilities. And you cannot build the AIDML which the three large, or four large hyperscalers have. So you have to start using those tools, you have to start bringing it to those types of environments.

DR: [08:20] It takes years to transform your technical applications, your workforce for the public cloud. I mean, Vodafone we think started in 2019, and here we are in 2022 and they're on their journey. So I tell telcos, "The best day to start your move to the public cloud was yesterday, and the second-best day is today." Get going, for sure.

Ferry Grijpink: [08:39] It's fully fair. And I think the destination is clear, and I think we both agree very much on the destination. I think the journey is a hard journey.

DR: [08:46] Ferry's right. It is a hard journey. But then everything I've been talking about actually happened. DISH, a greenfield MNO in the United States, became the first operator to launch a 5G network on the public cloud using AWS as its infrastructure backbone.

                             [09:04] DISH was executing my vision. I couldn't believe my eyes. So I jumped on a plane to Denver and recorded this episode with DISH's Chief Network Officer Marc Rouanne.

                             [09:14] Do you see DISH's network strategy as a totally innovative tech project, that in 10 years we'll be saying, "Holy cow, DISH set the standard for the way networks are built?" Because that's how I see this project.

Marc Rouanne: [09:27] I think we're lucky to be consuming technology now that is available to us, and it's completely new in the telco environment. You mentioned it's the cloud, it's new types of software.

                             [09:37] You have to see that all the cloud guys have been investing very successfully for 15 years, and for some reason the telco never really tapped into that. And now all of a sudden we can. And it's almost unfair, because all of a sudden we inherit 15 years of massive investment and capabilities.

[09:54] And the other thing that is coming to us, where again we're lucky, 5G was designed by the standardization people to be cloud native. So if you look deep into the 5G standards, you see everything for microservices, everything for data centric networks. Whereas 4G and 3G were never designed for the cloud, so it comes at the right time and we're surfing that. So yeah, it's brand new and very different.

DR: [10:19] A few months later, Microsoft followed up with a big announcement of their own. Microsoft Azure had acquired AT&T's network cloud technology.

[10:27] I talked to Rick Lievano at Microsoft about the strategic partnership.

[10:32] I have two questions. Is operator Nexus refactored for Azure? My second question is, is AT&T using Nexus?

Rick Lievano: [10:39] Yeah. Get the horns and the streamers out, because mission accomplished from that sense.

DR: [10:43] Wow.

Rick Lievano: [10:43] That's exactly what we did.

DR: [10:45] That's great.

Rick Lievano: [10:45] We acquired it back in 2021, but we had been working with them and network cloudification since at least 2019, maybe earlier.

[10:53] 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.

[11:08] And now we productize 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. 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.

DR: [11:29] Things were moving in the right direction, but it wasn't a slam dunk yet. There are still some big time telcos who say they'll never ever move to the public cloud, like the CEO of Verizon consumer Sampath.

[11:41] On the Network X panel back in October 2022, he said he believes large telcos should own their own destiny, that Verizon will never put their core network on a hyperscaler.

[11:51] He thinks they need to control it and they need to own the whole stack. That just because some of their partners and competitors have done it, they will not be following suit. Verizon wants to retain control over their OSS/BSS stack and keep it on-premise. Boo.

[12:06] But thankfully not every telco thinks this way. I talked to Brian Beutler at Alianza, and I asked him if he's seen the shift in telco.

Brian Beutler: [12:15] If you were to look at Alianza 10 years ago, this was a major hurdle for us, because service providers in many cases would kind of laugh us out of the conference room.

[12:23] And they'd say, "Are you kidding me? We are a telco. Why would we ever give up our crown jewels, the DNA of the company to a third party, much less Amazon? You want me to give my core network up to an online bookseller?" They thought we were crazy.

[12:35] But now, fast-forward 10 years and look at what AWS has done, and look at the enablement they've had in the industry, and the hundreds of billions of dollars of enterprise value that have been built on top of the world's best, most advanced cloud compute platform. The wind shifted, Danielle.

[12:48] I'd say 18 months ago, we felt something tangible shift in the market, where service providers stopped asking us questions around if they should do this cloud transformation, and the questions changed to when and how should we do this?

DR: [13:03] Mm-hmm. One by one, leaders started to agree.

[13:06] I visited with senior telco executive and transformational leader Juha Korhonen, and he shared his thoughts.

[13:13] So let's talk about what is moving to the public cloud. It's kind of funny, it makes me laugh, because back in the day people were like, "Never the public cloud," and now they're like, "Back office systems? Sure. BSS? Totally."

[13:24] And so I think a little bit more controversial is network workloads, parts of their network that are moving to the cloud. And so what's the general consensus out there about moving network workloads to the public cloud?

Juha Korhonen: [13:34] I actually think that it is the network workloads that will totally convince the operators that this is really okay to do, because that's what their business is all about, so they need to do that to believe it.

DR: [13:45] Yeah.

Juha Korhonen: [13:46] And I think what kind of totally made me believe that they are starting to see the light was what happened between AT&T and Microsoft in 2021, when AT&T sold their 5G cloud team to Microsoft. And Microsoft started to operate it for them.

[14:01] So that was a realization, at least for 5G core and so forth, that this is really okay to do. And also admittance that they need a hyperscaler with them to do this. That's a better way of doing that than trying to do it themselves.

DR: [14:13] Meanwhile, the hyperscalers were getting better and telcos were opening up to the public cloud.

[14:18] But remember how I said all the software of the telco industry needed to be rewritten for the public cloud? Well, I took on this challenge personally with my company Totogi.

[14:29] Our first product was Totogi's Charging-as-a-Service, a 100% born in the public cloud online charging SaaS platform complete with AI. Some people called me crazy to put charging 100% in the public cloud, but then the Civil War in Sudan, with the largest humanitarian crisis on the planet, had an event that took out all the data centers of Zain. And overnight a Tier 1 telco with 23 million subscribers needed a public cloud charger and quick.

[14:58] Sending people to a place like Sudan is very difficult. It's a hazard, right? I mean, they're in the middle of a war. But not with Totogi, we're totally in the public cloud. We just need to

connect the network, which takes days. Compared to an incumbent legacy vendor, a system like this to implement would take at least six months, usually more than a year.

[15:17] They had been worrying about this potential situation. And so we had a plan, but it was literally on a piece of paper. The connectivity was cut in early February, and they were like, "Okay, there's only one person…

Ali Hussein Kassim:	[15:30] Let's go.
DR:	[15:31] ….one vendor in the whole world that can do this."
Ali Hussein Kassim:	[15:33] Who can do this.
DR:	[15:34] And it's Totogi.

[15:35] They have no revenue, plus the humanitarian crisis.

Ali Hussein Kassim:	[15:36] Of course.
DR:	[15:37] They're like, "You don't understand how important it is to restore our services to our subscribers."

[15:42] And so I said, "I don't know if I can do it in two weeks, but we'll try." And we did it in 18 days. We learned a lot, but it was really helping the people of Sudan.

[15:52] We're so proud that it's so much more than just a technology implementation, or a fast technology implementation, or a public cloud implementation, it's that we're helping the people of Sudan to be able to communicate with their loved ones, to get money for food. The impact is so much greater than just a technology piece.

Ali Hussein Kassim:	[16:10] Exactly.
DR:	[16:12] 2024 has really been a big year for the public cloud in telco. Just this past May, O2 Telefónica Germany sent shockwaves through the industry by going all-in on the public cloud.

[16:23] This isn't some small fry operator. This isn't a greenfield telco like DISH. This is a brownfield Tier 1 telco with over 45 million subscribers in a major market making a massive bet on the public cloud.

[16:36] Over the past four years what started as, "No way, no how, never in a bajillion years," has come all the way to the point where Tier 1 telcos like DISH, AT&T, Telefónica, Japan's NTT Docomo, and Etisalat are moving their networks to the public cloud. And that's because we have the next megatrend on our doorstep, generative AI.

[16:57] If you weren't already moving to the public cloud, AI is now forcing your hand and making you move to the public cloud for the compute, the scale, the chips and the software.

[17:07] I think back to MWC21 and CLOUD CITY, and it was like I had a crystal ball.

[17:12] The more you embrace the public cloud, the bigger the benefits there are for you. The potential is massive. There are two sides to the public cloud, but one side is clearly better. The public cloud is awesome.

[17:28] I know what I would do if I were you, I'd run to the public cloud. Now it's your turn to decide. There really is only one choice.

[17:37] I'm not done yet, there's still work to do. It's go time. Let's do it.

[17:42] [music]

DR: [17:59] It's over. Go home. But since you stayed, we have some fun bloopers from the years of producing "Telco in 20." They're probably only funny to me, but we thought these were hilarious. Please enjoy.

[18:14] I'm Danielle... Nope, I'm DR.

[18:16] Today I'm excited to chat with... We're starting all over.

[18:19] That's where Totogi comes in, do, do do.

[18:22] We're re-writing. We're... that's a lot of Rs. Ah, I can't talk today. God, why can't I talk?

[18:29] The great thing about BSS Magic is you don't even have to swap... Ugh, f**k me.

[18:33] G*d D****t. Ugh, f**k.

[18:35] Blah, blah, blah.

[18:36] You can implement usage monitoring and... God, why can I not say it? I'm like drunk. Monitoring. Mon… monitoring. I'm monitoring you.

[18:45] Oh my God, we're never going to get this done.

[18:37] Hasta later, nerds. It's later nerds in Spanish. You've got to leave that in the podcast.

[18:54] Later, nerds. Nailed it on the hundredth time.