

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

[00:13] It's great being a successful, established enterprise software business. You've got revenue coming in the door, brand recognition, and a happy customer base. Woo-hoo. But somewhere along the way, as a leader, you'll have difficult choices to make when it comes to adopting new innovative technology. For example, take every established vendor in our industry that is grappling with some sort of new tech wave: whether it's Ericsson and Nokia adopting OpenRAN; Amdocs, CSG, and all the other BSS vendors, on adopting the public cloud; or pretty much every vendor having to pivot to support AI in their products. Leaders have to make the call - redirect the team's focus and resources on the new tech, or stay the course and make your current customers the priority on the current code base.

[00:56] It's a fine line to walk. If you adopt the tech too early and it doesn't pay off, you'll be dead wrong. Wait too long, and you miss the boat on a huge opportunity. Well, like most things, there's a book about this problem. It was written in 1997 by Harvard professor, Clayton Christensen, whose bestselling book is called "The Innovator's Dilemma." He made this exact point, and as a result, this trade-off makes legacy vendors vulnerable to new disruptors that are lean, nimble, and fully immersed in the latest tech.

[01:26] Today on the podcast, I'm talking with Bruce McClelland, President and CEO of Ribbon Communications. His nearly \$1 billion communications and network solutions company manages competing priorities like these every day. We're going to talk about Ribbon's efforts to transition more of its business to cloud-native software, how telco's attitudes around public cloud deployments are evolving, and our favorite question to ask: where is the line on network workloads running on the public cloud? So let's take 20.

[01:57] Bruce McClelland is president and CEO of Ribbon Communications. Hi, Bruce. Welcome to Telco in 20.

Bruce: [02:03] Well, good morning. It's great to be here. Thanks for having us today.

DR: [02:06] I'm so excited to talk to you. We have like a common little thing between us, which is Kandy, which I bought in March of this year, and so I've been learning a lot about the CPaaS world and UCaaS world. But to start, you're the CEO of Ribbon Communications, and one of the first things I like to ask is - how did you get into telco?

Bruce: [02:25] Well, gosh, that's a good question. So I've been in telco for over 35 years.

DR: [02:29] Wow.

Bruce: [02:29] I hate to admit it, but it goes back a long time. I started my career at Nortel, at Bell-Northern Research, doing software development on telecom systems, in fact. At that point, state-of-the-art was SS7 networks. They were just starting to get rolled out and that's where I started my career.

DR: [02:46] That's awesome. And there's a little bit of Canadian in there, I heard the little "out."

Bruce: [02:49] I can't get rid of my "out" and "about", but the rest of it, I've pretty well gotten rid of.

DR: [02:53] Yeah.

Bruce: [02:53] In fact, when I was growing up, my dad worked for the local telephone operator up in Canada. I grew up in Saskatchewan, and so he worked for SaskTel.

DR: [03:00] Yeah.

Bruce: [03:01] And his job was managing all of these remote offices throughout the region. And so, I would ride along with him and go into these, what used to be, step-by-step switches and get the direct experience.

Bruce: [03:13] So I think that influenced me into following the career, and I guess we're kind of passing it on a little bit.

I've got three kids, all three of them in engineering-type disciplines.

DR: [03:23] Yeah.

Bruce: [03:24] One works for Microsoft, my last one's finishing her material science engineering, so I feel like we're a telecom family.

DR: [03:31] Yeah, family of engineers, and it runs in the blood.

Bruce: [03:34] Exactly.

DR: [03:35] And so, tell me a little bit about what Ribbon does.

Bruce: [03:38] We're a technology company, and we're a combination of a variety of companies that have come together over the years. Our roots go back to companies like Nortel, like ECI Telecom, and so we're a telecommunication equipment and software company. 70% of our business today is with the carriers, with the service provider: Verizon, AT&T, Bell Canada.

DR: [03:59] Yeah.

Bruce: [04:00] Globally, names like BT, Vodafone, Bharti are all key customers for us. But we do a lot of business with regional and rural telecom providers as well, so we really scale up and down.

DR: [04:11] Yeah.

Bruce: [04:11] 30% of our business is with enterprise customers, so think about large financial institutions, critical infrastructure companies, railways, oil and gas companies, healthcare, really fairly diversified from a customer base perspective.

DR: [04:25] Yeah. And if you had to split your business hardware versus software, is it 50/50, or is it leaning more towards the hardware side?

Bruce: [04:32] Well, we have a couple of different businesses. Our voice infrastructure business is 70-80% software, so a lot of the technologies migrated to software.

Bruce: [04:42] We have a business that's in data communications - kind of Layer 0 through Layer 3 - optical transport, carrier ethernet, IP routing. That tends to be a more hardware-centric technology.

Bruce: [04:54] But there's a lot of software, Danielle, as you know. Everything's run by software.

DR: [04:58] Yeah. And have you guys seen, over the years, software really eat into the hardware business?

Bruce: [05:02] Yeah, I think, again, depending on which parts of the portfolio, there's been a huge drive towards more software technology. And, of course, that technology's transitioning and evolving over time, from embedded to virtual functions, now towards cloud native.

DR: [05:18] Yeah.

Bruce: [05:18] And so, the pace of software innovation continues to drive most of what we do.

DR: [05:24] Well, software is great businesses. I mean with hardware, it's obviously very physical, so that means you have inventory. You have to have buildings to store that. Logistics to ship it and set it up. And what's so great about software is you can just send it and it works - higher margin business. And so, I'm a software girl, like ride or die software forever. I get the shakes when you say hardware, I'm like, "oh, no, thank you."

Bruce: [05:47] Well, I kind of split my personality. I always say you can't virtualize Layer 0. So...

DR: [05:52] Yeah.

Bruce: [05:52] Behind every great wireless network is a great wired network. You need that infrastructure to be able to enable all this great software, all these great services. And so, we do a bit of both. We've got some great hardware

platforms. We've got some great hardware engineers but most of what we do is software development.

DR: [06:09] And turning more software every day. And so, in early 2023, you announced a plan to revitalize Ribbon, and you called this plan Ribbon 3.0. And so, Ribbon's done what many tech companies do - they grow through acquisition. What are your primary goals of Ribbon 3.0, and how's it going?

Bruce: [06:26] Yeah, so like many companies, we've worked in a constant state of transformation.

Bruce: [06:30] First of all, the name Ribbon started in 2017 with the merger of a company called GENBAND and a company called Sonus. And the company was rebranded Ribbon, and that was the first generation of Ribbon coming together.

Bruce: [06:41] We then acquired a company called ECI Telecom in early 2020, just when I joined the company, and that was really the second phase of Ribbon.

DR: [06:49] Yeah.

Bruce: [06:49] Earlier this year, I've rebranded internally that this is really the third iteration of Ribbon, or Ribbon 3.0. And I think it's really important for employees, for investors, for customers, to really frame what you're doing and the continued evolution of the company. So it's a way for us to define what the objectives are, what the roadmap is, and really, it's the next phase. It's completing the integration of the companies. And our strategy or our mission is pretty simple - we want to establish Ribbon as a major name in communications, and that's what we're all about.

DR: [07:20] Yeah, I've been a turnaround CEO since 2009. Again, always enterprise software, not hardware, but coming into a company and driving that cultural change around the new objectives. So I've gone into near bankruptcies, or even bankruptcies, and the things you need to do to get all of the troops aligned around the new vision, and they're really reluctant to change. And so, like

what you're doing - integrating companies - I'm always fascinated by that, love to talk about that.

Bruce: [07:47] That's exactly right. And my last company I was at, Aeris, I think we did over 20 acquisitions over 20 years.

DR: [07:53] Yeah.

Bruce: [07:53] And none of them were alike, everyone's different.

DR: [07:56] Every single one is different.

Bruce: [07:57] Exactly.

DR: [07:58] Yeah. So talking about Ribbon 3.0, it sounds like you guys are starting to make your way towards becoming more cloud native. You announced this at MWC23 in Barcelona. And so, where are you guys seeing that demand for cloud? Is it tilted more towards private cloud because you are in that Layer 0? Is it public cloud? Is it evenly split? What's your perspective on how telcos are moving towards the cloud?

Bruce: [08:21] Well, I think cloud is part of just about every conversation I have with customers at this point..

DR: [08:26] Yay.

Bruce: [08:27] ...both service provider and enterprise.

Bruce: [08:29] It's a very topical discussion, and it's not just a technology discussion. It's not just what's going on with the software and network architecture. It's really about the business model. We're evolving from special-purpose hardware and software, to virtualized functions, to cloud-native functions. But at the same time, the business model's changing from perpetual to term licenses, to subscription, to as-a-service.

DR: [08:55] Yeah.

Bruce: [08:56] And so, I think that's a big part of the discussion. In fact, the business discussion, I think, is probably even maybe more important than the technology transition.

DR: [09:03] Yeah. And so, are your telco customers asking to run their workloads on the public cloud, and what's driving that move? Do you think it's cost? Is it agility? Telco's famous for this "not-invented-here mentality", right? We can build it all, we're telco. But do you need to manage infrastructure from the ground all the way up, or can you hand over some of this work to, say, a hyperscaler, so you can stand on their shoulders and really focus on what matters - your customers and your network?

Bruce: [09:29] Yeah, I think strategically, the decision comes down to what sort of business are you in, and how do you differentiate? How do you succeed? Frankly, we see different approaches. With enterprise customers, they tend to be pretty aggressive. They want to move to public cloud. They know that building and operating a network's not their differentiation.

DR: [09:46] Yeah.

Bruce: [09:47] And there are services, like contact centers, which really benefit from leveraging public cloud, both technically and commercially. And our products and workloads are expected to be able to be run inside a public cloud environment, along with the rest of their applications.

DR: [10:03] Yeah.

Bruce: [10:03] Service providers, again, we see a mixed variety of opinions here. Obviously, there's some born cloud native, like DISH and Rakuten.

DR: [10:11] From the get-go.

Bruce: [10:12] Exactly, from the get-go. And then, there's others that I think are pretty determined that part of their differentiation is that network. And I know Adam Koeppel at Verizon recently spoke about this. They started with a private cloud environment, an OpenStack based environment, that's now evolved to a Kubernetes OpenShift web-scale environment. They see all the benefits of public cloud technology: speed, reliability, scalability, all those things. But they really want to maintain

control of their network cloud and not be part of someone else's infrastructure. But then you see a hybrid, a whole variety of different approaches and for us, we want to make sure we meet the customer where they want to be. We want our products to be able to be deployed in a variety of different environments, and I think that's pretty important for us.

DR: [10:56] And so, does that mean that you guys are building and writing your products to be cloud agnostic? So the customer still is picking the target platform, and you're like AT&T and you're a big Azure customer, so we'll put it on Azure. Or you're Verizon and you guys are using Google Cloud, we'll do Google Cloud. I mean, that's a very strategic decision...

Bruce: [11:15] Right.

DR: [11:15] ... that a CEO of a software company needs to make. It sounds like you guys are still letting the service provider pick the platform, and then you deploy there. Is that what you guys are thinking?

Bruce: [11:26] It is. I mean that's the stage where the industry's at and where our customers are at. We're not able to dictate if they're using public cloud, and if they are, which one. And so we've got to be able to support a variety of deployment models, again, from special-purpose appliances, through to private cloud, either in a virtualized VNF environment or a cloud-native implementation.

DR: [11:47] Yeah.

Bruce: [11:48] And we've got to be able to support public cloud, and in many cases, multi-cloud. We'll have customers that have a piece of their workload in a private data center, and then a piece of their workload in a public cloud environment, and so we've got to be able to support all of that.

DR: [12:01] Yeah.



- Bruce: [12:01] You can't do that with multiple code streams for each target environment. It's just not sustainable. And so, we have implemented a single code stream environment, leveraging containers, to be able to have flexibility to move from one environment to another, and in fact, use the same code base, the same containerized implementation, even on special-purpose hardware. And it really gives us a lot of flexibility that way.
- DR: [12:24] I'm in a little bit of a different place on this, and it's maybe because I'm more in that user plane area. I'm closer to the customer. By charging for a lot of telcos - rating and charging - basically pricing and monetization of all those network transactions, sometimes people consider that to be a little bit of a network workload. The way I've built Totogi, it truly is a service. Right? Just like Salesforce, you don't dictate where it runs. We were really purposeful about picking AWS, but I believe that to really get the benefits of the public cloud, it's not so much a - don't treat it like a data center - but instead, treat it like a technology stack. What's best is you pick all of the elements from that technology stack, and you don't try to be cloud agnostic. And so, I do dictate where you run. I have picked the hyperscaler, but again, it's a service - just like Salesforce. I followed very much a pure SaaS approach, and I think there's a lot of vendors out there, it sounds like Ribbon's one of them, doing: cloud-agnostic, single code stream, multiple targets, let the customer decide.
- Bruce: [13:29] Yes, we have a version of our solutions that we have picked a cloud environment on and have a service offering, based on Azure in this case.
- DR: [13:37] Yeah.
- Bruce: [13:37] And I think that's where it goes. I mean, eventually, the traffic flows are between different cloud platforms, and you don't really care which one it's on, but it all stays in the cloud. It doesn't hairpin back into the network and back into the cloud, back into the network.
- DR: [13:53] Yeah, exactly.

- Bruce: [13:54] And that's what things are doing today. Again, we've taken just a little bit of a different approach. I mean we've got a huge install base of traditional infrastructure that we continue to support, and there's a constant modernization and transformation going on. So I view it as a temporal evolution. It's not a situation where we're going to abandon everything that's there and just force a migration. We've got to support the customers in more of a transformation.
- DR: [14:20] Yeah. And so, the question of the year on my podcast has been - where is that line on network workloads? Some people will say, "still no. You really have to use a private cloud to run network workloads." But then there's other people I talk to, where they're like, "every day it's changing, and moving more and more towards public cloud." I mean, Verizon, I saw those comments as well, but kind of seems like that goalpost is moving. Are you really seeing people moving more and more to the public cloud every day?
- Bruce: [14:45] Yeah, I do think the line moves, to your point. That the types of functions you would traditionally think of as only private or an on-premise environment, more and more, there are ways to do those things in the cloud. There are some network functions, like a session border controller, that lends itself to cloud.
- DR: [15:01] Yeah.
- Bruce: [15:02] It's on the signaling path. It's not on the bearer path, and you're doing security and policy and routing and management. And I think those functions really lend themselves.
- DR: [15:11] Yeah.
- Bruce: [15:11] There's other functions that are maybe directly in the media stream. And in our case, it's things like voice transcoding. It's things like TDM to IP conversion, which maybe are better handled inside the network, or closer to the edge of the network. And I don't know, I take a pretty practical approach on it. What's the best tool in the toolkit

to solve the problem, with an eye towards what's the end game look like, and how do you get a lot more benefit out of maybe a cloud environment? Better visibility, better workload management, better elasticity, so that maybe one function is better inside the network, but in combination with everything else that's in public cloud, you get a lot more benefits.

DR: [15:51] Well, I'm glad you said that about SBCs, because I'm pretty sure I have Ribbon SBCs embedded in the Kandy product.

Bruce: [15:57] Exactly.

DR: [15:58] And for us, again, we want to be public cloud native, not just cloud native running in a container with multiple end targets. But we really want to be native to a particular public cloud, and for us, that's AWS. But yeah, I might talk to someone in January, and then meet them again in July, and their answers are changing. And now, with the big AI push, where those workloads almost will have to run in the public cloud, because you need the scale of a public cloud, the compute, even the chips to keep your costs down for training and inference. I think that's going to be a natural pull for the data to move to the cloud, and so that's going to pull some of those applications as well.

Bruce: [16:34] Yeah, that's a really interesting discussion we're having with customers on how do we start to use generative AI with our products to enhance their service offering, both from, again, a technology network security perspective, but from a business model perspective. What are the economics of that, and how does it get priced and sold? And so, it's the new area.

DR: [16:54] No, it's crazy. And so, looking you up, you are in Georgia, right outside of Atlanta, which is where one of my favorite fast food restaurants started. It's called Chick-fil-A. And Chick-fil-A may be the best-kept secret that people outside the US, and maybe people outside the Southern US, don't really know about it. But this is an amazing

chicken sandwich, and so are you a fan of Chick-fil-A?  
Because I totally am.

Bruce: [17:19] You know I think Chick-fil-A is the champagne of fast food.

DR: (laughs)

Bruce: [17:24] It's just too addictive, is the problem, so...

DR: [17:26] Right? But it's a very simple sandwich. It's a fried chicken breast...

Bruce: [17:30] Yeah.

DR: [17:30] ... on a buttered bun with two pickles. And so, if I could put two pickles on my software and people line up for it, I would be like - pickles for everyone.

Bruce: [17:41] If we can get customer loyalty like they have, it'd be a home run, wouldn't it? It's unbelievable.

DR: [17:45] They have these funny advertisements where the cows - beef - hold these signs like, "eat more chicken", and the chicken's misspelled, because cows don't know how to spell, and it's super cute. But I guess I would have an advertisement: use more public cloud. That's definitely my sign that I use every day.

Bruce: [18:00] Public cloud with a k, I think that's the right way to spell it.

DR: [18:04] (laughs) Totally. Well, Bruce, it was great talking to you and learning more about Ribbon and the move to the public cloud, so thanks so much for coming onto the podcast.

Bruce: [18:11] Really enjoyed it. Thanks, Danielle.

DR: [18:12] 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.

[18:24] There's no innovator's dilemma about using AI. It's here and it's the real deal. Telcos - this should be a huge wake-up call. You've just started riding the public cloud train and AI is pulling up quickly behind you.

(train whistle)

Now, you have to adopt two disruptive technologies at once. Imagine how much further along you'd be if you had started your public cloud move years ago. But now the clock is ticking and you need to double down on innovation. But there's good news - these two technologies complement one another. Because you're moving as much as you can to the public cloud, right? And re-factoring your workloads to run natively on the public cloud, like I told you. You're now in prime position to adopt AI technology, like GenAI, machine learning, and all the other branches of AI that are exploding. If you're on the right track, adopting AI into your workloads will be easy-peasy lemon squeezy. So do them both and do them now. You've got to hop on that train, ASAP.

(train whistle)

[19:25] And speaking of hopping on trains, I'm going to give the Las Vegas Hyperloop a try during AWS re:Invent, which starts November 27th. In case you haven't heard, the Loop is a super modern lighted tunnel, 40 feet underground, that uses a fleet of Teslas to shuttle people around the city. There's a video of it in the show notes. If you'll be in Vegas at re:Invent too, DM me on LinkedIn, and on X @TelcoDR, and we'll have a meeting in the tunnel while we zip around. In the meantime, don't forget to tune into more Telco in 20 episodes. Like and follow, share them with your colleagues, and leave us a five star review. When you're done, sign up for my awesome email newsletter on [telcodr.com](http://telcodr.com), and visit our super cool YouTube channel and hit that subscribe button. Later, nerds.