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

[00:14] Five years ago, I started talking about the need for telcos to start their move to the public cloud. I knew the clock was ticking and those CSPs that didn't get underway would be left behind. But even then, I didn't realize how fast things would change. Here we are, just a few years later and the future has arrived. Because of AI, the telcos that started years ago are in a position to reap huge business impact. There were a few lucky telcos that listened to me back then. They structured their data, started their move, and embraced the public cloud. These forward-thinking CSPs are in a prime position. They're on their mark and ready to take advantage of AI's game-changing power.

[00:55] Today, I'm talking to one of them. BT Group started to move five years ago, using AWS for applications and Google Cloud for data. Its Digital and Cloud Transformation Project is poised to save the company a whopping three billion pounds by the end of 2025. Wow! In this episode, I'm talking to Josie Smith, the Chief Architect for Digital at BT. We're going to talk about how the company is reducing the number of applications from the thousands down to the hundreds, her efforts to bring AI into the organization, and the challenge of driving change across a large employee base. So let's take 20.

[01:34] Josie Smith is a Chief Architect for Digital at BT. Hi Josie. Welcome to Telco in 20.

Josie: [01:39] Hey DR, nice to meet you.

DR: [01:41] It's so great to talk to you and meet you, and I'm so excited about what we're going to talk about—all the changes going on at BT. And so to start, I was reading up on you and learned that you spent the majority of your career in IT and tech and the last six years at BT. But one of my favorite questions to ask is, how did you get into telco?

Josie: [01:59] Well, it's a bit of a long story, so I shan't do the long one. I'll do a slightly shorter one, but I think it all starts in

school. Getting people young into tech is really important and it certainly started there for me. And also, I think doing those technical subjects. I got into things like Star Wars and Star Trek and the inspiration around what tech could do. I was talking to someone the other day about Beverly Crusher, who if you don't know, was the main doctor in *Star Trek: The Next Generation*, and how at the press of a button she can diagnose a patient and actually make them better and how that's actually augmented. It was that kind of thing that triggered me into wanting to do more with tech and what I could do with tech and getting to a point maybe one day that it would be like that.

DR: [02:43] We're getting there.

Josie: [02:45] I think so. It feels like it right now with all of the explosion of AI.

DR: [02:49] Yeah, the AI stuff has just been insane and we'll talk about that in a second, but I've heard BT has a new digital transformation program, known internally as Simplify. And Harmeen Mehta has been quoted as saying it will save BT an estimated three billion pounds. And so can you talk and share about what this project is all about and some of the big ideas that will help BT save that much money?

Josie: [03:11] Yes. So my role is Chief Architect and I'm leading and driving that re-architecture of BT Group's digital landscape. We have a staggering 2,400 applications and we want to take that down to 500. Why? Because we want to be a leaner, faster organization that can serve our customers. That means we want to go from a telco to moving towards getting back to our roots in tech and taking that forward. And actually, part of that is about the public cloud. 90% will be on the public cloud. But Simplify as a program, particularly in digital, it sets out three different stages: modernize, engage, and grow. We talk about it in those words, and I'll just explain briefly for you what that means.

[03:52] So modernize—modernizing through simplifying our estate. That massive estate that I just talked about, it

hinders our ability to be able to look after our customers in the way we want. It hinders our ability to get the most out of new tech, our ability to move to some of the AI that we see out there today. It makes us slow as well. We have to double our productivity. We have to transform our cultural ways of working. So that modernizing is all about that, and that's where the public cloud and the modern application stuff that I also lead sits.

[04:22] Then we've got engage—engage is about digitally engaging our customers. We need to understand those customers really personally, to understand how to best serve them, how to be proactive, how they can get the best out of the product they buy from us, and how we can interact with them in ways that you and I would want to be if we were customers of BT. So engaging our customers through the mechanism of digital and what we can do to do that with real insight is really important to us.

[04:52] And then thirdly, and finally—it's about grow. We know our customers want to do more with us than just get a mobile phone or have broadband. We want to do that absolutely excellently and to the best of our ability. But we know that there are other sectors that we want to do and grow that are adjacent, but really build upon our core product base. And so a grow is about how we do that. Digital platforms for growth—how we incubate. We're doing some fantastic stuff at the moment and we have an innovation hub called Etc. that does that. So it's about building those foundations that are really important for us to then grow upon, and that's what Simplify is in effect about.

DR: [05:29] Yeah. One thing that you mentioned there was taking 2,400 applications down to 500 and doubling the productivity of your workforce, which is awesome. And so how are you guys doing that? Is that a matter of—there really is a lot of unused applications that you can just retire and kill. They're just no longer needed? Is it a matter of consolidating applications and not having multiple chargers and having one charger out there? Just to speak in my language of charging.

Josie: [05:55] Yes.

DR: [05:56] Or is it broader than that where you're taking old applications, refactoring them for the public cloud, and you mentioned that you wanted to get 90% of these applications up into the public cloud. And so as the public cloud evangelist, I'm certainly hoping that's the goal. So how are you guys going about reducing the applications?

Josie: [06:11] Yeah, and I think it's multi-factored really. So we've got some applications that we were able to actually look at and decide that weren't necessarily serving us and were easy to close. You get to a point where that low-hanging fruit is gone and you look at what are the other things that are hindering us in our ability to have something that's much simpler for our organization to grow upon. And you start looking at things like—where have we got duplication? And absolutely to your point, we look across our organization and when we've created new products, we've created exactly the same duplicated tech, but it needed something slightly different. So we built it again. One of our key principles is rule of one, and we've really been focused on driving that rule of one principle through our organization—asking the right questions to get us down to one charging system, to your point.

[07:04] And then I think you touched on refactor. I think refactor is an interesting point. I think you have to look at what the outcomes you're trying to deliver from a particular capability. Do you have that capability in your organization at the moment because you have a set of applications and you pick one and you might refactor one to then be the strategic and then you would refactor it to be cloud native? Or do you buy or rent? And you have to weigh the options around those very carefully. Obviously, if we are choosing to buy a SaaS application, then being on the public cloud and being cloud native is an important aspect to partners for us as well as needing to do some refactoring along the way.

[07:41] And sometimes it's just really hard work to look at what you've got and decide to simplify, and it's a difficult thing to do. It's a very challenging thing to do, but we've

been doing it for a couple of years now and we're making some great progress.

DR: [07:57] Yeah, it's really hard to get that flywheel of change going in an organization—I would imagine as large as BT. And the inertia to keep things the way that they are is pretty strong. And so as a leader, you really need to set some quick wins and achievable goals so that the population sees that you're committed to this change and they see the wins. And that people are not failing and being punished for that. But instead, there's accolades around being part of the new future.

Josie: [08:27] Yes.

DR: [08:28] And I think the big thing around refactoring that I love with the public cloud is that there's all these Lego pieces. Again, we're such girls here nerding out. But with Lego pieces of the different public cloud providers where you can refactor a homegrown application down into a 10th of the lines of code, which makes it less opportunity for bugs, easier to support, less people needed to support it—is such a great concept that we keep seeing that pattern repeat itself over and over again, where we can rewrite components. And so, I was just curious, how is your population reacting to all this change?

Josie: [09:01] Yeah, it's interesting. As I say, we're on this five-year journey of transformation. So I own the cloud landing zones for our three cloud vendors. So we've got AWS for apps, we've got GCP Google for data, and we also extensively use Azure for a lot of our other aspects, including some of our internal capabilities. So as part of owning that, I also own the program, which is shift to cloud—naively thinking that, well, lots of people will be running to the cloud, won't they?

DR: [09:31] Yeah, you'd be surprised.

Josie: [09:34] Yeah. I'm really surprised at how the take-up in some cases has been absolutely great. Don't get me wrong. But I have been concerned a little bit at the slower pace of adoption with some aspects of what we're doing at

the moment. And I think it's a cultural thing. I think to your point—you've got to make sure that people feel safe, feel excited about the change, make sure that they understand that it's okay to not necessarily be at that infrastructure level. That it's okay to not have the control at that level and I think we spend far too much time on prem in data centers managing infrastructure. It's something that you don't have to do anymore.

[10:13] And if our primary goal is to free our developers up from what I would call “non-value added activities.” They don't need to patch. They don't need to think about certificate management, end-of-service life. They don't have to do that aspect of what they're doing in the data centers today. They can focus wholly on delivering new customer-focused features quickly, rapidly. And we've got much faster implementations that satisfy a customer. Isn't that where you'd want to be, even as a developer?

DR: [10:43] Yeah. Yeah. It's interesting because I've met with telco people of all different levels, all over the world, and there are people who see the value of getting this onto their CV-

Josie: [10:52] Yes.

DR: [10:53] And understanding that this is the future. I've asked people as they moved into hyperscalers from telco, "How much did your pay go up by moving in this direction?" And usually, the answer is between 30% and 40% more money.

Josie: [11:05] Wow.

DR: [11:05] Because they had cloud skills. And so in order to get the cloud skills, you got to learn them, and what a better place than BT, that's probably investing in their people, helping them get trained, giving them little projects that they can add to their CV.

Josie: [11:17] Yep.

DR: [11:17] Once people open up their eyes to the opportunity, then they jump all in.

Josie: [11:21] Yes.

DR: [11:22] And I think you're absolutely right that this is the future and you've got to really drive your people and tell them—repeating it so much that the last guy gets it. We're completely committed to moving in this direction. You got to get on board. You're supported and it's actually really good for you.

Josie: [11:37] With AWS—similar with the others—they have been a fantastic partnership with us. It's probably our most mature cloud implementation, I would say, in terms of the length of time that we've used it and the maturity of what we've done—just setting some of the foundations. We've got a cloud excellence team. It's one of the things that I felt was important from the center, to have. That cloud excellence team runs Fintech, FinHack days, game days-

DR: [12:05] Awesome.

Josie: [12:06] AWS help us out with those. We create that real buzz. We're constantly communicating, talking about showcasing different implementations. So I do feel like we're on the journey, but I do feel like there's been that slow pace of adoption. We'll get there.

DR: [12:19] Yeah, for sure. And so besides all the stuff that you guys are doing with public cloud, I imagine you, like everyone else in the world, is aggressively exploring how AI can improve your organization. And so what's your vision to get BT really up and running and using all these amazing AI components that are coming out, what feels like, every single day?

Josie: [12:39] Yes. A couple of things, I would say. One thing that I'm very, very passionate about is making sure that you've got the right foundations. I think the tools that we use, the AI that we use, they're only as good as the data that you put in them.

DR: [12:55] Absolutely. Yeah.

Josie: [12:57] It feels like a no-brainer to say that, but some people I still feel don't necessarily understand that you

have to have those basics in place, and I think data volumes are going to increase. We're seeing how much we're using and actually generating at the same time. If you don't have them, then I think it will put you behind because eventually, you'll just end up in—I'm going to call it data sludge—where you just don't know what you've got. You might have it all in one place, but you don't really know anything about it. You have to understand the data. You have to have good metadata. You have to know where the sources are.

[13:27] And the one thing that I'm really proud of with my data strategy is that we put in a data fabric. We're using a company called Ab Initio. They're helping us to ensure that we've got that data movement in place as we move large amounts of data, whether that's to an operational data store or whether that's into GCP, it will smart match. It will metadata and it will continually take track of where that data's coming from and where it's going to. That I feel has been absolutely fundamental to what we want now to do, which is to accelerate into AI.

[14:03] You've got to also have the people side of things in the right place as well, and I think you sort of touched on it earlier. So at BT, we've been thinking about the new roles, helping to take them on that journey. It's not just the fact that you couldn't recode things within, say AWS, but we've also given our colleagues access to CodeWhisperer.

DR: [14:23] Yeah, exactly.

Josie: [14:24] So now they've got Copilot. So we've got a digital campus, which is our learning platform, and we've embedded data experts in our business units so they can be part of the problem-solving machinery, if you like. So we've got 15 algorithms I think now that have gone live in the last year that are already generating value towards our ambition. So it just unlocked so much, augmenting so much within our organization. It's really exciting.

DR: [14:52] Well, what's been super interesting for me is maybe five years ago when I first started talking about the public cloud in telco, everyone was shushing me and saying,

"This would never work." And there were a few telcos in the world that started to really explore it quietly and started to think about things like the data. And so as you start to think about AI, some of those telcos that were really fighting the public cloud now have found themselves a little bit flat-footed because as the AI wave has come in—and it's been just this tsunami, right?—of what it can do for organizations. I'm not talking about little baby AI stuff. I'm talking about big AI workloads. And so it's refreshing to hear people like you and BT. It's literally years of journey.

Josie: [15:39] Yes.

DR: [15:39] It's a huge undertaking to do this and I'm sure with 2,400 applications going down to 500, that's a really good move because it simplifies the problem.

Josie: [15:46] Yeah, exactly. Everything becomes more simple. The data you're moving from A to B, the majority of that will be in the public cloud already. We have the foundations. People who want to rush, I think get stuck. People who have a transformation program that can set the right foundations can then accelerate.

DR: [16:04] Totally agree.

Josie: [16:05] And accelerate fast.

DR: [16:06] Well, hopefully, it's accelerating like hyperspace. And I guess it's no surprise, I love *Star Wars*. I'm a huge *Star Wars* fan. I've dressed up as Princess Leia like a total nerd. And as someone that's always fighting evil in telco, I just love the band of Rebels taking on Darth Vader and taking down the Death Star. And so-

Josie: [16:24] Love it.

DR: [16:25] I hear you're more of a *Star Trek* fan. I also love *Star Trek*, but not as much as *Star Wars*. Tell me about your love of *Star Trek* and how did that all come about?

Josie: [16:32] Well, I was doing my computing A-levels which were quite hard and it was quite a technical A-level. So to give me a bit of relief, it just used to be on our TV screens

on an evening when I was studying. I just grew to love it. I grew to love it so much that on my wedding day, walking down the aisle, it was theme to Next Generation.

DR: [16:53] That's awesome. That's awesome.

Josie: [16:54] My husband has put up with it.

DR: [16:57] That is awesome.

Josie: [16:58] Just takes you away, doesn't it? To a different place.

DR: [17:00] It really does.

Josie: [17:01] With some fantastic stories of good and evil and progressive stuff. You think about some of the tech that you see in—whether it's *Star Wars* or *Star Trek*—and some of it feels like it comes into our lives eventually. And if you like tech, how can you not like *Star Wars* or *Star Trek* to inspire you?

DR: [17:20] No, I love it. I'm a little bit the same. Grew up watching these movies and fell in love with what could be possible and that humans could program computers and make this happen. And so that's certainly how I got my start into computer science. And so I guess with that, Josie, I'm going to sign off with I hope you “live long and prosper,” and I really appreciate you coming onto the podcast and talking about all the great stuff going on at BT. Thanks so much.

Josie: [17:44] It was such a pleasure. Thank you.

DR: [17:46] 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.

[17:57] A few telcos have talked publicly about the impact of the public cloud on their application population. One is Singapore's M1, which went all in on the public cloud and brought 150 applications down to 30. And you just heard how Josie plans to take BT's application count from 2,400 to 500. A lot of executives ask me, "We're ready to move to

the cloud, DR. Where do we start?" And I tell them—start with an inventory of your applications and decide a destination for each of them. Sort them into one of four buckets: Is this an application that should be eliminated or consolidated? And if neither of those, should it be refactored or rewritten? Some of your applications were written with last century's technology. Sucky. Don't lift and shift that crap to the cloud. Rewrite it.

[18:42] Here's an example—a company I work with had a software application consisting of over a million lines of code and wanted to make it available on both Google Cloud and AWS. Instead of simply using Kubernetes to create a cloud-agnostic application, they leveraged specific software components from each cloud provider. This approach significantly reduced their code base, totaling only 3,500 lines for Google Cloud and 6,000 lines for AWS. The application is now less than 1% of the original code base and works on both platforms.

[19:12] This is a way better approach. Telcos have millions of lines of code floating around in the IT group. By reducing the lines of code, you also reduce the risk of unfound bugs and Sev 1 outages. How much could you save in time, money, and headcount? To get these benefits, you're going to have to deeply understand the software ecosystem of your target platforms like AWS, Azure, or Google Cloud. If you need help doing this, just ask me. I can help you refactor an application and help point your team in the right direction.

[19:40] Have other questions about the public cloud? Then come see me at MWC24, which is next month. Whoa! Come check out all of Totogi's awesomeness at our stand in Hall 2. Yes, that Hall 2! It's going to be epic. I'll also be giving one of my must-see talks at the MVNO Summit on Wednesday, February 28th. Totogi is a platinum sponsor of the event and will be throwing an iconic party afterwards for attendees. Don't miss it. So DM me on LinkedIn and on X @TelcoDR for details. In the meantime, tune into more Telco in 20 episodes, like and follow, and leave us a five-star review. And don't forget to sign up for my crazy

awesome email newsletter on telcodr.com, and be sure to check out our super cool YouTube channel. Later nerds.