Episode 21
Meet mediation vendor Digital Route
Released July 27, 2021

DR   00:00:00
I'm Danielle Royston and this is Season 2 of Telco in 20.

You heard that right! This episode kicks off a new season of our tiny little podcast. Only it's not tiny anymore. The industry has taken notice, and we now have thousands of listeners. I'm a proud mama bird whose first born has taken flight – into the clouds, of course.

When we first launched Telco in 20, we had explained who we were and what we wanted to talk about. Seriously, we did. We were practically standing on the sidewalk, yelling "*Anyone want to talk about telco in the public cloud?? Hello?*" And now we have more wannabe guests than spots to fill. We were even included in Forrester's 2021 Top 100 Channel Podcasts list. In our first season! What a great place to be and confirmation that the telco industry gets it. The public cloud has arrived.

For the season to kick off, I wanted to do a podcast with a digital software vendor that's also awesome. Digital Route.

Digital Route is a mediation vendor with an excellent reputation. The company hit my radar when I read a paper about how it's moving its mediation zone products onto AWS. Digital Route works with the biggest names in telco and has a front row seat to the industry shift to the public cloud. I'm eager to hear what they have to say. So let's take 20.

DR 00:01:44
Jonas Wallenius is strategic product manager at Digital Route. Jonas, welcome to Telco in 20.

Jonas   00:01:48
Hello, DR. Nice to meet you.

DR   00:01:53
Yeah, it's going to be awesome. So.. Digital Route is a pretty awesome mediation vendor. Everyone I talk to is like, *they're really good*. And you guys do a lot of business with telcos. So tell me a little bit more about Digital Route.

Jonas   00:02:03
Yeah, sure. So Digital Route, we like to call ourselves the new standard for usage-based revenue. And that's because we do telecom mediation, but we also do other types of usage-based monetization and quote to cash automation, settlements, and stuff. And we do that both for telco and in enterprise. So we kind of have one leg in each world. And summing it up, what we do is basically we take usage data, take out all the complexity and serve like a golden record to billing systems.

DR   00:02:35
Awesome. And so there's a pretty famous RFP that's been going on for maybe a couple of years in the United States with Dish. It's been one of the sort of big stories, you know, besides Rakuten mobile, in terms of - we have this operator, that's going to launch a virtualized cloud-native OpenRAN 5G network from the beginning, from scratch. And you guys were selected to be one of their vendors. Tell me a little bit about that project and what you guys are doing for them.

Jonas   00:03:05
Sure. I think Dish is a really cool project. It's joined with Rakuten, and I should also mention Reliance Jio in India. We did the same for our 4G network. They chose us because they want to launch a marketplace for 5G use cases together with enterprises. And they found that we have a very compelling solution to do that, to form enterprise partnerships. When you want to have a usage-based business model. And with all the charging data being made available in the 5G release 16 and 17, you know, you have slices, you have age, you have private networks, you have much more rich lookup APIs for location and other things. We can monetize all of that and then pass it on to their enterprise partners in the cloud.

DR   00:03:56
Yeah, you and I agree that the telco industry is going to move to the public cloud, but they have some catching up to do. And so what has been your experience with customers moving to the public cloud? Is it happening? Is it happening quickly?

Jonas   00:04:09
So I can just say that yes, it is starting to happen. Something changed in 2019. We have too, ourselves running on public clouds. And I know for a fact that more than 60 BSS systems are running on public clouds today. We have seen lots of announcements of intention to do so, but I'm still waiting for the big news from the tier ones that we have done it.

DR   00:04:34
Yeah. I think the tier ones have the most legacy complicated systems and so extricating a particular system and moving it, it's kind of like a big bowl of spaghetti. And how do you pull one strand out without pulling other pieces of spaghetti? And when I talk with them and work with them, that's always a conversation of how do you start and how do you not just move it all at once?

The way I found out about Digital Route was I was cruising around on AWS white papers and kind of seeing what was out there for telco. And you guys wrote a paper about how you're moving your product onto AWS. Your product called Mediation Zone. So I had the TelcoDR team read through that. It looks like from reading the paper, you guys lifted and shifted it to AWS and you're using Kubernetes. We think that your product runs in memory with no need for an

external database. And so Kubernetes is probably the right call. Do you think you will integrate further with AWS and use other components?

Jonas   00:05:37
Yeah. This product has been around for a while and in the latest version we have added Kubernetes support, so you can run it natively in Amazon. Like, you know, it's elastic, it's performance, it scales... but looking at where the market is today, we are forced to be environment-agnostic.

We have customers on Amazon. But we also have customers on private telco clouds with Kubernetes. We have NFV variants. We have customers on virtual machines. We even have some on bare metal. And if we were to say that, you know, the version 10 only runs on a public cloud, we would lose a very big market segment.

So I don't think being cloud agnostic today is a realistic option for an established player for a startup is completely different of course, but that said, when we do run on Amazon, then we take advantage of its environment. We can be truly elastic and not like some kind of semi-elastic where you sort of scale, but there's a bit of manual fudge involved in actually doing so.

Jonas   00:06:42
Also with Amazon in this case, I think it's a really interesting position that an operator who wants to migrate their BSS to a public cloud, you need to cut the core network from the billing system somehow so you can sort of change the one without impacting the other. We are a really good tool for a telco who wants to make that transition step-by-step and de-risk it.

So either you keep us on-premise, maybe on an Amazon outpost, or in your private data center, and then you migrate to BSS and you sort of do the offline part up into the cloud if you have a higher latency.. or you'd take Mediation Zone with you up into the cloud with a BSS system and do also the real time traffic in between the two, which makes more sense if you happen to be close to an Amazon region so you don't have a high latency.

Jonas   00:07:30
We do that for 2, 3, 4, and 5G networks, both standalone and non-standalone, and Mediation Zone is slice-aware. You can deploy it centrally, or at edge locations, or in private networks as well. When a customer deploys our software now, and they have a choice, we strongly recommend using the Kubernetes deployment option and doing it on a public cloud because that way you get the real elasticity, you can streamline operations, and you get this shift from operations and complexity to speed.

We have also another product recently launched called usage data platform as a service. And this one is multitenant, it's all in on Amazon. And so I wouldn't call it cloud-native because everybody's cloud native now. But you know, it's actually completely using all those ecosystem

services. So we know the difference of building a multi-tenant as a service platform on the one hand versus an agnostic product on the other hand. And those are quite different worlds.

The way you choose to architecture stuff is completely different and doing it as a service is much faster. And there's another, if you want to run something as a service, then you cannot have the same insane degree of per customer customization as we can have if you have a customer single-instance.

DR   00:08:56
Completely owned on the ground. Yeah. Your own personal installation.

Jonas   00:09:00
Yeah. Yeah. So you need to have that trade a little bit of control and freedom to change everything into sort of, 'this is the way we roll' with this particular service. But what you do gain in turn is that you don't need to worry about a lot of stuff. Updates are just done for you. You always have the latest version. You'll always get the new functionality. You don't need the operations department at an infra level, just at the business level. So you can increase your speed by another magnitude. That said, this product is more targeted towards enterprises, and in telcos, we want to establish partnerships with enterprises.

So I would say for the heavy loads, that would be definitely a Mediation Zone use case. But for B2B to X models where you want to let the usage go all the way from telco into an enterprise and end up perhaps in some way or form on the invoice of the enterprise and customer, then this is a really good fit.

DR   00:10:03
Yeah. I talk about this a lot. When you are designing tools to be cloud agnostic or deployment agnostic, you make technical trade-offs where you're like, well, I can't pick certain technologies that might be optimal for the problem. You said something funny there you're like, it's truly elastic, right? It's running natively with Kubernetes. Is there fake elastic? What's fake elastic?

Jonas   00:10:28
Fake elastic is an animal that you can find in certain types of marketing material, particularly for software that runs in private data centers, which is that we can scale it up and scale it down, but we don't have that loop closed. So it actually does it by itself based on the real-time metrics from the system. It's getting better now when people are doing Kubernetes based deployments. But if you look in the NFV and VMware space, that happens quite a lot,

DR   00:10:58   And so they're doing it either manually or they've written some code to kind of do it. It's not automatically scaling up and automatically scaling down. And that's a big difference with Kubernetes. It empowers that capability.

Jonas   00:11:10

Exactly. This is one of the obvious benefits that you see immediately that you don't need to over-provision if you have a solution that's actually elastic. So that's one of those check boxes for our CFO. "Oh, I don't need to buy twice the number of machines just in case I get a load peak."

DR   00:11:28
IT groups tend to over-provision and have more processing and storage than they need, because you're going to get fired when it's too little and there's a service outage. And then when you move to AWS, people have that same habit. And when you design your products in a way that can really take advantage of the elasticity, you can take down your compute in these areas. Why don't you kill a couple of boxes or consolidate boxes? It's a different way of thinking for IT. And I think for CFOs that listened to our podcasts, right? This is something that should really help them push their teams into selecting public cloud vendors that can really auto scale up and down and can really help you manage the resources and the cost. And that's one of the biggest advantages of public cloud. And I think it's a really important point that you brought up about fake elastic. Maybe I'll create a new hashtag. I always like fake cloud, but maybe my new one will be fake elastic.

Jonas   00:12:24
But I, I think that's part of the bigger story I think around going to public cloud with is that when you do that, you start a mental shift in your organization, as well as your bottom line, where you shift from operations to speed, right? To take away operational tasks, you know, all that stuff - that geo redundancy, the scaling, the upgrades, all that stuff. And you start working faster because you can spend more time on more business-level activities. Yes.

DR   00:12:58
For telcos what matters is their revenue and their subscribers. It's not, when I think of my telco, I don't think like, 'God, you guys are really good at managing compute.' They spend a lot of energy managing compute. Right?

Jonas   00:13:12
Yeah, and that energy is a finite resource. That's something that you usually don't really think about in a big organization with lots of silos and lots of departments. I mean, the portion of it you direct to different things affect the outcomes that you get in those areas. Right?

DR   00:13:28
I think we famously, in telco, have the lowest NPS score of ALL the industries. We should be totally focusing on the subscriber experience. But instead we spend all of our time kind of battling the machines and what I call the plumbing. When now the hyperscalers are like letting you rent it by the minute and you should just be like, 'why am I struggling with elasticity? Right. And I could be thinking about how to improve the customer care experience, which I think is pretty famously bad.

So going back to your product and talking about cloud agnostic and not - a lot of telcos are afraid, the hyperscalers are coming to encroach on their business, but I've been saying it's telco software vendors that need to watch out. And so a really good example, and Amazon has like over 200 services that you can, like Lego pieces, stitch together and build solutions very easily. But AWS has Kinesis data streams and Firehose, which you can use to do I think what is similar to Digital Route in terms of capturing data, modifying it, passing it on to other systems. And so what makes Digital Route technically differentiated? Or sets you apart from just using Kinesis and Firehose?

Jonas   00:14:41
That's a good question. So I think the difference is that Digital Route as a company is nerdly focused on one thing only. It's turning usage data into billable items and ultimately, revenue. We're not a billing company, but we serve them billing systems. And to be able to do that, you know, that's actually money you're transporting through the system, right? So you need to make sure there's no duplicates. You need to make sure you don't lose any data. You need to make sure you have an audit trail of every single byte going through the system. So you can identify and fix any revenue leakage you have, because if you lose that data that's revenue leakage, you need to be able to handle errors in your pipeline in a way that you don't just log them, but you actually need to suspend broken records and get somebody to fix them if possible, and rerun them.

Jonas   00:15:33
And the other thing that we do, I think better than most is stateful aggregations, stateful sessions. So we can do it at an extreme performance. I think we have our largest customers running like 500,000 TPS through our systems. And we can do that stateful, you know, so you can aggregate, you can correlate different sources, you can handle hundreds of different protocols and data formats and all that stuff. And then once you have done that, you also need to be able to go out and enrich this data from business systems. Like maybe I'm just getting some technical ID from my data source, but who does it belong to? Who is the customer? What product is used? How should I write that? And then you need to be able to go out into business system like CRM systems and billing systems and ERP systems and CPQ systems and product catalogs to enrich that data and turn it into that golden record. And that's a completely different layer of application than just - the Kinesis are great at what they do, but they are fundamentally data transport pipelines. They don't have all of this added value on top.

DR   00:16:37
Extra work that's being done that's telco specific.

Jonas   00:16:40
Yeah. We have it for telco. We also have like 100 enterprise customers. So we kind of cross-pollinate between the different industries. And we used to have two main competitors, I would say in telco: OPENNET that was purchased by Amdocs. And then the Comtel that was purchased by Nokia a while before. And now we are the last tier one mediation vendor who's

still independent. And that's actually a pretty good advantage sometimes because that allows - you don't need to buy a big stack from the same vendor. You can use us to sort of change the power balance of negotiation a little bit between the vendors.

DR   00:17:25
So, I think we met on LinkedIn is how you and I got connected. You tagged me in something and we often talk. And when we were chatting, you mentioned Neal Stephenson. Neal Stephenson is an author. He wrote a book in the mid-nineties called the Diamond Age. And it was very foretelling about the future. I mean, this is like in 1995 or 1996, he wrote it. And he was talking about tablets and virtual learning and all these very future, cool things that now sort of feel like they've come true. When you think about the next 10 years, what are you thinking about in terms of just technology that's coming our way?

Jonas   00:18:08
So I think that one thing that I'm - except blockchains that I'm very interested in; the other big thing, I think now is Augmented Reality and Virtual Reality. I have this feeling that if we get AR right, that's probably going to be the killer app for B2C in telco. The bandwidth, the latency, the jitter, everything you need to control to give a good experience there. But today we're still in the Pacman Age of Augmented Reality.

And in terms of the quality of video games?

Yeah, or the quality of apps, you know, it's not really there yet. And I think when we get a pair of AR glasses that work for mass market, that will be an iPhone moment. I have kids, they play Roblox a lot. In the Roblox games, in the Minecraft games, they are designing, building, trading, and doing all these cool stuff in these immersive worlds.

Jonas   00:19:01
Right. And I think if you take that and you combine it with the blockchain that tokenized this digital ownership, when you take those and you combine it with a really strong 5G network as well, iPhone like AR glasses, then you can take this with you outside, wherever you go. And you can have this overlay of our world. And sometimes it's referred to as the metaverse, which is actually a Neal Stephenson term, if you have also read Snow Crash.

So I think that reality is super cool. And one thing I'm doing now is to try to find the operators who are looking for new, you know - use your 5G network. If you have some edge compute place close to some venue, you know, why don't we organize an AR show or something?

There's this Dutch company called the Fabrican, they're doing digital fashion. It's insane. The amount of high fidelity quality, digital fashion they designed right now, it's a bit silly because you buy the dress or whatever, and then you upload a photo of yourself or a movie, and then they fit the clothing on that photo or movie, and then you get it. And it doesn't exist physically. It's just a virtual garment. So you can flash it on Instagram.

DR   00:20:17
It's like a filter for clothes!

Jonas   00:20:18
Yeah, yeah. But super high fidelity filter. But then the next step of this, of course it will be, you know, all the stuff you buy in Fortnite or Roblox or whatever to actually have virtual clothing on your avatars. Right. So when that connects to NFTs, that's going to be insane.

There's a company called Outlier Ventures. They talk a lot about this in their like metaverse operating system. If anybody wants to read about it. Super interesting.

DR   00:20:44
Yeah! We'll link it in the show notes. So, Jonas, thanks so much for coming onto the podcast and talking to us about Digital Route, and digital fashion.

Jonas   00:20:55
Yeah. No, thank you. It's an awesome podcast and you have a really important message and I'm happy to see that you're making splashes. Awesome. Thank you so much. Thank you.

DR   00:21:07
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.

In the last few months, there have been three huge announcements about telcos moving significant parts of their operations to the public cloud. Dish and AWS AT&T and Microsoft Azure and now Bell Canada and Google Cloud.

Some industry tongue waggers have been saying this is a sign of operators giving up on innovation. I couldn't disagree more.

Using the bubble cloud will help CSPs unlock feature velocity and get their innovative ideas into the marketplace at breakneck speed. They'll be able to stop spending all their energy on managing the entire stack. They'll have more time to focus on what matters, building a great customer experience and fighting off the siphoning of ARPU by the OTT vendors. Those are the real competitors.

My prediction: We're going to see more and more of these big announcements. It's going to keep happening because the public cloud presents a massive opportunity for telcos.

If you need more convincing, listen to episode 20, my MWC keynote, The Paradox of the Public Cloud to understand why a move to the public cloud is critical to a telco's long-term success.

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Later, nerds!