

DR: [00:00] I'm Danielle Royston, and this is Telco in 20. You don't see this too often, an MNO transitioning to become an MVNO. But that's exactly what Hawaii's Mobi did in 2015. They gave up managing their entire network, sold it to Verizon and opted to become a full or thick MVNO instead. Their insight? They would give up the expensive and hard work of managing the radio components of a network, but retain the flexibility they needed to create awesome services for their subscribers. In order to do that, they would need their own mobile core, so they hooked up with our cloud city buddies over at Working Group Two and implemented a public cloud, native mobile core that runs on AWS. In this episode of Telco in 20, I talked with Justen Burdette, CEO of Hawaii's Mobi. I asked him about how he ended up in the Rainbow State, how it's going with Working Group Two, and why it's so great to work with the public cloud. So let's take 20.

[01:13] Justen Burdette is CEO at Mobi, Hawaii's largest local wireless provider. I'm going to say it—Aloha. Welcome to Telco in 20.

Justen: [01:24] Hey, and aloha.

DR: [01:26] I'm just psyched I could say Aloha. I am super excited to talk to you today about what you guys have been doing. There's some news that came out right before MWC and I saw it and I was like, I want to talk to Justen about it. And so to a start, you're out in Hawaii, which is amazing. Tell me the story of how you became CEO of Mobi so that maybe I can become CEO of Mobi. Kidding.

Justen: [01:50] Well, after these last few years, I would probably be happy to talk with you about that but, I was working at Ting before heading up that MVNO business for, Tucows was our parent company. And I had decided that I wanted to do my own thing and I figured it would probably be starting an MVNO. But every single potential name that we came up with our lawyers said, "Nope, sorry, that's too close to this trademark over there," or, "That's too close to that copyright over there." And I was like, at this point, if I string together a bunch of consonants and vowels, they're going to say no. And so I reached out to the folks at Mobi at the time and it just so happened that I came on board as a CEO of Mobi as part of that initial conversation.

DR: [02:34] That's awesome.

- Justen: [02:34] It wasn't quite the path that I expected. Mobi as a regional MNO was not quite an MVNO. And Hawaii, while beautiful, wasn't really in my five-year, 10-year or 50-year plan at that point. But I'm very happy about it.
- DR: [02:49] Oh my gosh. Okay. So you just said something really interesting there, that Mobi's sort of a strange MVNO. So tell me about that, what makes it different than a regular MVNO?
- Justen: [02:58] Yeah, so when we launched in 2005, Mobi PCS and Metro PCS were both created by the same venture capital investors. And the only difference really was that Metro had PCS spectrum on the mainland. Mobi had PCS spectrum in Hawaii. But we both had purple logos and very similar business model and plan. And so at that time we began working on building out a wireless network in Hawaii. And that continued until 2015, 2016 was when we eventually reached an agreement to sell most of the network in Hawaii to Verizon and then leased back some of the spectrum and access to that network. And that was kind of the first venture for Mobi into this interesting, sometimes complicated, often very strange world of being a hybrid MNO / MVNO. And as I think the first full MVNO effectively in the US, there were a lot of regulations and rules and business practices that didn't fit that model. And so by the time I came on board, we were still really struggling to figure out how to make something like that work. But I am very excited because five, six years now of figuring a lot of those pieces out, I think we're finally in a place where we're very comfortable being a strange hybrid MNO-MVNO, which I'm not entirely sure if I felt that five or six years ago.
- DR: [04:26] We're going to talk about Working Group Two and their mobile core. I didn't know MVNOs ever had their own mobile core until I read your press release. Is that because you're kind of this hybrid and that doesn't really happen that often? Or any MVNO, if an MNO will let them, can set up their own mobile core?
- Justen: [04:45] My first experience with this was actually at Ting. We really wanted to do this full MVNO thing, which I was surprised to learn was more common outside the US. But up until the last few years, it really was not at all common in the US. [inaudible 00:04:59] and Mobi are really the only two. In the US, a light or a thin MVNO is far more common where you do fully live within the core of your host MNO. You can do your own BSS, sometimes you might be able to get into a little bit of the OSS side, but that's typically as far as you get. Outside the US, most startup in MVNOs start out as a light in MVNO or a thin MVNO as I understand it. But sometimes when they get big enough to make the investment and a core make sense for them, they will eventually migrate to it or full MVNO.
- DR: [05:32] Make the leap, yeah.

Justen: [05:33] Yeah.

DR: [05:33] Got it. So I want to talk about Working Group Two. Erlend actually is going to come on the podcast and so we're super excited. We're going to talk about him in depth about what he's built, but you're using it. So let's talk about mobile cores that need to be integrated into a network. You kind of live in this mixture, but I think for the most part you're getting your radio access now from an MNO. Did you have to approach an MNO and ask nicely, "Will you please let me do this? How did that whole thing go down?"

Justen: [06:00] As I mentioned, I had really wanted to go down this path while I was at Ting. But even at Ting, we were around 300,000 subscribers at that point. That was a little too big for our host MNO at that time, Sprint, to let us experiment with something like that. But we had great relationships with the folks there and I said, "Okay, so if I go do my own thing, would you maybe then talk to me?" That was what led to the trademark excitement. But they did. And part of it was our pitch to them at the time it was Mobi is already a little unusual. We already are kind of a mix of an MNO and MVNO. And so in the event that this could become a more common business model in the US, wouldn't you love to experiment with someone that you know and trust like me, this nice guy from Ting. And so yes, a big part of it was asking nicely, but Sprint always was very open to figuring out things in a more innovative way on the roaming and the wholesale side. But that was what led to that initial path for us.

DR: [07:04] How is that helping your business and your customers? Why do you need your own core?

Justen: [07:09] I mentioned the initial idea was while I was at Ting and things like eSIM or wifi calling were challenging for MNOs to extend to their MVNOs. And so if you look back historically, not just in the US but around the world, technological innovations like that a lot of times come first to the MNOs and then later to the MVNOs. And that can be a big impact on an MVNO's business because if you're not ahead of the technological curve, then you're inherently behind. And then the other piece was we saw these changes coming on the core side. Once upon a time, you had to go with a big legacy vendor and spend millions of dollars, quarters or years on a monolithic core and then you were stuck because once you're there, you're there. But we saw hints of what Erlend, for example, and his team were doing at WG2. And I was like, "Gosh, this is an amazing idea. If core could live in the cloud, then anybody could do it." Maybe not quite anybody, but just about anybody. Right?

DR: [08:14] There's kind of a couple complicating factors with that. I'm like, well, MNO may not want to do it because of the competitive threat. What if the MVNO is better and more nimble? They don't have the headache of managing a network,

they're just managing the subs and so it's not fair. There's obviously the technical challenges, like the monolithic core and especially things on premise. Now I'm having to think about your capacity needs and your volume on something that I originally designed for just my volume. So is it more the technological limitations of the legacy on-prem design that's really slowed us down?

Justen: [08:48] In terms of why it's not something a lot of MVNOs would be asking for in the US where we're more used to the light or thin MVNO model is because historically the challenge of standing up a legacy core was outside of the reach of most MVNOs.

DR: [09:08] Yeah, they couldn't do it themselves.

Justen: [9:09] Yeah. Only the very largest ever could have. Because all [inaudible 00:09:12] is publicly traded, I think they had shared their investment initially and the core and ancillary systems was tens of millions of dollars and years of planning and design and implementation. And there aren't a whole lot of mobile core's, legacy or otherwise, that historically have been stood up in the last five or 10 years. But it's not cheap and it's not quick.

DR: [09:31] And it's hard.

Justen: [09:32] Yeah. And so the changes I think that have come about is telecom, maybe partly by your doing, has warmed to the idea of cloud slowly.

DR: [09';42] I hope so. I've tried so hard.

Justen: [09:46] I think it's working. I think there are a lot of folks who may be mad that it's working.

DR: [09:50] I'm also doing that too, I have to admit that.

Justen: [09:53] But yeah, I think the slow but certain embrace of cloud and telecom, plus folks like WG Two who have been figuring out how to not just adapt legacy things to the cloud but actually build things from scratch in the cloud.

DR: [10:07] I totally agree. There was an AWS party one of the nights at MWC, and I ran into Erlend and he sort of game recognizes game a little bit. What I love about him is he's doing exactly what you just said. He really is building public cloud native components. He's not taking legacy system, lifting and shifting it, and trying to retrofit it into the cloud and make it work. He's built from scratch from the ground up with AWS components and thought in a cloud first way. And that's exactly what we're doing at Totogi. And so when I ran into him, I'm like, "I love everything that you're doing." And so you as a user of that, let's talk about that a little bit. Obviously you've been in the industry for a while. You know what

it's like to work with the other kinds of systems, the monolithic cores and the on-premise legacy systems that cost tens of millions of dollars. And so as a consumer of Working Group Two and this new cloud built the right way kind of system, why is it so great?

Justen: [11:03] I could talk all day and people will tell you that unfortunately I do about the cost and time benefits, they are real. They are game changing for us as a small carrier. And that extends obviously even beyond the court of where you put your BSS OSS, where you put your CRM. It alters fundamentally how you do that and how much time you have to spend managing that. But I think what you defined as cloud first mentality, that mindset is what completely changes the game from that point forward. Once you start to think in terms of how do we embrace the cloud, how do we break out of old ways of thinking? It starts to be contagious to other decisions that you make. The business rules and the commercial considerations and the other technological decisions that flow from thinking-

DR: [11:58] This way.

Justen: Yeah. Are huge. And that's what I love and I'm very excited about.

DR: [11:59] Yeah. I think that the executives in Telco that have been successful on cloud have done exactly that. I call it cloud first. They start with a clean sheet of paper, build straight from cloud and move everything that we can. Rather than I'm going to contrast that with, here's our old stuff, we're going to lift it and literally move it, but try to keep all the runbooks the same, all the integrations and operations the same. And I'm like, you're not going about it, right? You're treating it like a data center and not like a whole set of software capabilities that change your business. And I'm like, come to this side, it's so much better. So another thing that you mentioned in your press release was using network APIs. One question I had because it wasn't clear, is it that you are creating APIs in your own systems or is it more that Working Group has a great set of APIs that you're leveraging and that's really what is making your life so much better, easier?

Justen: [12:03] Both, but certainly what I think is really distinct for us for WG Two is every decision point, every function of the HLR HSS, the packet gateway, the IMS core, all of that is exposed by WG Two in well documented APIs. And it makes our development team very, very happy as you can imagine. But for that to work, you have to design the core from the ground up because you have to take into consideration scope and security and permissions and all of those things for that to be possible. If you just tried to layer that onto a legacy core, I think you're going to have a lot of challenges.

And because that's built in natively to the core, we can then turn around and expose that to our customers. If it's just a single individual customer who wants

maybe their SMS to also flow to their email, okay, that's a very simple thing to do. But try to get a big carrier to let you do that, right? Because let's say you're a small business and you have 20 lines across two accounts and you want to be able to update their location on Slack based on what their device is if they're in the field, good luck with any other core out there today because giving that level of access is just not common. But all of that is built in, all of it's already there. Anybody can get an API key. And as we're talking on here, you can go do that in 30 seconds and then it's just a matter of which subscribers or accounts you have access to.

[14:36] But we actually use those exact same APIs for our BSS OSS and our CRM. Any other tools we develop are using those exact same APIs that anybody else can tap into. Obviously our scope is different, we can touch every subscriber. But anybody could do that. And as a result, WG Two has this really cool construct of a network app store where you would be able to go in and say, "Ah, I don't want to use my carrier's default voicemail. I want to use this voicemail or visual voicemail or this email or whoever it might be." And all you'd have to do is click a button and it would do all of that behind the scenes for you. Or I don't like my carrier's robo text spam detection solution, I want to use this one instead. I can just click this button. It's pretty exciting the capabilities that just anybody could tap into.

DR: [15:22] Well, I think what's really different about both Working Group Two, and we do it at Totogi as well, which is number one, people think APIs are for integrating stitching products together and you do it one time and you're done. And yes, it's more like an information bus of passing information. And I think Erlend thinks about it this way as well, which is the way Totogi thinks about it, which is API as product, we're bringing you functionality. It's not an integration. And the way it's monetized by the vendor is by the API call. The more you use it, the more you pay. The less you use it, the less you pay. And we put the code on our website so that any developer, Mobi developers, can like copy paste and in seconds you're using it. I think at MWC, [inaudible 00:16:07] announced Open Gateway, which is kind of this idea with APIs for network access, 21 MNOs in the world to sign up for it. I think they're trying to do it. We'll watch and see how it goes. But yeah, speeding up the ability to be much more flexible, pick your own visual voicemail, pick your spam detector, build the system and the experience you want for your customers and not one size fits all, my way or the highway. It's going to open up a whole new world for MVNOS that think this way. It's going to be completely amazing.

Justen: [16:37] Well, like what you guys are doing with the term prediction API, that's something that any other BSS/OSS vendor would lock down in 10 layers deep of vendor lock in. There would be no chance that they would share that capability as an API that anyone could integrate into their existing tools.

Episode 64 | “The cloud-first mindset”  
Released April 18, 2023

DR: [16:56] And we give you the code, here you go, and you can put it anywhere. You can get a churn result. You're like, what's a propensity for this person to churn? And you can put it wherever you want and we charge you by the use. It's awesome. The cloud is amazing and absolutely perfect. And so is Hawaii. So I wanted to ask you this. That's probably a loaded question, but what's your favorite island and why?

Justen: [17:16] I have to ask, was it [inaudible] or Kona's side?

DR: [17:18] Kona's side.

Justen: [17:19] Oh, beautiful.

DR: [17:19] Yeah.

Justen: [17:20] So as I hope you can appreciate, there is no chance I could ever answer that question.

DR: [17:24] I know. It's a trick question.

Justen: [17:26] I would be excommunicated.

DR: [17:28] Super busted.

Justen: [17:29] Yes. But every island is incredible. And the thing that I don't think I necessarily knew coming to Hawaii for the first time is that each island, and obviously even parts of each island, have such distinct personalities.

DR: [17:44] Totally.

Justen: [17:45] And I grew up in West Virginia and that's true to some degree in the different parts of the state. But Hawaii, it's obviously an incredibly beautiful place and incredibly beautiful people. But are you allowed to answer that question?

DR: [17:57] Well, I think so. I think the story was that Rockefeller was sailing the oceans looking for the most perfect weather on earth and he declared it to be in Kona. And I even have a dog named Kona. I have a golden doodle.

Justen: [18:09] Aw.

DR: [18:11] So I love Hawaii. Go there all the time and it's such a great place. And so Justen, it was awesome talking to you about what you're doing at Mobi. Sounds like you are building some really cool, great stuff. And I look forward to catching up with you again in person sometime. That'll be awesome.

Episode 64 | “The cloud-first mindset”  
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Justen: [18:26] In Hawaii I hope.

DR: [18:27] Yes, please.

Justen: [18:30] Thank you so much.

DR: [18:31] Awesome. Thanks so much. 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. When Telco started to adopt public cloud first technology built with powerful APIs, it's a total game changer. I've talked a lot about how public cloud software is exponentially quicker and easier to deploy when compared to typical Telco software timelines. But the key is having a cloud force mentality in your organization just like Justen talked about. Once your team breaks out of their old school thinking that every system has to be located someplace you fully control, that mindset change is what completely alters the game for your business. From that point forward. That cloud first thinking starts to be contagious to the other decisions that you make. You start to create a flywheel cloud success with business rules, commercial considerations, and the other technological decisions that flow from this new way of thinking. And that's when you know that your team really gets the public cloud and it's using it to its full advantage. So look for public cloud native solutions from cloud city companies like Working Group Two and Totogi and then sit back and watch your subscribers pick you every single time. And now you get to pick, go listen to another Telco in 20 episode, like number 58 with Peter Adderton from MobileX. After that, follow us on Apple Podcast and Spotify and leave us a review. Be sure to follow me on Twitter at TelcoDR. And connect with me on LinkedIn. Make sure you visit Killer YouTube channel, it has all my talks. And don't forget to sign up for our awesome email newsletter on [telcodr.com](http://telcodr.com). After all, 3,100 subscribers can't be wrong. Aloha nerds!