



For Cloud Professionals, part of the On Cloud Podcast

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Title: The rise of cloud gaming and the technology powering it

Description: With the rise of 5G and other enabling technologies, cloud gaming is finally coming into its own, and it's bringing in a new generation into gaming. However, the concepts that fuel gaming in the cloud can also be very beneficial to groups other than gamers. In this episode, David Linthicum and tech influencer Evan Kirstel discuss how the technologies that enable cloud gaming—cloud, 5G, AI, spatial computing, and a host of others—can also power new methods of learning and working. Evan's vision of the future—and it's not that far off—is one in which 5G will decrease latency issues to almost nil and people can reap the rich benefits of immersive technologies in school, at work, and at home.

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Operator:

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David Linthicum:

Welcome back to the On Cloud Podcast, your one place to find out how to make cloud computing work for your enterprise. This is an objective discussion with industry thought leaders who provide their own unique perspective around the pragmatic use of cloud-based technology. Today on the show we have Evan Kirstel – did I murder that name, Evan?

Evan Kirstel:

Kirstel, but either way I'm good.

David Linthicum:

Okay, cool. Like the champagne or not like the champagne?

Evan Kirstel:

I like champagne so that's a perfect analogy. There we go.

David Linthicum:

So, Evan is a B2B thought leader and a top technology influencer. He has helped teach brands like AT&T Business achieve massive visibility and scale across the social media landscape in areas of mobile, blockchain, cloud, 5G, health tech, IoT, AI, digital health, big data, analytics, and cybersecurity. That's a lot of skills, dude. So, tell me a bit about what do you do typically in a day or what's a week like for you? In other words, how are you interacting with clients and what kind of work are you involved with on a day to day basis?

Evan Kirstel:

A day for me is a day on social media, so 16, 17 hours a day on various social media platforms – not recommended for everyone. Let's just put it that way.

David Linthicum:

Got it. So, in other words, you're focusing on how to leverage social media as a force multiplier.

Evan Kirstel:

That, and I'm just personally and professionally obsessed with social media and this community of fascinating folks. David, I've followed you for years, followed your trajectory, and you know, it's a real honor to be here on the podcast.

David Linthicum:

Yeah, we're happy to have you on the podcast, because, I'll tell you what, this is kind of a cool topic. I mean, we're normally talking about serverless container systems and things like that, and the stuff I already know. I don't know a ton about cloud gaming, which is what we're going to talk about today. And I've been doing a lot of research in 5G. So, cloud gaming kind of came along I think three years ago, even though it's been around for a long period of time. We had BBS systems back when I was in my 20s where we could do very rudimentary gaming and using the first AI systems, things like that. So, where are we now with cloud gaming? And how does 5G kind of come into the equation?

Evan Kirstel:

Well, it's a great topic, particularly now in the pandemic. We've seen a surge of interest in gaming. You know, the use and active activity on gaming platforms has just been astronomical. Middle-aged 50-something people like me have gotten into gaming again after sort of giving it up as a teenager. And all of that has brought about new thinking behind architectures and platforms. And the hottest tech products you can buy right now are the devices like the console. But there's a lot of cool stuff happening behind the curtain as well, and 5G and cloud are fundamentally part of this reinvention of gaming.

David Linthicum:

Yeah, and it is changing very quickly. And I think what's happening is that we got into a world where we're getting our content with this immediate response. In other words, we want to watch a movie; it's there for us. We can find it on whatever network is going to be able to play the movie. And so, gaming was always a bit different because you had to go down to a store and buy a DVD, or back in my day you had to buy a cartridge. And in essence now we're able to do it over the open internet. Now obviously latency is going to be an issue, your ability to in essence have enough bandwidth moving forward. But that's kind of caught up with us now, at least for the most part, and it seems to be catching up as time goes on.

And also, the ability to leverage multiple platforms. In other words, we're not going to limit you to leveraging something on a console and leveraging a TV or leveraging a base computer, but you can leverage your computer, your laptop, your iPad, probably your pad computer that's on your car even though that'd be dangerous – any number of ways we can play games now. So, it's in essence making it more open and making it more available.

Evan Kirstel:

Yeah, that old vision that you talked about, that of a decade ago, of any screen anytime has kind of come to fruition. If I'm a PlayStation gamer, I can play on my 5G device. And there's even a degree of interoperability, something we talked about in the enterprise for a long time. That's coming to fruition. So, it's, despite this horrible pandemic, it's kind of the golden era for gaming, and you know, 5G is a perfect killer app for gaming. You talked about latency and jitter and reliability in mobile gaming in particular, and it's like 5G is was designed for that, right? So, it's kind of invisible but it's kind of reinventing how games are played on mobile devices.

David Linthicum:

Yeah, absolutely. One of the things we found out when we got into the pandemic is how critical bandwidth was. And I used to write about this years ago how we did have bandwidth deserts that I didn't even realize existed until I owned a weekend home in a very remote area when there was no cell coverage and there was no internet available, not even internet cafes in the town. And ultimately the people suffer because they can't get the education that they need through – and this is when the pandemic hit. Kids can't attend school in the way that they need to attend school because they don't have the bandwidth to make it happen.

We have a tendency to forget about that. So, it's not like the ability to kind of bring in bandwidth and latency reduction to gaming platforms for people who live in high-bandwidth environments and already leverage fiber and things like that, and they have gigabit connections. But it's the ability to open up this world to people who live in this country that really haven't had direct and easy and available access to the internet yet, even though it's really kind of core to everything you do in your life in terms of learning, the ability to hold a job, the ability to work remotely all these sorts of things that need to change. And so, do you think we're going to get there?

Evan Kirstel:

Well, we're getting there slowly, not fast enough, and the digital divide, of course, is alive as well. We've seen these just really heart-wrenching stories around access to broadband and laptops in needy communities. And on the flipside one would think, "Well, gaming is kind of a trivial pursuit given the bigger questions of telehealth and online learning and virtual – you know, gaming? What's the big deal?" Well, for a lot of kids, like my son who's 16 and is essentially quarantined from his friends, gaming has been the way through voice and video and collaboration, to maintain his friendships and to chat and to have fun gaming together. So, it's really emerged through the pandemic as one of the top kind of use cases keeping us sane, in addition to streaming and other forms of content consumption.

David Linthicum:

Yeah, when I look at it, I look at really kind of an area of growth that's applicable in other areas. And I think that businesses will leverage gaming platforms for business-based applications, the ability to do simulation, the ability to leverage training programs, all these sorts of things, which are done today, you know, typically via video and voiceover systems, things like that. But the ability to have interactive training, the ability to have your brain experience something, even using virtual reality, Oculus, which you can do right now over the internet and leverage cloud-based systems. That's kind of a gamechanger. I mean, ultimately the ability to – I mean, even though we're talking about gaming, the same technology is applicable in many other ways that go to making life better for human beings and also making businesses more powerful. Am I wrong?

Evan Kirstel:

No, you're right on track, and in fact even seeing technologies like virtual reality get a second life, no pun intended, through the pandemic, you know, opening up travel and, for some brave souls, collaboration and meetings through VR. I think with the likes of Oculus and Apple potentially dipping its toe in the water to VR and AR, that, combined with these fast and incredible new networks, will really create opportunities for the next decade or two, and like you said, beyond gaming into every aspect of our kind of digital lives.

David Linthicum:

So, besides bandwidth, what does 5G bring to the table?

Evan Kirstel:

Well, it brings availability. I'm here in New England and my favorite place to go in the summer often is up in Maine, and it's a broadband desert traditionally, historically. And just like weekend I went up to the Maine coast and there's 5G everywhere. And I can get 100-meg connections up and down the Maine coast now in a way that was a pipe dream last year. So, it's that accessibility, the availability, the coverage that's being rolled out for 5G. It's the commoditization of the silicon that's going to go in all your different devices your next iPad, your iPhone that I have now of course is 5G enabled, your laptop. So, it's that whole silicon software curve that's going to drive down costs and make it easy to put 5G in everything. And it's functionally the network itself. I mean, it's a very efficient technology, so you're going to have obviously better, faster speeds, but things like faster upload speeds as well for content creators like ourselves, very good jitter buffer performance, latency better than even the equivalent broadband networks. So, it's kind of like this platform that's going to work its way into all of these niche applications.

David Linthicum:

Yeah, and doing a lot of research on edge-based computing and that seems to be a gamechanger as well. And you think about it. Some people confuse 5G with something that's only specific to devices. In other words, if I have a 5G radio in my phone or a 5G radio in my iPad, or pad computing, things like that, certainly it allows me to access 5G directly, but also the ability to recast and redistribute 5G on standard networks. So, in other words, if you have a Wi-Fi network, there's no reason you can't have a 5G connection to a Wi-Fi hub and have that connection in essence retransmitted out to everybody in the house.

In fact, people who live in rural areas I'm sure know this. When satellite wasn't that much of an option or couldn't be an option, people leveraged cellular hotspots and the ability to have cellular hotspots that were able to scale and they could support 15, 20, sometimes 100 devices, and really just kind of leveraging one cellular network. The bandwidth was obviously a limitation. If you watch a lot of YouTube and things like that, eventually you're going to run into some latency issues and some bandwidth issues. But 5G kind of gets us around that, doesn't it? So, in other words, we have the ability to not only have our devices participate in a very speedy, low-latency network, but have the house participate in it as well because we have devices that are able to in essence leverage a 5G connection throughout the environment, no matter if it's 5G or not.

Evan Kirstel:

Yeah, that's so important. And, 5G is a standard. It's a family of standards. So, we haven't talked about the Internet of Things yet, but the ability to have devices and sensors that can be globally distributed and supported anywhere in the world on this one network standard is extremely powerful. I mean, there are so many use cases we could go through. I mean, one that's topical is supply chain. Our supply chain has been under enormous burden, the cold-chain challenges of getting vaccines around the world, around the country. And IoT and 5G have enabled us to kind of mitigate a lot of the challenges. You know, these freighters are traveling around the world and we've seen the ability, the necessity, to kind of link supply chains in ways we haven't before. 5G and its IoT variants have been a lifesaver.

David Linthicum:

So, back to gaming for a bit, cloud-based gaming – and I noticed the controllers are still there, and so in other words they certainly may not have a console but they still have a controller that people are leveraging, which does enhance the experience. You know, I've tried to play games on keyboards before – I'm not a big gamer, by the way – and I found it very frustrating, trying to remember fire is alt-F2 or something like that.

Evan Kirstel:

[Laughter]

David Linthicum:

So, where is this going to morph? Are we going to morph away from the controllers into something different? Or are the controllers always going to be part of the gaming experience, whether you're leveraging cloud-based gaming or gaming on premise?

Evan Kirstel:

You know, gaming, like every big, giant market, has kind of diversified into this whole landscape of casual gaming, people playing games on their phone, to the living room-centric gaming that's Google Stadia, or Amazon's new cloud gaming service will – essentially you'll be on your couch in your living room, just kind of casually playing on the controller directly over the internet on your smart TV, to the really more sophisticated PC gaming rigs that people will set up, to consoles, and including in-car experiences and Nintendo's gadgets that your 12-year old will play in the car. And so, there's this whole continuum, and the services behind gaming is – I mean, esports now is the biggest sporting activity in the world by revenue and GDP. So, it's big money. It's no longer the sort of casual, obscure, backwater market that it was when you and I were playing games on our PCs.

David Linthicum:

Yeah, I think it's going to be a huge potential market coming forward. I think you just see it – people at the cusp of it. Number one, people like gaming already, and they love leveraging these consoles. All you have to do is see the lines around the blocks as these consoles are released. But moving forward, the ability to in essence take things to the next level and get to a point where everything is going to be on demand, where I am completely independent from technology that I have to buy and update and upgrade from a hardware point of view, but also I'm able to leverage games and also I'm able to leverage educational experiences on the same sort of website.

So, what I'm seeing is I think ultimately this is going to morph. We're going to have the big games up on the cloud, and we're already seeing that now. It's not as many as that are on the console, and certainly we have some demons to slay and latency is going to be one of them and bandwidth is going to be one of them. But we're going to eventually get that. Everything is becoming faster, we have 5G, things like that coming forward. But the ability to kind of morph this into something that provides things that are a bit more productive. You know, I wouldn't play a game for a long period of time, just typically too busy. Yeah, and I still leverage simulators motorcycle simulators, auto-driving simulators, things like that. Flight Simulator is another one. But ultimately, we have technology that's advancing around the advancing technology of gaming. So, gaming is actually leading the way. People are getting better at building user interfaces, user experiences AI capabilities that are built into the gaming systems, things like that, better vision experiences, things like that. But moving forward, we're taking that technology and it's really kind of advancing everything, isn't it? That's what my point I made before. But do you agree with that?

Evan Kirstel:

Yeah – no, we're moving towards fully immersive experiences. We're moving to spatial computing where you're interacting in an immersive way with the environment around you. And, of course, on one level these are kind of the cutting-edge of what's happening in videogames, but spatial computing is the next wave of how we interact with the world, with voice, with AI. And so that's what I'm really most excited about.

David Linthicum:

So, what about the downsides of cloud gaming, leveraging 5G or not?

Evan Kirstel:

Well, there are really violent games, and the best games the kids seem to like are the ones that involve the most death and destruction possible. And while I think the scientific evidence is that gaming, including violent videogames, doesn't lead kids to be violent, there are concerns about the emotional impact of some of that. And it's something that parents need to really keep an eye on, and I think it can really suck you in. You know, these experiences are so compelling. You can kind of get lost in them. And although during the pandemic I've been looking to get lost a bit more, there is that risk, that balance that we need to take to all things, including gaming.

David Linthicum:

Yeah, I guess that may be why I'm afraid to game without really becoming addicted, having to quit my job and just people passing beer and food underneath my door. I hear those stories all the time. But, at the end of the day, I think that there's more good than bad in the gaming stuff, certainly in the maturation of the technology. It's taking everything to the next level. And keep in mind we've had this around forever. When I was playing with computers back when I was a teenager – believe it or not there were computers around – we were playing games, Pac Man and some very simple games, even some games we programmed ourselves. But it was really a way to occupy our minds and leverage this technology in a way that becomes more enjoyable. And I think if you're looking at that same device, the same computer, to leverage it for so many different things, inclusive of game technology. So, get in your time machine and go forward five years. Ultimately cloud gaming – what are we going to be looking at in terms of enabling technology? What's going to be cool then?

Evan Kirstel:

I think augmented reality is going to become kind of the de facto environment for gaming, immersing yourself in the experience, maybe taking it outside. Pokémon style and really getting – merging the real world, the physical world with the virtual world. And once we have devices and endpoints and Apple Glasses and things that allow us to do that, it's going to open up all kinds of new kind of social activities and sports and the like. So, I'm really looking forward to these new kinds of devices that we'll see emerge that are really novel and innovative.

David Linthicum:

Yeah, I think that's where the innovation is going to come from in that area as well, the ability to have chatbots, different user interfaces, different ways to define simulation, common development tools. And also, I think the rise of the game developer, the cloud game developer is starting to be a real thing. It used to be a small fraction of the market when I looked at developers. I think I looked a year ago – now it's a much larger part of the market. So, this is kind of a nice career path for people who like to play with technology and who can code. Am I wrong?

Evan Kirstel:

Yeah, I think I would encourage kids to look at gaming and esports now. There are esports scholarships being awarded. There's big money being put into esports arena and there's a whole ecosystem being built around gaming, including things like Twitch, which the big thing to do is watch people game. It's no longer just gaming. And so that ecosystem means lots of opportunities for people, for companies, startups, capital and so forth. It's going to be a wild ride.

David Linthicum:

Well, I appreciate you enlightening us around cloud gaming and also the rise of 5G. I do think it's a technology we're going to keep an eye on, and perhaps have you back from time to time to give us an update on the technology and how things are going, what's going well, what could be improved, all those sorts of things. So, where can we find you on the web?

Evan Kirstel:

You know, the web – I'm a Twitter fanatic, so it's really @EvanKirstel on Twitter. I enjoy, by the way, your insights and I'm following you, one of my favorite accounts, so look forward to connecting there.

David Linthicum:

Yeah, great. Hopefully I post more, everything comes off my LinkedIn feed. So, if you enjoyed this podcast make sure to like and subscribe on iTunes or wherever you get your podcasts. Also don't forget to rate us. Also check out our past episodes including the On Cloud Podcast with my good friend, hosted by Mike Kavis and his show and book by the same name, Architecting the Cloud. And if you'd like to learn more about Deloitte's cloud capabilities, check out DeloitteCloudPodcast.com, all one word. And if you'd like to contact me directly you can reach me at DLinthicum@Deloitte.com, that's L-I-N-T-H-I-C-U-M. So, until next time, best of luck with your cloud projects. We'll talk again real soon. You guys stay safe.

Operator:

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