



## The Deloitte On Cloud Podcast

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**Title:** Get the scoop from AWS re:Invent 2022 on what's new, and next, for cloud

**Description:** AWS re:Invent 2022 was better than ever, and there's lots of buzz around cloud's future. In this episode, David Linthicum sits down with Deloitte's AWS alliance technical lead, Tony Witherspoon, to discuss all that was new at AWS re:Invent 2022. This year's key themes were sustainability, diversity and inclusion, efficiency, and data as a corporate asset. David and Tony also discuss two big product announcements—AWS DataZone and AWS Supply Chain—that they think will really impact cloud in 2023.

**Duration:** 00:26:25

**David Linthicum:**

Hey guys, welcome back to the On Cloud podcast. I'm joined today by Tony Witherspoon. He's the principal cloud architecture talent group lead at Deloitte Consulting LLP, and today we're going to discuss the key themes from this year's AWS re:Invent conference. How're you doing, Tony?

**Tony Witherspoon:**

I'm doing great. Thanks for having me, David.

**David Linthicum:**

So, Tony, what's the day in your life like when you're not at re:Invent?

**Tony Witherspoon:**

The day in my life?

**David Linthicum:**

Yeah, what are you doing here?

**Tony Witherspoon:**

So, as you said before, so I'm the architecture talent group lead for cloud engineering within Deloitte, so that's for all different types of architects. We have application architects, infrastructure focused architects, security, networking, things like that. And, so, as a talent group lead, I help support that, kind of our—from the talent side. How do we develop, grow, recruit, retain, and things like that? We saw a lot during the pandemic stage of everything just kind of ramped up in the technology field, especially in cloud computing. Those resources are scarce, and, so, how do we pull in the right talent and things of that nature. I also lead a lot of our diversity and inclusion efforts within cloud engineering in Deloitte as well, so I'm very passionate about that across different communities, that's kind of like one of my passions. I'm a technologist, love doing that, but at the end of the day, I love supporting people. That's one of my passions.

**David Linthicum:**

Yeah, that's great. I'd like to have you on more often than every re:Invent. I have a feeling we're going to be doing this in ten years. This is our 30th re:Invent, and here we go. So, how many steps a day? That's always the big thing when you go to a re:Invent. I mean, my record was 20,000 steps a day average when I went there. Are you getting up to that, or are you not tracking it?

**Tony Witherspoon:**

I'm not tracking it that much. I think—I don't know if I was tracking the number of steps, but I think maybe like a couple days ago that might have been at five miles. So, if you translate that to steps, you can probably figure that out.

**David Linthicum:**

Yeah, it'll keep you in shape, man. That's great. You have to do something between all the parties and dinners that you're going to. People are giving you food and drink the whole time, so it's a fun party. So—

**Tony Witherspoon:**

My best piece of advice is wear comfortable shoes.

**David Linthicum:**

Yeah, I always wear sneakers when I go there. So, we're back to it. In other words, we did have an in-person re:Invent last year, and prior to that, we had the pandemic, and, so, it was more virtual in nature. I think it's important that people visit one-on-one and see each other in person because it's not only getting information, which is easy to do virtually, but the ability to kind of get the feel and really kind of understand the mood and where things are going. I think it's an important conference to attend. It's certainly the Woodstock for cloud computing, and it becomes the one that everybody's going to, even anybody in the cloud industry, whether a service provider, consumer of cloud technology, everybody's there. Was that your take on it this time?

**Tony Witherspoon:**

Oh yes. It definitely feels—we talked last year, and I don't remember what the proper estimates were, but maybe there were about 25,000; 30,000 attendees last year. I think the estimates that we've seen now this year were about 50,000. And right before the pandemic, I think re:Invent was about 60,000; 70,000. So, we're definitely getting back up to the pre-pandemic numbers. And then just walking the expo, it just felt more like it was the pre-pandemic days. And, so, lots of excitement, lots of people, lots of new products. Every year I'm amazed how many different vendors can take the word cloud and, somehow, insert it into the name of their products and tools and things like that. It was pretty great.

**David Linthicum:**

Yeah, it is pretty great. And like I said, it's really kind of the pinnacle of where people are going, not just cloud technology, but kind of technology in general because the movers and shakers are in the cloud space, and anybody who's anybody in the cloud space shows up at re:Invent. So, what was the mood of the crowd when you went around talking to people at the show floor, things like that, discussions? What was kind of on their mind in terms of why they were there at re:Invent and what kind of information they were looking to gather?

**Tony Witherspoon:**

Yeah, so it's a mix. So, we talked last year, and I've been to every re:Invent, and, so, then the first early re:Invent was very technology focused, all about tools, the basics, scalability, sustainability, elasticity, and things like that. And it's evolved and, so, now it really depends on which clients you're talking to, which colleagues you're talking to. Some people had more focus on what's Amazon doing about sustainability. And there were a number of announcements and goals that Adam Selipsky talked about in his keynote. Some of the—okay, what are the new services?

Some folks are more data oriented and things like that. One of the things that you kind of mentioned was about re:Invent, it's the conference to go to. I talked to a number of different clients where they're in media and streaming and things like that, and, so, the typical conference they would go to before

were like CES and things of that nature. And, so, now, since everything's moving towards the cloud, it's kind of broadened their focus on which technology conference they would attend. Even for different industries that may have not gone to re:Invent before now are attending. And, so, it's a great kind of like broadening of the types of companies and perspectives and different levels of architects, engineers, executives, sales, all across business.

**David Linthicum:**

So, everybody's there for different reasons. Some people are there because they're the administrator for a particular AWS service, they're security architect, data architect, things like that, and they're looking specifically at mostly data, not all data, or they have a security vision, or they have a governance vision, or they have an ops vision, and, so, they show up and there's different aspects of the conference that are kind of tailor-made for them to kind of understand the things that they want to know. I think at this point, I mean, it's just too many things to do. You can't go to ten different sessions at the same time. You kind of have to pick your battles, and people are kind of threading through their re:Invent to create their own little experience. Is that accurate?

**Tony Witherspoon:**

Yeah. And then the other thing is, if you go to the re:Invent website, and, so, if you think back, even like the keynotes and type in a speaker, and those types of events have evolved. And, whereas when it first began, you would have a big keynote on Tuesday, and then Werner on Thursday. And, so, the keynote Tuesday would typically be Andy Jassy. There'd be a partner keynote maybe on a Monday or a Wednesday, and then Werner on Thursday. But now they have, I don't think they call them keynotes, but other leadership talks throughout the day. And, so, if you sat in the keynote for Adam, then right after that, there's another AWS executive talking about security, or another AWS talking about sustainability. So, you can even follow that thread where you can get lots of different topics across different domains and pretty much stay in the same area and not hop from session to session. And I think, actually, the term for those are leadership sessions, so you can get the high level, and they do different announcements, and they focus on those different topic areas. And, so, that's one way you can kind of consume the event.

The other way you can do is go to different sessions. Now we have different types of sessions. One kind of Deloitte plug that I would like to put in here is that this re:Invent for Deloitte, we have eight different sessions that we were able to sponsor and talk at, which is the most we've had at any re:Invent. And one really kind of nice one is that we have our first chalk talk at re:Invent, talking about how to deploy neural-search networks. And, so, a chalk talk's different from these other sessions, for those who haven't been to re:Invent, where most re:Invent sessions would be about an hour, maybe about 45 minutes talking about a topic, and the last 15 minutes are Q&A. The chalk talk flips that completely where you talk 15 minutes about a topic and then it's 45 minutes of Q&A from the audience, so it gets deeply technical pretty quickly, and, so, that was pretty exciting that we were able to do that this year.

**David Linthicum:**

Yeah, I think that's a way to learn, and certainly it's a way to present. I'd rather answer questions than stand up there and do a monologue. I think that's more interesting to people as well because they can participate in it. And the reality is that most people learn that way. They're active learners, and, so, they want to interact and have a conversation with somebody, so I think those are going to be important moving forward. What about special events there, things that people who didn't attend the event may not have known that were going on? Any kind of luncheons, things like that?

**Tony Witherspoon:**

Oh yeah. So, one of the most rewarding things that I was able to do at not only this re:Invent, just overall at Deloitte, was a sponsor for AWS's All Builders Welcome. And, so, that is a D&I initiative that Amazon helped support, and it's to support inclusion, diversity, and equity, not only within different companies, but just in society in general. And, so, Deloitte was a sponsor of that. They held a luncheon, and it was offered out to the public. You can go to AWS and submit to be a grant participant.

And, so, Amazon will sponsor you, based off of funding from different sponsors like Deloitte, to travel to re:Invent, food, hotel, lodging, things like that. They would participate in the conference, be able to go to sessions and workshops and things like that. So, we held a lunch actually for 500 diverse and inclusive candidates and participants. It also included a number of high school students from the local Las Vegas area to also participate as in a field trip. And, so, we sat yesterday for about an hour and had lunch to just interact and be mentors to these different individuals and things like that. And, so, that was a great experience and it gave us the ability to not only connect with them at this lunch, but then after the lunch. So, it helped kind of figure out where they want to go in a career. We talked about what different technologies that they should look into and things like that, so that was super great.

**David Linthicum:**

Yeah, I think what we're doing, ultimately, it's stimulating the supply chain. We're getting skills from all different places, and the reality is everybody should be included in the ability to have a chance to obtain the skills and go to conferences like that, and it's really going to make a difference, and it helps the technology community because right now we're dealing with a skill shortage. The more people who get that training and get excited about using the technology, get deeper into it, get the certifications, there are going to be more skills in the market, which makes driving these solutions that much easier.

Right now, we're limited not by the technology, but by the amount of talent that we have in the market right now. With the high school kids, I think that's more profound because the reality is you get them excited about something. There's always that thing we remember when we were kids and we saw something that we just thought was so cool and we got excited about it. We kind of steered our expectations in moving in those directions. This is a time you get people on the road and moving to cloud computing, so sometimes people go into cloud without going to college, sometimes going to college, but really to get someone excited about the technology and kind of taking their careers in that space is going to be a critical thing.

So, let's talk about sustainability. I did attend Adam's keynote on, I think Tuesday it was, and one of the things that kind of struck me, he was talking about getting water-positive commitment to return more water to communities than it uses by 2023, and that sounded great to me. I was just trying to figure out how they're doing it, but, at the end of the day, if we're moving to cloud computing to deal with sustainability, we're dealing with the shareability model. We're able to do more with less power and also do more with less water.

And, so, now that we have these cloud data centers, we know where they are, we know how they're consuming things, we can optimize the water consumption, we can optimize the power, even get them to carbon neutral, even the ability to kind of return power back to the grid based on the

renewable systems that they're using. What was the theme there that you kind of gathered through all the keynotes in terms of how thinking about sustainability is changing, what are the innovative things that you kind of heard this year that you really didn't hear in the previous years, and what should we be excited about keeping an eye on?

**Tony Witherspoon:**

Yeah, so I think from all the different speakers, it was all about efficiency. So, either you talk about water, compute, and things like that, so hardware efficiency, efficiency of the resources, trying to remove that high barrier to entry, low code, no code, and things like that. But one of the things that I made sure that I also attended the Peter DeSantis keynote as well. That was on Monday. And for me, it was just kind of like, I liked his talk because it gives me that nostalgic feeling of like the earlier re:Invents because when it was all about EC2 and compute and there's this new instance type, which you probably won't get in the other ones because we're talking about different types of things like the higher-level services and things of that nature. And one of the things he talked about was he wanted to focus on—some of the things I kind of thought about for cloud we kind of just accept and take it for granted, like performance, and availability, and scalability. We just assume it's always going to be there. But the how they do AWS on the back end is also important.

And, so, one of the key things he wanted to focus on was performance, and then when you talked about sustainability, it's about how performance and observability and things like that affect sustainability. One of the things that they announced there was a new Graviton Chip which gives you improved performance per wattage, and, so, that also has sustainability benefits. So, if you build your applications and things like that to take advantage of these new chip sets and things of that nature, that you, at the end of the day may use less wattage of power, which makes it more efficient in the environment and you can do more with less. And, so, you can kind of see that in other areas where I'm collecting a lot of this data, or less data processing time. And one of the things that I think when they're talking about well, you're operating these machine learning models and things like that, the faster time you can get to convergence, like to get to the answer that you need, that means there's less processing time and things like that, and it improves the answers you get much quicker. So, if you kind of think of sustainability in those type of things, you can do a lot.

**David Linthicum:**

Yeah, and I like the way the thinking has evolved. I mean, if you went back in time five years ago, or even ten years ago, when cloud computing kind of first showed up as a major force in the marketplace, there were some questions about sustainability issues and the carbon footprint it was leaving behind. They saw data centers being built, things like that. The reality is that the value of cloud computing was to provide the shareability. In other words, it had a multi-tenant infrastructure where we're basically using kind of the same hardware that we're using with the enterprise data centers but doing so in much more efficient, optimized, and shareable ways. And, so, in other words, we're leveraging 90 to 100 percent of the storage and compute infrastructure where on the traditional systems if you put a perf mod on them, it's going to be 3 to 5 percent.

And, so, that's going to be a step in the right direction, but now that we're moving, and we have moved many of the workloads and data onto the cloud. Now the question is, what you're telling me, is efficiency of those things as they're running in the clouds. In other words, shareability is good, but let's see if we can get better. Let's see if we can get more output and more performance out of a chip set for less power and also let's see if we can optimize applications to use less power, which I think is going to be really the next generation. If you look at the optimization, or the lack of optimization, a lot of these applications out there, they're capable of running on a tenth or sometimes a hundredth of the power that they need, the carbon footprint that they have. If they're just reengineered, and if they're just engineered around particular optimization work sets, and chip sets and moving in that direction, writing these applications for the specific chip set is really going to be the focus for the next ten years. Do you agree?

**Tony Witherspoon:**

Yeah, exactly. And then—we started talking about—we brought up, which you kind of expounded the chip sets and things of that nature. And, so, one of the things is also from Adam's, there is a new Amazon DataZone service that's going to go in preview. And, so, if we take it up a notch where we're doing better processing, better chip sets for analytics but I've been on projects and with other customers when you're doing analytics and you have these silos, and they may be doing the same analytics across the same data sets, and they may not know it. And, so, what I'm hoping for with Amazon DataZone, you can create the DataZone catalog and share that data, and, so, you're not duplicating efforts, not just people hours, and then also that would go down to the compute and things of that nature. And, so, I'm looking forward to seeing more from Amazon DataZone.

**David Linthicum:**

Yeah, that was kind of a major trend that I noticed in the announcements pre-conference and also in Adam's keynote was basically we return to the fundamentals and data being a fundamental. In other words, even though we know how to manage data and we have lots of different ways to store data, we're kind of at a point in 2023 where enterprises really need to work on their ability to make their enterprise data a true asset, the ability to kind of take their enterprise to the next level, their ability to, for lack of better words, weaponize data to enhance the business, become better at analytics, better at real-time decision making based on calculated points that are made from almost near-perfect information. We kind of have a long way to go in that space if you believe the surveys, or really is efficiency of information. So, I think Amazon, AWS kind of realized that that's going to be the case and is kind of refocusing on providing new tools to deal with an old problem. Is that a bit of a stretch?

**Tony Witherspoon:**

Yeah, new tools for old problems. There's just such an influx of data and, so much data. Some of it's structured, some of it's not structured. There's probably many companies that just keep—one of the things that was different with Peter DeSantis, they had Ferrari there, and they talked about how much data they were ingesting and processing and things like that to support F-1 formula racing. And, so, he kind of made an off-the-cuff remark. It was we store a lot of data, probably more data than we actually need. And I think where we are now is we know there's value in the data, and we're going to keep collecting this data. We may not know if it's going to be valuable today, may be valuable tomorrow, and, so, they're just going to keep farming and looking at analytics, key processing and things of that nature because they know there's value. They just don't know how to get to it yet. And, so, these different tools that Amazon's providing from Amazon DataZone, for Aurora, they have trying to remove the ETL process, which takes a lot of time, is sometimes error prone and things like that. There's so many different tools that can probably make us more efficient so we can get to that answer as quickly as possible.

**David Linthicum:**

Yeah, and I think it's going to be a number one problem to solve even though it's an old problem but really hasn't been solved yet. But the ability to leverage your data efficiently and the ability to get near-perfect information out of your data, whether it's through an analytical framework which is powered by AI systems, or some kind of a real-time framework where you're able to embed decisions directly into business processes so we can create this kind of real-time enterprise is really going to be the next destination of all this, and, so, that's the problem to solve. And the reality is we have the technology to solve it, and it's been around for a while, but the ability to provide—and this was kind of key that I took from Adam's talk—the simplification of problems, trying to make complex things simple with the ability to ingest data, leave it where it is, deal with the integration overheads. He talked about ETL. I did hear about that. And as an old dude, that kind of rings true to me.

But get to a point where we're at a data-optimization level where we truly can return a great deal of value back to the business. And, so, that seems to be the battle line that needs to be drawn right now in the cloud space. In other words, we're doing lots of things. We can move into serverless technologies, we can build applications more efficiently, allow them to scale more efficiently, we can deal with observability when it deals with CloudOps, and deal with security systems, things like that. That, I think, is the largest problem out there to solve, and I think that really kind of Amazon AWS's focus on that is the right thing to do. So, in other words, we're not focused on net new things that we just made up. We're focused on this problem, and we're going to create innovative solutions to solve this problem. What do you think?

**Tony Witherspoon:**

Yeah, and I think to just double down on that, like with another announcement where you're trying to use machine learning, we have the data, how do we get to make those inferences and things like that. Also, another announcement from Adam was the AWS Supply Chain, which I thought was a really interesting tool as well. So, it's going to go in preview, so I'd love to learn more about that, but you already have data at different levels, different data storage, maybe ERP applications and things like that, but just to kind of give you just like a quick preview from what I saw in the announcement is that with AWS Supply Chain, you can use machine learning so you can make actionable insights.

So, if you're looking at reducing inventory stocks or maybe there's—we had hurricane season in Florida and things like that, try to figure out what the health and wellness and level of inventories in different locations and make those inferences based on that data that you already have would be powerful. Love to see how that integrates with existing ERP and supply chain systems and things of that nature. But for me, that's a level above all the other different AWS services that they had traditionally announced.

**David Linthicum:**

Yeah, but it's all related. So, the AWS service and storage and compute and the middleware services and things like that is foundational for most supply chains, and your ability to put these common processes and tooling on top of it, AI engines, supply chain observability systems is really going to be key to it. And we saw during the pandemic supply chain automation has huge amount of gaps in it that we need to fill, and many times whole economies were stymied because of issues with supply chain. And I think that at the end of the day, we have again, like with data, we have the capabilities to do it.

We just need the tools and techniques and know-how to get it done, and also I think we need the will within the organizations to start moving for the changes that you need to change your core systems to accommodate a real-time and event-driven supply chain system, which is going to have, again dealing with perfect information in terms of inventory, and production, and logistics, and all these things like that. And we've got to figure that out because—and by the way, the businesses that do figure that out are going to accelerate past their competitors because I think it's going to be a key differentiator moving forward. We all love to buy things, but we also want those things delivered on time. So, what about the Werner Vogels keynote? What did you take out of that?

**Tony Witherspoon:**

It started off with a funny little skit, if no one got a chance to see it. One of the things that's interesting, Werner's a pretty good actor. He acted his own little skit, and it started off where he's talking about the world is more asynchronous than it is synchronous. And what I like about Werner, he likes to go back to basics. He likes hitting the key design topics about synchronous, asynchronous, and when you're building applications, you don't want them to be blocking, you need to think about parallelism, latency, and things of that nature.

And, so, he kind of started there, how you build these event-driven architectures and things of that nature. But the thread that he kind of wanted to show you throughout is simulations. And, so, you can do simulations in any number of aspects, and we were just talking about data and supply chain and things of that nature. So, you can make decisions on certain things and you can test them out in real life, which may take a long time, or you may make a decision, maybe the right decision, like how do you make different decisions and try to figure out what's the most optimal.

And, so, his theme at the end, kind of wrapping it all together, is to simulate. Simulate as much as possible because that's going to give you the right answers faster. So, then some of these are just back to basics. Sometimes we're always kind of focused on tactical how we're delivering for clients and things like that. It's always good to kind of take a step back, look at the big picture, because then at that point in time, I was thinking, "Okay, on my projects, where can I use simulations. How can I get better answers? How can I improve the way we're kind of working with our data or building our applications and things of that nature?" Because you can do so much more if you simulate and then just kind of iterate down this path just a little bit differently than if you do just trial and error in real life. He talked about pandemic and kind of like natural disasters and things like that. You can simulate all those things, simulate problems in the supply chain and things of that nature.

**David Linthicum:**

Yeah, I love that way of thinking. It is a bit old school, but I think it's time we kind of look back at some of the fundamentals and how to leverage them to make us more effective moving forward. I love the fact we're looking at things like simulation, which kind of was an art back in the '90s, and kind of fell by the wayside I think as the speed of development took off and really kind of costs came down. And, so, a lot of this testing and simulation systems, the ability to optimize architectures, those were put aside for faster processing or storage almost free and compute almost free and things like that, and we're still dealing with that today but we're going to have to figure out how to write efficient software, sustainability issues, economic issues, efficiency issues, cost

efficiency issues, and I think the fundamentals are where we need to look to make that happen. Anyway, where can people find you on the web, LinkedIn, Twitter?

**Tony Witherspoon:**

Yeah, the only thing I do is LinkedIn. I'm not a big social media person, but you can definitely find me on LinkedIn.

**David Linthicum:**

Yeah, you and me both, brother. All right, if you enjoyed this podcast, make sure to like us, rate us, and subscribe. You can also check out our past episodes including those hosted by my good friend, Mike Kavis. Find out more at [deloittecloudpodcast.com](http://deloittecloudpodcast.com). If you'd like to contact me directly, you can e-mail me at [dlinthicum@deloitte.com](mailto:dlinthicum@deloitte.com). So, until next time, best of luck on your cloud journey. You guys stay safe. Cheers.

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