



For Cloud Professionals, part of the On Cloud Podcast

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Title: The edge-cloud continuum is fueled by flexibility and insight
Description: The cloud space is changing rapidly, and companies need more flexibility than ever to meet their compute needs, from cloud to edge and back. They also need new information to make decisions about how to deploy and use technology in an ever-evolving future landscape. In this episode of the podcast, David Linthicum and guest, AWS's Jeff Barr, discuss how AWS is meeting its customers' needs for new compute and storage technology with flexible options. They also talk about how technology blogs democratize information dissemination, and how that information availability is giving organizations the insight they need to make decisions about an uncertain future. Jeff also shares his predictions and advice about the future of work—giving a salient piece of advice: no matter the circumstances, use all that great technology to constantly keep in touch with actual humans!
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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 Jeff Barr. As Chief Evangelist for Amazon Web Services, Jeff gets to tell the AWS story to audiences all over the world, and Jeff talks, does blogs, records videos and spreads the word via social media and other things. In fact just to give Jeff his accolades and his props, I mean, back in the day when cloud computing was fairly young, he was one of the few people that was writing very thoughtful blogs out there as far as where things were going, and so everybody who's in the cloud space, whether old school, new school or to-be school knows who Jeff is. So, Jeff, tell us what you do during the day at Amazon Web Services.

Jeff Barr:

Well, David, great to be back on your podcast again. It's been way too long. And so the way I like to think about my job is that I get to be the bridge or the conduit between all of our product teams that are building all these awesome products and our customers. And so I can use my tech background to hopefully deeply understand the things that they build and their relevance to customers. Then I can explain that to customers in ways that I would hope would actually be understandable, relevant, and resonate with our customers.

David Linthicum:

Now, I know you don't have a typical day or a typical week, but, typically what do you do? How much time do you spend blogging? How much time do you spend on the phone? How much do you spend on virtual events? I guess not speaking now, flying around like you used to? Just kind of tell us what the week's like.

Jeff Barr:

Well, so at this point I'd say I probably spend around 70 percent of my time blogging, and that is going to be anywhere from meeting with the teams either online, or in those old days of yore was, in person. I spend time using the services and then do my mind map and I write my first draft, I share it. Other activities that keep me busy are attending events online. I've been to multiple virtual events in the last month or two and have actually found them a quite enjoyable way to communicate with audiences. As you said, I do record videos. I actually just spent some time yesterday setting up a new teleprompter app and a teleprompter on top of my GoPro, and quite a bit of time with e-mail and social media. And one of the fun challenges is what I like to call personal scalability where, when you are well-known for doing something, there's so many well intentioned people that reach out and say, "Can you help me with this? Can you do this special thing for me?" And you try and try to do your best at all of those, but somehow you can't always get to every last one of them, and that's a really interesting challenge of being well-known.

David Linthicum:

Yeah, it's almost like you have to do triage when you get requests for a lot of people who have legitimate requests. And the thing is you want to fulfill and I'm kind of wired like this too. I want to help everybody who's reaching out for help, but ultimately have to do triage and figure out where to send them and other things to do and things you've written in the past you can provide them, things like that. I think that's perfectly acceptable. So AWS is kind of known for accelerating lots of services out, so if something seems to be missing, it seems to be something that's satisfied with the new release of services on the platform. So tell us about some of the new Amazon Web Services services.

Jeff Barr:

Let's see. Well, there were two that I spent a lot of energy on the last month or so. The first is a piece of hardware called Snowcone, and Snowcone is this really cool, very rugged device that our customers can use to do edge computing, and edge storage, and data processing, and analytics, and all kinds of interesting intelligence at the edge. So, I just actually was lucky enough to record a really fun video with Bill Vass, who's the VP in charge of that part of AWS. So we launched Snowcone last week. And early this week, we launched a development application called Honeycode that is for customers that aren't writing code as much as they are pointing and clicking and people that are very good with spreadsheets and rows and tables and formulas. They can take those skills and they can actually use them to build apps that they can then share with their colleagues in the organization.

David Linthicum:

So drill down on Snowcone a bit, because I've been getting a lot of inquiries about that. And so what's the use case for it? Where does it sit in the architecture? Is it a device? Is it, does it run on a platform?

Jeff Barr:

So all of the above. It is a compute platform and a storage platform. It can be used in a couple different ways. So we have what we now call the Snow family of devices that started out several years ago with a device called the Snowball, which then grew into the Snowball Edge, and that started out with 50 terabytes of storage, and I think grew to 80 and then to 100 over successive iterations.

David Linthicum:

And for the audience, that was the data transportation system to get information from on-premise systems into your cloud.

Jeff Barr:

Exactly. So the original model was that customers would get one out into the field, they'd load it up with data, send it back to us, then we'd copy that data into the cloud storage destination of their choice, and then over time, it evolved into also being able to do edge processing, so people could run IoT code, they could do data collection out on the factory floor, in the data center. At the top end of the Snow family is an actual truck called the Snowmobile, which is an entire truck full of storage basically, and so when customers need to do massive scale, like exabyte scale, data migration to the cloud, we can dispatch a Snowmobile to them. So at the very small end of the storage range, but still with quite a bit of storage, with 8 terabytes of storage, is the Snowcone. So edge processing, edge storage, situations where the storage and the processing needs to be very, very close to where the data is being generated.

David Linthicum:

So an edge-based device that you guys are providing. That's in essence what it is, and we can do processing, we can store things on it, things like that. So I've been writing and speaking a lot about edge computing, and really it was something that's rather confusing in terms of how it related to cloud computing. A lot of the tech journalists were ill-informed and called it a replacement to cloud computing, but at the end of the day, we're extending the processing back to the edge in instances where we need to have zero latency, where security may dictate it, things like that.

There's a real advantage of having this capability, but the thing is you have to have configuration management, and you have to be able to manage these things from a centralized platform. So if you look at the way IoT is deployed out there with the public cloud providers, and you can tell me if you guys are following this model as well, is you in essence create a replica out on the cloud and it's able to copy itself down to an edge-based device, and that's how you're able to maintain it. And therefore, you have code sync, you have security, everything's kind of taken care of for you instead of building these edge-based systems putting them all over a factory and then trying to figure out how to maintain the code and maintain security going forward. How far off am I?

Jeff Barr:

You're spot on there, and it is a really interesting situation where you want to proliferate these edge devices in such quantities that you don't have the time to really think about the care and feeding of individual devices. You need to deal with them as a fleet rather than as individuals, and so, as you said, often with IoT you start at the core and you create what we call a shadow, which is basically the cloud representation of the state of the device. One thing you said about extending really resonates with me with a lot of what we've done beyond the confines of the cloud, not that the cloud's really confining, but beyond the cloud itself is we really try to make sure that whatever the customer's knowledge and skills they've already built that are applicable in the cloud, that they can actually use those to continue on out at the edge. So for example, the Snowcone device – whatever you know about building EC2 images and launching EC2 instances and the different instance sizes, all that still applies, and in fact, there's an EC2 API endpoint within the device so you can take your command line tools and you can point them at the device and use them as if that device was an endpoint in the cloud.

David Linthicum:

That's very cool. I think that's going to go a long way, because I think people are looking for devices that have native support from the particular cloud provider, and I think it's ultimately something that people are going to be gravitating towards, not just Snowcone itself, but really the core model for what it is. So what's next? Snowplow? Snowdrift? Snowangel?

Jeff Barr:

That remains to be seen. Interestingly enough, people often ask me, and they say, okay, so you're the Chief Evangelist. What is the long-term vision for where any particular thing might be going? And in almost every case, the answer is – the real vision is we still just need to continue to meet the needs of our customers. So you'll often see us launch the first iteration of a new product, a new service, and you'll say, okay, there's clearly a lot of places we could take it from where we started, and we have our own visions of where we'd like to go, but we rely very, very heavily on our customers to get in touch with us and say, okay, we see this, it's pretty cool, however, have you thought about Options A, B, and C to take it even further in a particular direction.

David Linthicum:

Well, going forward, I think the ability to track where cloud computing is going is really kind of a core architectural skill that enterprises need to figure out. So, Jeff, the future of cloud computing and really kind of the emerging innovative patterns that we're seeing in the public cloud providers, is starting to accelerate. We're also seeing things that are very cool and very sophisticated, versus what cloud computing was ten years ago, just basic storage and compute systems. So what's the future at AWS, and what kinds of general patterns are you guys going to follow?

Jeff Barr:

Great question, and to me, the general pattern is we're going to give customers more flexibility. So you think about the fact that we launched AWS in the cloud, a single region, a single instance type. Now we have somewhere around 200 instance types; we've got 20-plus regions, and we've gone from the cloud as the destination, to options such as the Snowcone that we discussed. We've now got, for customers that need to run compute and database in their own data center, we have outposts. So we're giving customers more choice, more options.

It reminds me of the days when I was a teenager. I actually worked in a computer store. This was back in 1976-77. Some of the people walked in and they saw the first microcomputers, the Altair, the IMSAI, the processor technology Sol-20. They looked at those and said, "Oh, these are just these little baby toy things. They'll never amount to anything." But some of us actually got it. We said, okay, we can see where these are going to go, we can see that this is the first step on a really interesting journey, and I think that when you look at anything new, you have to not look at it as a point in time, but more as a vector, effectively, and saying what is the energy behind this and what is the energy that's going to drive it in any particular direction.

David Linthicum:

So blogging, I blog, you blog, I put out I think – boy, four or five blogs a week – and things are going to be interesting going forward. You do such an amazing job in publishing things that are always interesting to your audience, so how are you able to be creative on the fly?

Jeff Barr:

Well, it's really tough, honestly. What I like to do is I have a process that I've evolved over quite some time, and we have a standard document at Amazon called a PRFAQ. That's a combination of a press release and frequently asked questions. And this is the standard document that is the first level definition of any new service. So when any general manager just happens to run into me and say, "Jeff, we're building this really cool thing," I don't ask for a meeting, I don't ask for specs. The agreed upon communication is we will send you the PRFAQ. So by reading the press release, which is really short, it's usually a page and a half at the most, and then going to the detailed FAQs, I'll get about probably 80 percent of what I need to know in order to write the blog post. I'll then take all that information, I'll put it into a mind map to really organize it and kind of level the field, so I can make sure I pay attention to all the different parts of it.

Then I usually let it sit for a bit. I like to think about, okay, how do I place this into AWS history, how do I place this into tech history. And then I always sit down and actually use the service. I love all of our service teams and I have a ton of trust in them, but I always have to actually use that service myself to feel fully legitimate in my blogging. And so I get all that experience and I just sit down, and I generally, once I start writing after getting rid of all my random distractions and all my e-mails and tweets, I will then write each post in generally a single sitting. Usually like three to five hours with just sitting down, taking the screenshots, putting the service through its paces, get the first draft out and then start the review process.

David Linthicum:

So my blogs are 350 to 500 words. Yours are significantly longer.

Jeff Barr:

So I generally try for around 800 to 1,000 at the very, very most. And I get the sense that more is not usually better. One of our Amazon leadership principles is frugality, and I apply frugality to the blog in terms of let's make really good use of our audience time. And I'd rather they read the posts and have that post be clear and concise and give them enough information that they can make a quick decision to start learning more, versus a post that you open up and it's multiple thousands of words and it's part 1 of 4 and you throw it off on a tab and you think I'll get to that at some point. I don't want that to happen. I'd rather have them to be informative and concise and with a real clear call to action.

David Linthicum:

Yeah, and your blogs are excellent, and so keep up the good work. And the thing is, that's some great tips for people out there who want to go off and be a blogger unto themselves. I get that question a ton, certainly within Deloitte and also people who are just trying to up their industry cred. And the reality is that it's a fairly equal playing field out there as far as writing blogs, and so you can get your blog out there whether it's just posted on LinkedIn or something else, but you're able to, in essence, get it out there to the world, and the more you blog, the more skilled you become at it and the more creative and the more you're challenging your own internal thinking.

For me, my process is I listen to clients, and so I'm on client calls 20 hours a week, per se, live calls or listening to different architectural problems that people are going through, things like that. I hear the same thing over and over again, and I start thinking about the solution to the problem. We're running into complexity right now, and people deploying things in multi-cloud and having issues and making those things work and play well together. And then it really comes to where do I think the industry is going and how do I get ahead of it with a solution pattern that's going to meet the problem pattern that's emerging. And sometimes you hit; sometimes you don't, but you're finding you get kind of an instinct based on what you're seeing out there and what's emerging in the market that you become better at calling where things are going. Are you finding the same thing?

Jeff Barr:

Indeed, and I like what you said about the fact that you have to keep on doing it, keep at it and that you can come from nowhere and the first blog post you publish could be a bestseller and all over social media, and I love the fact that you can earn trust with your audience over time, you can build up a great reputation, but there's still room for somebody brand new just to jump in and do something awesome and have that come to the attention of the entire world very quickly.

David Linthicum:

Yeah, it's not like it was 20 years ago when I was writing for PC Magazine and some of the other magazines that are out there. I mean, that's the only way information was disseminated. The internet wasn't as widely adopted as it is now, and people weren't doing RSS feeds and things like that. And so they, in essence, controlled the media and controlled the information. Now it's just an even playing field. Anybody can start a YouTube channel, anybody can go out there and write a blog and put it on a various service that they want to leverage, leverage social media in other ways, and it's exciting for that. Anybody can do a podcast. And so fairly level playing field as far as getting the talent out there and having people be creative and innovative. Anyway, final thoughts on this?

Jeff Barr:

I would agree. And one thing that any of this, like, blogging or developer advocacy, or evangelism, even though you can be an instant success, you also just need to put in the hours and the tens and hundreds of hours over time. And one of the things I love to do besides blogging and being in the middle of tech is gardening and growing things, and one of the things I love about that particular hobby is, no matter how much you kind of look at the plants and give them some water and wish that they'd grow faster, they grow at their own speed, and you just have to give it this constant attention over a long period of time, which I think there's sometimes in our culture, there's the sense that the flash in the pan is the norm. It's usually not. Usually there's this massive period of upfront work and then suddenly it's like where did this person come from? They just jumped out of nowhere. But well, they actually put in a decade getting ready to be whatever just suddenly caught your attention.

David Linthicum:

Yeah, and I think going forward, that's kind of the way of the future. Everybody's allowed to chime in with their own opinions, and I think everybody should have an opinion, everybody should make their opinion known. So we're all working from home now, and for some people, that was a big change, not necessarily for me. What did change is I don't have to live on an airplane as much anymore. I'm sure you experience the same sort of thing. So what are we changing around culture, leveraging technology, and even within ourselves around working at home, and what can you advise people how to do it better?

Jeff Barr:

Well, to me, what I've learned is that I truly love working from home. I had done quite a bit of it before. I was probably at three days-plus a week before, but I really actually enjoy working from home. I find that I'm productive. I do find that you have to be very explicit about reaching out and connecting with your colleagues, and it's a little too easy to get isolated, even for people like me who love to talk to people and get out and talk. It's easy just to retreat a little bit into your own little world and be very happy not to talk to people. And I've noticed that the very few times that we do venture out, and just even when you talk to people at a six-foot distance, there's almost this reticence sometimes just to connect, and it makes me a little bit worried that when we do get back into whatever the world looks like in a year or so, are we going to be actually as eager to just chat with random strangers as we maybe used to be?

David Linthicum:

I think it'll end up snapping back. We have a tendency to kind of resort to our behavior, and humans are social animals, and they like to hang out one to another. Not everybody. I always joke with people that I've been social distancing for the last 30 years, so this is no big whoop for me. But at the end of the day, your ability to become productive anywhere is really what working at home is, and so I always say that my office is in my backpack and I can work at a coffee shop, a restaurant, a hotel lobby. I've done webinars in the middle of the airport, things like that, and I think there's a certain amount of strength that comes from doing that, because you're able to adapt to the needs of the business, your ability to go off and get things done. And I think that one of the things we learned is that people can work at home, or work in remote locations, and the productivity doesn't necessarily fall. In fact, some companies are finding that productivity rises. So you think this is going to be a trend going forward, even when we're back together again? Do you think that remote work is going to be the thing to do? Commercial real estate is going to be not necessarily needed as much anymore?

Jeff Barr:

I think everything's going to change, and we can't quite figure out how just yet. And I keep re-running some of these thoughts through my simulator in my brain, and on the one side, I say, okay, we're all doing well working from home. On the other hand, I know that at the point when we do get the option to go back, that we're each going to need some more space than before in order to maintain good distancing, and organizations – if we're all as wonderful, productive and the economy does come back, organizations are going to prosper and grow. So you put all those factors together and it's hard to quite kind of come up to a solution that says what is the actual future of, to me, like, office space and commercial real estate.

I can look out my home window and I can see the entire city of Seattle, and from my window, I can see at least four construction cranes right now. And you kind of think, okay, what is actually going to happen? And I suspect it won't be any of what we predict, but it'll be really interesting and surprising. And like

you said, we're adjustable, we're adaptable, we'll figure out what the world looks like going forward, and I think the big challenge for everybody is to look more into the future than the past and figure out, okay, the situation has changed, what are my new resources, what can I do now, different, better than I maybe couldn't have done before?

David Linthicum:

Yeah, I think you've got to look at the silver lining. We're also burning less fossil fuel, we're not putting as much carbon out in the environment as we did before, there's no traffic, at least around me and maybe around you. But it's all for the advantage, and I think ultimately we have to take a look at this and recover and thrive and basically figure out how to make it work. So if you enjoyed this podcast, make sure to like and subscribe on iTunes or wherever you get your podcasts. Also check out our past episodes, including the On Cloud podcast hosted by my good friend, Mike Kavis, and his show "Architecting the Cloud," and his book by the same name. and if you'd like to learn more about Deloitte's cloud capabilities, check out DeloitteCloudPodcast.com. And if you'd like to contact me directly, you can reach me at dlinthicum@deloitte.com. So, Jeff, where can they find you on the web?

Jeff Barr:

All right, so you can find me at the AWS News Blog. I'm on Twitter @JeffBarr with two Fs and two Rs. If you hunt down just a little bit, you can probably find my e-mail address, and you can send me Twitter DMs, whatever input channel you'd like. I do my best to get back to everybody. And if I don't in time, try a second time. I never mind a reminder.

David Linthicum:

Yeah, look for Jeff's information out there in his blog and put it in your feed because, I tell you what, it's one of the more thoughtful blogs out there to figure out where things are going, and I've been an avid reader for years. So, Jeff, thank you very much for being on the podcast. Until next time, best of luck with your cloud projects. We'll talk to you guys real soon. You take good care, and everybody be safe.

Operator:

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