

CCS Insight Podcast: Golden Rules for Multicloud Delivery

Bola Rotibi:

Hello and welcome to the CCS Insight podcast. My name is Bola Rotibi and I'm the research director for software development, delivery and developer trends here at CCS Insight. I'm your host for today's discussion on golden rules for multicloud delivery. Joining me today from VMware are Betty Junod, senior director multicloud solutions marketing, and Mark Leake, director, product marketing management business unit. I'm also joined by Clive Howard, who's CTO at Huozhi, a provider of humanitarian fintech platform. Clive is also an associate analyst with CCS Insight. Hello and welcome to you all, to what I believe will be a lively and informative discussion.

The shift of remote work over the past year has had a dramatic impact on cloud migration. From our own 2021 Senior Leadership IT Investment study, where we went out and interviewed over 700 respondents, 45% of business IT workloads now are in the cloud — compared with 38% a year earlier. This shift is expected to accelerate even faster in the next 12 months, with 64% of workloads in the cloud by 2022. There is a recognizable rise in multicloud support, with 55% of businesses having more than one cloud provider. And that's up from 46% in 2020 and 22% in 2019. And when we asked our respondents, on average businesses use two cloud providers, with almost 10% using four platforms. So these numbers point to cloud investment continuing at a rapid pace, with IT leaders being even more bullish for the year ahead; but they also point to a client base embracing choice, with a keen desire for flexibility and best-fitting solution.

So what does this mean for organizations grappling with cloud selection and looking to ensure that they are not burdened by productivity draining complexity, which as we all know is a burden on the IT infrastructure and application systems in many industries, or for many companies? Betty, you have a strong work history in the cloud industry, particularly with past marketing leadership roles in open-source companies like Docker and in solo.io — where I believe you helped expand the ecosystem of cloud-native applications and tools. Your current job involves helping many organizations along their journey to cloud. So can I ask you first what considerations need to be taken into account for navigating the multicloud spectrum?

Betty Junod:

Yeah, thanks Bola. And actually some fun news: as of Monday, I've moved from the cloud solutions team — I'm now on the Tanzu team. I've been thinking about your question a lot recently, and with the statistics you mentioned about the rise in cloud adoption over these last two years, there's a couple of other things. Within IT you managed access in some ways: access for your internal customers to things like servers, data centre space, operating systems, middleware, network switches, et cetera, because those are really expensive things that an individual person couldn't go purchase and put together. It required larger checks and time and expertise. We look at what public cloud and open source has done — it kind of blew all that up.

It completely democratized access to those very expensive and complicated resources for, sometimes, pennies an hour, or in open source to just go and download it and start using it. And then with the race to using more cloud services in these last two years, because we fundamentally needed to just be faster; we look at that in organizations trying to navigate multicloud, there's no going back. The genie's out of the bottle. We have this golden age of IT with an amazing amount of choice across every layer of the

stack, whereas organizations look to navigating that is also changing the way they think about this. What are you managing now? You're not managing access anymore. You cannot stop the access because it's so easily accessible. Anyone can just sign up for an account, log in and go.

So that speed and access is there. As an organization, what are the things we need to manage now? What are the things that are important as we continue to preserve the choice? Because the choice is what gives speed to the organizations and the ability to build better apps for their customers. Because now the entire universe of services are available to build the right functionality, analyse the data you need, get apps to new places. So thinking about, instead of managing access and a physical number of discrete things on a balance sheet it's: what are the higher-level things that the IT organization can provide back? So there's lots of growing discussion around what are the right guardrails, how we can curate services, governance, optimize use, to help people get more value out of the services that they want to consume.

Bola Rotibi:

There are some really good points there. Optimize use, curate, guardrails — how do you manage things? That's quite a nice list for organizations to start thinking about. I'd like to bring in Mark, as you are responsible for managing a number of cross-portfolio programmes within the cloud management business unit including software as a service, go to market, field enablement, analysis rations. Are there any other starting points or specific insights you'd like to add to Betty's really good starting points, from a list point of perspective?

Mark Leake:

It's interesting; I had a CMO once who used to talk about how cloud, when it first became a concept some years ago, always started with an executive on a cross-country flight reaching for the inflight magazine, and there would be a story about cloud and IT moving to cloud. That senior person, CEO for example, would come back the next day on Monday and say, "I want to go to cloud. We got to go to cloud." And all of a sudden, the IT organization, the CIO, everybody is now scrambling to figure out how to get to cloud. And cloud was conceived as a destination. "I just got to get to cloud. I got to get to public cloud." The issue, of course, is that it isn't that easy.

Cloud is not a destination, as we've found out. Cloud is an ongoing set of decisions about what you do with your applications, where you build them, where you run them, and how you make that kind of operational decision on an ongoing daily basis. So you can't just get to cloud and everything is good. You have to get to cloud, and running cloud, and it becomes an ongoing daily reality for our customers. And so getting there is tricky and challenging. Many IT teams have found themselves in the last few years kind of stuck between a rock and a hard place on this. The executives want to go to cloud, but the owners of applications — to a certain extent — are afraid of change. They're not necessarily sure: "Do I want to change, do I want to restructure, or do I want to re-architect, re-platform my applications?"

How do I move them, migrate them to cloud? When you think about the considerations and the starting points for an organization, it's probably best to look at it not as, "OK, I'm going to move everything to cloud," but start with a baselining exercise. I think it's a primary consideration that we would recommend. And this is where teams do an automated scan in their environments, or existing environments, for things such as performance and connectivity, the availability of their applications and workloads, capacity issues and requirements, as well as the cost of moving workloads to the cloud. You have to take all these considerations as part of this baselining exercise. That's because moving your

workloads to the public cloud has to be context, where it's not just moving the applications of workloads by themselves, but understanding what they impact elsewhere in your organization.

What are they talking to? What's the connectivity between the various components of your applications, et cetera? And so by doing this baselining exercise first, then you can make smart fact-based decisions about what you should be doing and what your cloud adoption strategy should be. Fundamentally it all really starts with business strategy. There are three kinds of transformational strategy that are taking place. We talked about what's happened over the last year and a half, two years, with the Covid pandemic accelerating a lot of transformations from a business perspective — customers are looking at their business strategies. They're trying to understand "How does the pandemic change things? What does the new reality in which I'm operating look like?"

They're then looking at their application portfolios, because their business processes are instantiated through applications, and they're thinking "What do I do to rationalize, consolidate and modernize my portfolio?" You have to make decisions across, again, the five Rs of rehosting, re-architecting, re-platforming your application portfolio — and then that leads to decisions around cloud. So cloud decisions about where those applications reside, and then in the context of making those decisions do that baselining exercise first to understand what the implications and ramifications are of making migration decisions to adoption of multicloud.

Bola Rotibi:

Yeah. Once again, I like that baselining exercise and — it's almost like a starting point, really, especially with an organization that's had quite a lot of implementation, lots of solutions already out there and looking to migrate that. Clive, as an active practitioner, you're on the implementation front line, and you've heard from both Betty and Mark; I'd be interested to understand: how does your experience gel with the suggestions that they are making and what can you add to it?

Clive Howard:

Sure, thanks, Bola. I mean, building on Mark's previous comments, perhaps my number-one consideration with regards to how one looks at cloud generally, and then obviously multicloud as part of that — and it may seem rather obvious, but I think it's often lost in, as Mark said, the mad scramble just to get into the cloud — is that people sometimes don't really think beforehand. Where do they see the value in cloud to their organization? They just try and get some stuff into the cloud, and then they sit back and it hasn't necessarily generated the right value for their business, or the right kind of value, or the most value that it could.

Then they have to do a rethink, and we see this quite often, people having to go back. In the early days, a lot of people thought "Well, if I just get in cloud": it was all about being cheap. Or it's cheaper than the data centre. And they discovered that wasn't necessarily true, or even the best reason to move. So the reasons can be different. The value can be different from organization to organization. But I think you do need to take that high-level strategic view of "What does cloud do for me as a business?". And for some, that's going to mean one type of usage with regards to multicloud and the multicloud spectrum.

And when we talk about the multicloud spectrum, what we tend to be talking about is very much... Build virtual specific cloud at one end of the spectrum, and at the other end you have more of a cloud-agnostic type of platform that you can then deploy on multiple clouds and build to that, and you get a lot of portability and so on. But I think in order to define where you are in that spectrum, you need to

look at "What are my priorities as an organization?", and then decide, "Is the value in embracing a specific cloud and all its proprietary services and products, or is the value in the scalability or ability to be global, and portability is high up there as the number-one area of value that I'm going to get from doing this."

Then you can build a strategy around that. There's no right or wrong in the spectrum. Everyone's going to fall somewhere in the spectrum, but I think too many people set about their journey without, in fact, as Mark said, "Oh, it's that destination". They don't even really think about the destination. They just think "Oh, I just get on the cloud and then it'll be fine". But as it's already been said, it's so complicated now with regards to clouds and what they offer and the ways they can be used that you really need some high-level strategic goal that helps you identify where that value is, so that when all these questions arise — and there will be many of them — you have something on which to base the answer. Otherwise, you're just going to get bogged down at every little twist and turn in the road.

Bola Rotibi:

It's interesting, actually, because from everyone's directions — there's been lots of really great points put forward — I think there's a learning theme in this, which I would say is: basically, try and understand what it is that you want to get from the different clouds that are out there, baseline your application portfolio, your business, your priorities. Think about what you want to actually, kind of, optimize; what are the choices that you need to make? And does it matter to you? It seems like there's this current thing that, almost as a starting point, is: get an idea of what it is that you want to achieve, but also where you are. Would you agree with that, guys? I think that's something that we can all share for organizations. It's like Clive said, a lot of people tend to want to rush into things and actually, taking time to plan, taking time to take stock will get you the best approach, especially with a multicloud story and strategy that works for the organization. Would you say that?

Betty Junod:

Yeah, well, this is something that I always like to do just generally. First start with why, before you just rush into "I need to get to cloud" or "I need to do this or that". Taking a step back and having the organization start with why — and this goes back to Clive's point on what you are trying to achieve. There's an outcome that your organization is looking for. So hone in on the why and, depending on the size of organization, they could have hundreds, if not thousands, of apps. And their business strategy that's powering those applications: that itself is not even a monolith. Because there could be multiple product lines, multiple lines of business, new lines of business spinning up, things being taken to new markets, and/or certain things being retired. Each one of those has different implications on the types of infrastructure and application service that they need to keep hitting their business targets.

Bola Rotibi:

Absolutely. This takes us quite nicely onto the next one. So we've made the choice of going a multicloud approach; how does one go about managing a multicloud environment, and what do you think are the key attributes to consider? Mark, I'd be quite interested to hear what you think about that, because you focus quite a lot on that baselining exercise. What's next, once people have decided?

Mark Leake:

Sure; once they've decided where those workloads and where those applications are going to reside, they have to recognize that it is a multicloud environment. There are various options. And those include not just public cloud, clearly, but also your on-premises data centres that deliver self-service access and turn virtualized resources into services that can be consumed, again through self-service, to your stakeholders. And that's really a private cloud. And of course, there's a hybrid cloud model where you can have a consistent infrastructure, as well as consistent operational environment. We have that at VMware in the VMC on AWS, for example, and other areas and other vendors have similar kinds of hybrid cloud environment as well. So there's a range of options, whether it's private or public, native-public or hybrid, et cetera. And of course, there are also third-party providers that you can have hosted services on.

So you have to look at that full range of capabilities and make your decisions about where those workloads and applications reside based on the specific capabilities of the workload. The application: is it a consumer-facing application? Is it something as back-office processing? Does it make more sense to have that on premises, as opposed to in the public cloud? Putting that part aside the question is, in that context — that's a very complex, complex environment. The world just gets ever-more complex, right? The way that you look at your workloads and applications on-premises versus a public cloud from one provider versus another can be very different. The way that they've set up the computing, the networking, the security policies, who has access to those things. There are just so many different objects and different rules and policies and procedures in this soup, this really complex soup, of managing this whole thing.

Customers are increasingly looking at that and saying, "OK, how do I get my arms around this whole thing? How do I get that holistic visibility into that?" And we think that to do that, you really do need to elevate the way you approach it so that it's not ad hoc, but much more thoughtful and prescriptive, and really put into place a cloud operating model that cuts across all those different cloud types and environments. That's what allows you to have a consistent operational viewpoint and framework to make, again, those ongoing decisions about where you place your workloads. Because cloud is not a destination, it's an ongoing decision process that you make on daily basis. So an operational model is critical to that, and the management capabilities around things such as performance, security, cost management, and automated delivery of those applications and workloads are critical.

Those are really the four key critical capabilities: understanding the cost of what you're doing in the public, private or hybrid cloud. Where are you spending those resources, who is spending them? Can you allocate the spending on public cloud to the right providers? Are you maximizing the efficiency of the resources that you're consuming? Can you compare the cost of earning a workload on-premises versus the public cloud to make the right decision, from a cost basis, for example, of where to place that workload? All these things are just on the cost side. Even around cost, there's a governance, capability and functionality. You need to put guardrails and compliance and manage that across all the various cloud accounts that your organization might have, which could be hundreds or thousands of cloud accounts across multiple cloud providers.

And that's just from a cost management perspective. The performance of those workloads, again on-premises or in the public cloud: are they secure and are they operating efficiently? So performance, security, cost governance, all these capabilities are critical and need to be put into an operational framework that brings not just the technologies that support the kind of management solutions that we would provide, for example, but also with the people and the processes that run those different kinds of

management capability and run the operational environment. So it's a complex thing, and you really have to think about it smartly and put in place an operational model to run that successfully.

Bola Rotibi:

That strikes as having a level of discipline to ensure that there's a consistency in your approach, which I think is really important. Clive, Mark talks about some of the features around security, performance, governance, cost, especially, and ensuring that it's effective. In your line of work, are these attributes that you look for as you think about supporting multicloud?

Clive Howard:

Yeah, I think they're all good. They're all excellent points and certainly all things that one needs to think about — especially in terms of the hands-on management of the environment or environments themselves, I would say. I like the idea of having an operating model to deal with that. I think that as part of forming such an operating model, one maybe needs to go up a level and think about asking a bunch of why questions and coming up with answers to those. So for example, you can say to developers, "Here is a set of services that we have defined that you can use".

The catalogue of services, especially in a multicloud situation, is just growing by the day, literally. And somebody needs to say, "Well, OK, which are the ones we are going to use?". Now, some organizations take a bit more of a laid-back approach and it's a bit more of a free-for-all. But going forward, I think organizations are going to want to define what those service are. Equally, some of the other considerations — for example, "why do we put this on this cloud as opposed to putting it on this cloud?" — you need to define some kind of framework around that that enables you to answer those questions. So that when someone says, "OK, we're going to build new application X. Well, why are we putting that here as opposed to there? Or if we're going to, at what point do we, if portability is an issue, perhaps, then at what point do we move from here to there?".

I think you need to be thoughtful about these things in advance as much as possible. So that, again, when the many questions come up... And I think the one thing certainly I've discovered about cloud is that there is always a lot of questions. It's not like many sort of platforms of the past where there's the platform, you know what you're buying pretty much at the beginning, you know there'll be a few kind of tweaks and upgrades as you go, but largely, you know what you've got and you can define everything up front, and then you can sit there and go, "OK, we're all good". With this, as I say, you could be redefining this on an almost daily basis.

So you need to have some kind of framework in place by which you are going to make these answers. So when it's an application and architects are saying, "Well, what services are we going to use?" or developers are saying, "What services are going to use?" or when operations are thinking, "Where are we going to deploy this cloud or this cloud?", you've got something to base that on and you're not just having to wing it every time these questions come up. Otherwise, I think over time you're going to dig yourself some very big holes. In the development world, obviously you talk about technical debt. For people who know what that means, this is kind of like technical debt at a massive, infrastructure kind of scale. Unless you think about these things, you're going to have stuff everywhere, and it's going to just get very messy and very expensive. And, probably, the value from multicloud is going to fall away quite quickly. So I think that would be my advice with regards to things to think about once you decide to go down a multicloud route.

Bola Rotibi:

OK, those are really good points, Clive and Mark. And now Betty, bringing your experience of talking to a lot of organizations, so bringing us onto the next section: what are the practicalities for delivering workloads across multiple cloud environments and what are the pitfalls to avoid? Because we've heard Clive and Mark talk about the attributes to consider. What do people do in the real world when you speak to them? I'd love to get your ideas.

Betty Junod:

Yeah, if I think about some of the recent customer conversations I've had when it comes to application delivery across multiple clouds and what the practicalities are, it is an app-by-app case, and it's also back to fit-for-purpose. So am I really, as part my overall application workload, going to have some services running in different clouds, because I want to use some of those capabilities? I'm going to have some data processing happening here, and it's then going to push the results of that into my core application, which is actually running somewhere else. Is that the case? Do I really want more of a portability type of thing, where I want to stamp out the same application, be able to deploy and scale that out across multiple clouds, because I'm trying to hit some global access and scale?

Again, it goes back to thinking about it from the application point of view and then taking it one by one in that sense. And for each one of those, the discussion will be around what level of standardization you need and where. Because if you're really looking for the app to run exactly the same everywhere, regardless of where the landing zone is — be that a different cloud, on-premises, footprint — that has different implications around your infrastructure standardization than something else, where you may primarily deploy an application in one cloud, but then consume some services from different clouds. So I think the big thing is multicloud, while vendors like ourselves and industry experts, analysts and such, we all have slightly different definitions on what we say is multicloud.

I think the essence of multicloud is: it's how the customer defines it for themselves, and how they want to consume those. The most interesting point that I heard recently was in a discussion with the CTO of S&P Global. In their journey to cloud, even though they started primarily with one provider, one thing they did is install a multicloud mind-set. So instead of thinking about the capabilities they need from like, "Hey, we have VMware and AWS's primary providers" they said, "We have this application for this line of business team that they need to get out. Let's focus on the capabilities that the team needs, and then evaluate the ecosystem for those capabilities" — and then be able to pull in the right vendors across a multicloud ecosystem, and look at what they have and how can they use that to tap into those.

It's a slightly different mind-set. So those are things that are really important. And then thinking about: at which layer do you present or standardize? Another customer that I spoke to recently pretty much has kind of a free-for-all. They let their teams decide which cloud and which services they need, to build the right service for their customer. But what they've done is they standardize at the service catalogue layer. So what they do is say, "Tell me what you need, then we'll also be part of that vetting and evaluation process, and then we'll curate those into the service catalogue". What that allows IT to do is things like add the appropriate policies and such that they need, so that your developers or data scientists don't have to worry about all the other infrastructure configuration stuff because that's not their focus area. They want to just get to building models or writing code.

Bola Rotibi:

I like the fact that you actually mentioned some of the organizations out there. I mean, one of the things I've seen that's been really important is skills, trading support and — I think Mark actually mentioned this early on — making sure that people are able to see what is available as well. And that's something that we see in terms of a central place to access some of the solutions and some of the features that others have done, whether that's multicloud best practices.

That's often found to be really useful to propagating it within the organization and getting it adopted well and in a consistent way. I know I've seen that from some organizations that I've spoken to. I think it's something that once again, Mark mentioned, about the governance model: making sure that there is good visibility in terms of what there is, in terms of tunneling into the management and all this kind of stuff — that there is a consistency. And that's something that you've all talked about. Whatever approach you take is actually ensuring that there is some level of visibility. I mean, a lot of times we talk about the top word of observability, but I think no matter whether it's a single cloud or a multicloud, you want to be able to manage that consistently, which is great.

Now we're coming to the end of the discussion and it's been a great conversation, guys, I've very much enjoyed it and I think there's been a lot of great insights for our listeners. Earlier this October, CCS Insight held its Predictions event, aptly named Predictions for 2022 and Beyond. It was a virtual event, so listeners can still access the keynote sessions and industry interviews on demand. One of the things I want to ask, in the absence of a crystal ball or a time machine: what one prediction would you like to offer in the delivery of multicloud services? I'm going to go to Mark. I'd be interested in what's your one prediction.

Mark Leake:

I think I have a very obvious crystal ball, because I think it's going to be stating the obvious, but we're certainly going to see more AI and ML capabilities brought in to help navigate the complexity of the multicloud world, ensure better decisions about "Where do I put my application and how do I run it, and how do I optimize it?" from all the different perspectives I was talking about; performance, security, compliance and cost, et cetera. And even in our own portfolio, we're doing that, building that into things like storage optimization across clouds and workload placement within your available cloud. So AI and ML, it's already here. Vendors are building it in, but there's just going to be more and more and more there. A bit of stating the obvious, but your listeners really need to be looking at that and who's providing those kinds of capability in their solutions.

Bola Rotibi:

Clive, what's your one prediction?

Clive Howard:

That was a good one. I think one of the things, and it depends how far out we're going with our prediction, but I think one of the things we're going to see is a change in the thinking and the mind-set. And here I'm going to look more at the development side of things, obviously coming from that myself, and we cover software development primarily in our part of CCS Insight. So I think from the development side, we're going to see a lot more people, especially architects, really embrace and understand what cloud really means and what multicloud really means.

And I think out of that, we're going to see some architectures for applications going forward that really are able to embrace multicloud in smarter ways than I think we are seeing at the moment. I think at the moment, people look at multicloud in a kind of obvious way in terms of what it can do for them. But I think in future, people will be much more sophisticated in their approach to multicloud. And as I say, architect apps from day one to multicloud models. That, I think, will be interesting and create some much more powerful applications that are really able to leverage across clouds.

Bola Rotibi:

Excellent. And last but not least, Betty, have you got a prediction for our audience?

Betty Junod:

Yes, I was going to say edge, in that the cloud is now increasingly on-premises and smaller. But in the last month I feel like everybody's made some sort of edge security announcement. The cloud is really a state of mind. Back to Mark's earlier point, it's not a singular location and it's not a singular vendor. With things increasingly more distributed and things getting smaller — centralized things getting bigger, things at the edge getting smaller — but the fact that they do fundamentally need to all be interconnected, I think that will be an interesting... How are you managing state data and things across that landscape? Well, I think that's going to be where things get really interesting.

Bola Rotibi:

Well, I think those are three pretty good predictions; and all we need to do is fast-forward, come back in a year, maybe have this conversation again in a year's time and see how well they hold out, which will be brilliant.

Betty Junod:

Place some bets.

Bola Rotibi:

Exactly, place your bets now! OK, well, we are actually now coming to the end of our conversation and discussion, which, as I said, has been really great. I want to ask everybody to think about one thing that you would like the listener to take away from this discussion, because we've talked about lots of really important concepts in terms of what listeners need to think about as a starting point, the attributes they need to consider and the pitfalls to avoid. And we've even now mentioned predictions, so that could help organizations strategize and think about the future and what they need to put in place to get to that. But it'd be interesting if you could all give me one sentence that really you'd like the listener to take away, if there's one thing they take away from this conversation. So Betty, I'm going to ask you first.

Betty Junod:

I will say, key takeaway: in your transition to a cloud mind-set, multicloud strategy, rethink what you think you need, what is critical, optional, and don't care in the landscape of things you need to control and manage. That's really the crux of the pivot in reshaping how you manage and operate in an increasingly heterogeneous environment.

Bola Rotibi:

That's a good one. That's a really good one. Clive, what would you say?

Clive Howard:

As we've already discussed previously, I would say to people that — despite the fact that speed is the thing right now, everybody wants to go fast — I think people do need to maybe take a moment and be thoughtful about how they're going to use cloud, especially the complexities of multicloud. Just think about that for a moment before diving in. Otherwise, I think they're going to potentially have some regrets about some of their early forays into cloud.

Bola Rotibi:

OK. And Mark, would you like to add yours?

Mark Leake:

Sure. I just want to emphasize the point I made a couple of times, which is that cloud is not a destination. It's not a single vendor or collection of vendors. It really is these kinds of ongoing operational decision about: "I have my workloads, I have my applications. They need to reside in a cloud, because everything resides in a cloud today. And I have to figure out what's the right cloud for the right application workload". To make those decisions, you have to understand: who the providers of the services are; the consumers of those cloud services; what's the agreement; the SLAs between them put in place; again, the performance, security, compliance, governance, and cost management; the critical capabilities to operationalize that. Decisions about what multicloud environments you're going to be using. So think of it that way. It really requires a cloud operating model.

Bola Rotibi:

Absolutely. I would just like to add one thing, which I don't think anyone's mentioned, but we've all mentioned in our own different ways: it can be a challenging choice and with it comes some complexity. So one of the things I would add to that is getting help, because one shouldn't necessarily do all this on their own. And organizations should absolutely look from a position of strength, but choosing a partner to take you through that, and getting that support is actually quite important as well.

So on that note, I'd like to conclude the conversation and I'd like to say a big thank you to Betty, Clive and Mark for being my guests on what has been an absolutely enjoyable discussion. I think we have learned some great golden rules for multicloud success. To our audience, I'd like to point them in the direction of some content we've written about this, especially on our website, ccsinsight.com, where they can get information and content about the keys that unlock multicloud success, which will help add to their deliberations around multicloud delivery. Thank you very much, everyone. Until the next time we meet.