



The Deloitte On Cloud Podcast

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Title: Reducing the pain of multi-cloud management, now and in the future

Description: Multi-cloud is here to stay, but for all its benefits there are hefty challenges too, such as complexity, heterogeneity, and inconsistent operations. In this podcast, David Linthicum talks with VMware's Richard Munro about the many challenges of multi-cloud and how to solve them – now and in the future. Richard's take is that right now, companies need to use cross-cloud services for more consistency. The future will be about edge computing, better data management, and decentralization.

Duration: 00:26:38

David Linthicum:

Welcome back to the On Cloud podcast. Today on the show I am joined by Richard Munro, Director, Global Cloud Application Strategy, and also directly from VMware Explore where I met him. How're you doing, Richard?

Richard Munro:

I'm doing really, really good. It's great to be talking to you again so soon, David.

David Linthicum:

Yeah. Thank you for being on the podcast. We do this little exchange where if I'm on his show, he has to be on my show. We will talk bad about him if he doesn't do that, so here he is, and I really—had a really good time and learned a lot at Explore. I'm usually not at a lot of vendor shows, but the ones I'm at, they really kind of nail the message, and I was really kind of impressed with the fact that VMware as a company seems to be homing in on the next generation market space as to where things are going. But before we get into that, tell us a little bit more about yourself. What do you do at VMware? You live in the UK. How did you get into VMware, and what do you do in your daily job?

Richard Munro:

Yeah, sure, so, my background is technical. Went through pretty much every job there is in IT and a few in the wings like project management and enterprise architecture. So I was technology strategy director for a global systems integrator, and I really liked what VMware was providing. I liked the ideas around abstraction and simplification. I saw it as an empowering capability. And of course, cloud was just arriving at the time as well, and I felt passionately that the future was going to be cloud based, and, so, I joined VMware. And, so what I do now, in fact what I've done for a number of years, I feel extremely privileged to be honest with you.

I speak to customers and partners all around the world on a daily basis, and, put simply, even as the transformation has evolved from digital transformation, cloud transformation, apps transformation—all the buzzwords we've been through—there's always these wonderful technologies and these incredible opinions voiced by so many people, and I just get to sit with customers, discuss what they're trying to do, discuss what has worked, what hasn't worked, as we try and help each other and learn, and then make sure that we take those learnings back into the business so that we evolve our strategy and our services and solutions to make sure that not only can we deliver the visionary element of where our customers are trying to go, but that we can deliver those things to them in a pragmatic way. And that's where I really sit. It's kind of in the middle of—if you imagine a triangle of customers, VMware strategy, and industry evolution—I sit myself right in the middle of that and try and make sense of it all, for better or for worse.

David Linthicum:

That's a great place to be because you're gathering lots of data points. I do the same thing. I couldn't do my job if I wasn't dealing with clients, people had real problems to solve, things like that, and it sounds like you're doing exactly the same thing and doing the evangelism and product strategy and kind of taking things to the next level. So, at the conference, I could not go ten feet without reading multi-cloud. It was on everything—t-shirts, people, booths, all these sorts of things. And the reality is that the majority of the people there were looking for multi-cloud-based solutions. And it's funny that they're not necessarily seeking those solutions within clouds. They're looking for things that exist in-between the various cloud providers and allow them to leverage those cloud providers in much more pragmatic and useful ways. So, the rise of multi-cloud is happening right now. What do you see as the challenges it creates within the enterprises?

Richard Munro:

Yeah, well it's a really interesting take because you're right, everyone was looking for kind of multi-cloud solution answers, but the interesting thing is I'm not sure all of them knew when they arrived that's what they were looking for. So, we kind of have across the kind of customer base, there are very mature customers who are planning very deliberately for their multi-cloud state and future. There are still some customers who are saying maybe we'll use one cloud or something. But actually, I think the majority have started to undergo this cloud transformation journey, and what's happening is they're hitting issues, and they're looking at everything in the book of these fantastic cloud services and saying, "Is this it? I'm getting all these benefits, sure, but I'm getting all these challenges, as well." And just looking for some way to kind of get the benefits without so many of the challenges and to be able to maintain a degree of control that they need over those environments, a degree of consistency over their different cloud environments to simplify things and make them more effective.

And the answer to those things is embracing the world of multi-cloud, saying, "Look, this is where I am. It is a multi-cloud world. I am going to be using multi-cloud services." And when you recognize that fact, then you can kind of immediately start coming around to see the benefits. So, I'm not sure that many of that audience came there thinking, "Oh, I need a multi-cloud solution." But as they looked to the kinds of challenges that are being solved for now, with the announcements and the solutions and services that we're updating, I think they were saying, "Oh hey, I've got that problem. Now I think about it, that's the exact problem that we've got and that's why we're going so slow on cloud migration, or we have this real problem of visibility and lack of collaboration between our lines of business and my IT group or something." So, when you look at those, at what's being solved, it becomes easier, I think, for a lot of customers to kind of realize during those few days that, "Wow, no, tackling this multi-cloud thing is actually the answer to even my single cloud problems." So, it's a very interesting week and it's a very interesting time of maturity in that market.

David Linthicum:

Yeah, and there seems to be two types of enterprises out there embracing multi-cloud: those that see it coming and those that didn't see it coming. I always say that multi-cloud's going to happen to you whether you like it or not. It's very much like the rise of shadow IT and the use of cloud services, 20 years ago even, the rise of SaaS and all these things. And whether IT liked it or not, people are going to leverage whatever best-of-breed services that's going to allow them to become the most innovative and get the most bang for the buck in how they're doing something. They're not going to allow themselves to use substandard tools, or at least tools that aren't necessarily meeting their requirements.

So, looking at best-of-breed services, we have to expose ourselves to all sorts of cloud services, and even though we're able to find 80 percent of the cloud services that are the right services for our applications in a single cloud provider, there's that 20 percent that's going to occur on the other providers, and we can't push back on them going for the other 20 percent, because that may be the secret sauce they need to be—to create the innovative things that changes the company. And I think that's why we're kind of moving into multi-cloud, and it's something that's going to happen to you. Either you're going to plan for it or you're not, and I think people were showing up at the conference really kind of looking to figure out how to plan for it and what technologies are going to be key for them to partner to enable them to be successful in moving this and dealing with the problems that are rising out of multi-cloud. And its complexity, heterogeneity, operational challenges, security challenges, all these things that we need to figure out how to solve specifically for these enterprises. So, what is the VMware multi-cloud strategy and what are you specifically finding in the market space?

Richard Munro:

I mean, firstly just to touch on the point you so eloquently made, I think one of the reasons—and there is certainly legitimate drivers around this that people maybe look at multi-cloud is this whole risk of being locked into services. We're all familiar with that story. We know the pros and the cons. But the multi-cloud reality is because, actually, a much worse risk is being locked out of any of these services. So, VMware strategy is not about saying, "Look, can we pick the lowest common denominator, can we dumb the things down so that you can go anywhere?" Because that would imply that you're not getting the best out of them or that we prefer that you put your eggs in this basket, and then maybe you can do a few things over there.

Our vision that we've been building for a number of years is actually all of these services are very good, and you know what, I'm going to say including our own. So, our goal has always been to say any customer that really wants to extract the maximum value out of the availability of these new cloud services and, solutions on the market, and, indeed, the applications and things that reside on top of them, we need to help them to be able to use any of them at any time and not be faced with a huge list of constraints and challenges about, "Yeah, but we're not really set up to use that one."

So, we want people to be able to use any cloud, any application framework anywhere. We've had this slogan for a few years of any, any, any, and it's any app, any cloud, any user. But that's really been the philosophy of where we started to recognize that the future was going to be multi-cloud, and we determined right from the off, that, okay, in the data center, we helped customers to be able to use any data center technology that was right for them. So, why don't we do the same thing for multi-cloud? And it's a bigger challenge, and it's a multi-year challenge, and it has some added dimensions because as well as clouds, you've got applications, and security, and data. So, there's a whole bunch of layers that go onto this multi-cloud state. But you know what, that's what we've been building for, and it's kind of reaching maturity level where we're thrilled to share our progress and where customers are now looking for exactly solutions to those problems.

David Linthicum:

Yeah, and you seem to have timed the market well because, at the same time, there's a huge shift in kind of understanding where the cloud is moving now or moving up to this other layer of abstraction or this layer of—logical layer of things that operates above the various hyperscalers, and even traditional legacy systems and IOT-based edge systems are inclusive of that as well. So, in other words, it's becoming—and this is a term I've used a few times—multi-cloud is really not about the cloud. It's about the ability to put a layer of technology that's able to facilitate the successful operation of all these various points of technology usage, and it could be hyperscalers, or it could be legacy systems and things like that, manage the interaction, manage the operations, manage the ability to use them more strategically. And the first thing is kind of removing the redundancy.

In other words, instead of having three different security systems, or three different operating systems, or three different governance systems because you're using natively within those three different environments, the ability to find single cross-cloud services that are able to solve the problem once, and, therefore, we're not recreating services and have to maintain skills around to operate those services. And then, getting into the overcomplexity and over-heterogeneity of these things which is going to be an operational challenge and a security challenge. So, enterprises need to kind of morph in this direction. So, how are you seeing enterprises morphing toward multi-cloud and what are they focused on? Are they seeing the super cloud, the meta-cloud, these cross-cloud services as the next generation of the cloud or are they looking at tactical solutions?

Richard Munro:

So, I think it's a mix. I remember when we first came up with this concept of dual-vendor firewalls. You remember that many years ago? And the recommendation was, "Hey, what if one firewall has an issue? You want a second firewall in there." But what I really remember about that is it quite often worsened the security posture of many organizations, because what they'd done is they'd added complexity. So, they were trying to make changes instead of over one distinct set of firewalls, now they had to handle two, and they had to handle the interoperability between those things. And if we think about that cloud landscape, it's the same thing. If you're adding all these complexities, sure you can do all these great things, but if you want to go fast, if you want to really reap the benefit of those environments, then you need a degree of consistency in certain stages. Now, I'm not talking single pane of glass. I've never been a fan of the concept of single pane of glass. That would require us to go down that lowest common denominator approach, but you do need consistency in certain areas.

If your developer team are working on a project and the destinations are perhaps different cloud environments for different components of the application that they're building, you don't want them to have a completely different set of tools, a completely different process for pushing that application out to those clouds, but neither do you necessarily want to dumb the application down so that it can be installed anywhere, but you're just missing all the advanced features. Neither of those things works. What you need is consistency in how they can target, how they can deploy to those environments, how your software supply chain is secured so developers can just push, and through a system of guardrails and automation, you can then handle that that application might go to this cloud, or that cloud, or wherever it is it needs to be. We need consistency in our security policies. We need consistency in our observability. If you're in a multi-cloud state, your financial transparency can go bad really, really fast. And financial transparency is way more than what it was when IT was a cost base, because now your business models are driven by your utilization of these technology services.

And, so it's really important. It's no longer just a case of I spend this much money on that, and I need to know that I'm spending that much money on that. It might represent a cost of sale, so you might be doing revenue versus cost of sale analysis. It's really important to be able to have unified observability, unified optimization. The risks of silos and fiefdoms, if you don't go for this consistency of access, consistency of security, and, so, on, can really stop people in their tracks. So, even as they're trying to use the best technology, taking that siloed approach is going to slow you down. Everything you try and do is going to be beset by the technical exception process or trying to go through the challenges of working across different teams. And cross-cloud services is really about having that set of solutions that can take away those common issues, bring the consistency where it matters, and enable you to take advantage of whatever it is that you need from any service or solution.

David Linthicum:

Yeah, I think people look at these things, and they think they're introducing another layer of technology—I don't think it's doing that. At the end of the day, we're dealing with abstraction and automation, which is removing the complexity of the lower layers, and you're consuming those things through unified interfaces and the same logical framework. And I think there's something to be said about that because if we're able to simplify that, then that makes these services much more useful. I mean, people—as I talk to them—say is this going to abstract the hyperscalers away from the cloud, and we're going to use this other super cloud or meta-cloud services instead of the hyperscale services? Absolutely not. This is about leveraging the same services in a different way, in some sort of a consistent way where we are removing the operational complexity and are able to automate things that's able to abstract these services. And that's going to be key to all of this.

So, moving forward, this is not necessarily that much of a change. This is about enabling the same sort of technologies in different ways, and, so, we're enabling the technology we have. This is something that enterprises are going to have to get good at, and ultimately this is where the challenge is going to occur in deploying things to multi-cloud. So, what are you talking about at VMware now in terms of how you're addressing these problems and what things are on your radar screen that really excite you, not only in the VMware world or the market in general, and where should enterprises be looking right now?

Richard Munro:

So, I think enterprises should be absolutely looking at this concept of cross-cloud services. Obviously, VMware's focus is very much on them. It's an exciting time internally because whilst we've been building these—we've been building toward this for a while. So one example, our cloud management tool for your on-premises environments was different to our cloud management tool for public cloud environments. And we're now at a stage of maturity in the industry where, not only are we bringing those things together because they're all just clouds, but what's even more interesting for me is that we're starting to realize, just like customers will realize, the benefits of using these cross-cloud services to aggregate and improve access. The challenge is over things like cost visibility over your environment. When you're thinking about how's my management—what's my management tool doing, well it's telling me what my resources are, where they are, how much they cost, what state they're in, that kind of thing.

And the challenges in the application landscape now that applications are identities of their own more than that thing running on infrastructure, the challenge is their applications are the same. So, we are not just evolving to bring the products and services together to create this unified visibility, but we're also really rethinking about how we can gain cost benefits where the same problems can be applied to applications, to data, to machine learning, to security. And that's an incredibly powerful thing, and for me it's really, really exciting, because in the early days it's always, "Is this the right path we should go, is it not?" But when you start doing these things and you actually build those foundations, that's when you're really able to start innovating. So, we think of the first thing as the innovation, but for me it's not.

If we get those foundations in place so that we can go in any of these directions that suits, that's when innovation happens. And I think for our customers, we're just trying very hard to help them gain perspective on where they are in their own particular journey, and then not just give them solutions that require them to rip everything up and throw it away, but to actually say, all right, well you're here, so a good next step for you would be implementing this or implementing that. And that also speaks to the fact that at the end, we know we can't do this alone, so the new management systems are built on an open-source solution based on GraphQL.

The application environment things, there's a lot of open source in there as we contribute heavily to Kubernetes because we see its role. But, also, we have partnerships with the likes of Deloitte, because I know that you also saw this coming, right? And, so we all kind of saw the same thing. So, we're really trying to leverage our ecosystem. We're focused on just trying to spread the message about, "Look, here's where we are, here's where we're going," which I know you're doing too, and we're just bringing the solutions to market that our customers are looking for. But like I say, it's really important that they've got to be able to go as far along the journey as they want to go, but they've got to be able to start tomorrow, because anything that requires kind of a huge multi-year investment and throw things away, that's never going to work. So, we're very focused on the adoptability of these cross-cloud services, as well.

David Linthicum:

So, looking at the future of all of this, and things like the evolution of observability, and the ability to have different insights and automate based on observability frameworks that are going to be more combined, the ability to enable security, as well as operational observability moving forward—let's go forward say five years – and we're doing this podcast. This is kind of the start of this building of this logical layer of these cross-cloud services that's happening. We have a lot of the technology exists today you're able to leverage, but there's going to be some creativity and, some investment, I think, that's going to be occurring at lightning speed over the next five years. What do you think we're going to be talking about then?

Richard Munro:

So, I think the road to distributed cloud—should we call it that? I think that will continue to evolve heavily, very heavily over that next five years. But what I think will be really interesting is that this innovation that breeds on top. So, I think there's a few things we'll be talking about. I think as well as the shift from centralized to distributed, I also think we'll see an increase in how we're thinking about decentralized, so capabilities like blockchain, et cetera. We're also going to see a lot around the edge, because the edge is going to play an increasing role as we need those kind of compute superpowers in all sorts of different arenas. We're doing some fantastic work with law enforcement with the moment, who obviously have a lot of things on the road. And what they need when they're on the road is some pretty heavy services, things that, at the moment, would drive them all the way back to the office, take several days while they kind of upload data, convert data, whatever. We're enabling them to do that on the go, on the road, that kind of thing. So, edge I just see growing hugely over that same time.

And edge, for me, is just another part of the multi-cloud state, but also data. So, we're in the very infant steps, I feel, of taking these same concepts. We're talking about infrastructure, applications, really powerful things with huge impacts. We will all collectively need to do a lot more work on making sure that the same cross-cloud services, capabilities apply to data wherever that is because we'll need that kind of visibility, control, integration points, lifecycle management of data, whether that be in our traditional applications on premises, which will still be around in five years' time, whether it's modernized ones. As we move more and more into this multi-cloud state where different application components could be in different clouds and they're all—we have this polyglot of things talking to each other, data will be probably just starting to come into the mainstream in a few years' time, and that's something that we're looking at and we've already taken some first steps along those roads. So, it's a natural evolution. It's also going to be about multi-cloud, but I think we'll see all these other use cases and the innovation that builds on top of that multi-cloud state really starting to come to the fore.

David Linthicum:

Yeah, I think it's going to be also moving into federation, and, so, instead of dealing abstraction automation as a primary mechanism for dealing with the complexity and the heterogeneity issue that we just talked about, the ability to build applications across those platforms and do so in such a way where they can be automated, even self-migrating, the ability to kind of see a better platform. You mentioned the law enforcement example. That could be a Kubernetes cluster that operates within the computer within the squad car, and the reality is that it needs to be there to process information that they need in order to do their jobs the best. And even though it's developed at other places, these things are able to run in any number of places, able to do the ultimate in heterogeneity. And, so, we've been shooting for this a number of years, and there's certainly the federated Kubernetes standard that is moving

forward and other technologies that are making this happen, so it's going to be not only operating these systems but creating cross-platform platforms we're able to run the applications any number of ways.

And we've had the capability of doing that with some catches with Kubernetes and things like that, but finally getting to a point where we can just launch an application, have it find the right host, and have it self-migrate, if it doesn't is something that I think is going to be the future of all this, and therefore run on the best platforms in terms of cost, in terms of performance, in terms of reliability. And we have instance of that running in the market right now, but it's basically going to be building on top of that as kind of the future vision.

So, where can we find your work on the web?

Richard Munro:

It's all on VMware.com. Right from the first page, you will look at our multi-cloud environment, our cross-cloud services, and all our services and solutions. You can also go to VMware—the VMware Explore site within VMware.com, and that has all the replay options. We did so many sessions across so many things. We have our keynote sessions which talk about topics like this at a high level, as well as lots and lots of detail for people who want to go deeper. So, going to the VMware Explore replay would probably be a good first move.

David Linthicum:

Yeah, go there and get an education because this is the way of the world right now, and VMware's at the cusp of it. So, we're looking to follow people that are able to provide solutions that are able to work today as well as work tomorrow, into the future in dealing with mediation of complexity and all these things that are coming up as hinderances to us to leveraging new platforms including multi-cloud where we're dealing with multiple platforms, hopefully in more productive ways.

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