



For Cloud Professionals, part of the On Cloud Podcast

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Title: VMware on AWS: a match made in cloud heaven

Description: Join host David Linthicum and guest Duncan Epping, Chief Technologist at VMware, as they discuss how running VMware on AWS can help organizations meet the challenges of managing cloud workloads more efficiently while enhancing security and agility. They also discuss how VMware can help deliver the consistency that companies need to manage their cross-cloud environments to meet their IT and business goals.

Duration: 0:19:29

Operator:

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Welcome to On Cloud, the podcast for cloud professionals, where we break down the state of cloud computing today and how you can unleash the power of cloud for your enterprise. Now here is your host David Linthicum.

David Linthicum:

Hey guys, welcome back to the podcast. I've got a special guest this episode. We've got Duncan Epping. He is the Chief Technologist working for VMware in the office as CTO of Storage and Availability Business Unit. In that role, he serves as a trusted advisor to VMware's customers, primarily in EMEA. It's Europe for us Americans. So, Duncan fill in the missing pieces, what do you do in day to day for VMware, and what are you currently working on?

Duncan Epping:

Sure, yes, my focus is primarily the larger customers, and I do a lot of the user conferences, so I just came back from the UK and did a couple of meetings and some internal training, but my primary focus is events, user conferences and larger customers. Besides that, I do a lot of the evangelism work online, so I do a lot of social media aspects when it comes to talking about VMware in general, and I tend to talk a lot about storage availability and of course on VMware Cloud and AWS related things as well.

David Linthicum:

So, since the release, I think it's been two years, right? Since VMware announced they were going to run on AWS and really, kind of, as a raw instance on the AWS System, and that was kind of threw us in the marketplace for a bit, but that seemed to be relatively successful in terms of what I've heard from the VMware. Fill in the missing spaces; what's occurred in the last two years overall with the VMware running in AWS?

Duncan Epping:

Yes, we've seen a huge ramp up over the last two years in terms of customer numbers and the type of customers adopting it, but also the size of the customers. I think for us most importantly is, of course, as you understand, is the strategic aspect for customers. A lot of customers are now starting to look into hybrid configurations for data centers. They're looking for some more agility, and what those customers told us over the past years is that they were looking for a solution, but it could be leveraging the same management tools, the same, more similar operational procedures, and avoid needing to re-educate their operations and architect teams, and that has been our primary focus with VMC, VMware Cloud and AWS. It was basically our aim to create a solution that customers could use from the get-go with the same toolset, with the same administrative procedures, and on top of that, of course, provide all the benefits that VMware Cloud or AWS provides to customers around agility, availability, and of course all the services that Amazon provides. I think so far it has been a huge success. We have some very cool announcements at VMworld, and I think that is going to increase the customer ramp up for sure.

David Linthicum:

When is VMworld coming up?

Duncan Epping:

Oh, VMworld, that's going to take a while. It's in September, but we had a VMworld the past September in Las Vegas, and we had one in November as well, in Barcelona. We have some pretty cool technology being announced. Some of the customers, for instance, when they started adopting VMware Cloud and AWS, they had some challenges around storage capacity being offered. The hardware that's being offered in VMware Cloud and AWS is very specific. It's a very specific configuration, and some of the customers, for instance, needed additional scale, so what we introduced at VMworld four months ago was the ability to start using native Amazon services. So elastic block storage leverage that within VMware Cloud on AWS through something that we call Elastic vSAN. So, through Elastic vSAN we can consume these Amazon services and expand the storage for our customers. So, let's say someone needs 80 Terabytes in a relatively small cluster, three or four nodes through Elastic vSAN, and it's Amazon native services, we can now easily expand the cluster. So very cool technology that was announced and soon to be released.

David Linthicum:

So most of the people who use VMware on AWS, they're typically existing VMware customers. Are there any customers that have just started using VMware on AWS, really kind from the outset?

Duncan Epping:

We've seen some new customers as well, but to be honest, if you look at the virtualization market as it is right now, we have more than 500,000 customers, so I think it's fair to say that the majority of customers that we see onboarding to VMware

Cloud and AWS are current VMware customers just looking for other use cases and other ways of scaling out in an efficient and agile manner. I think that has been the feedback as well so far from our customer, that the process is very efficient, and very easy to easy to run through, and like I said, at the same time, they can maintain the same skillset and same tooling, so it just makes their life easier.

David Linthicum:

So, let's talk about skillsets. So, I'm going to, in essence, have VMware running on-premise and then I'm going to start leveraging VMware running on Amazon.com, the same skillsets transfer. There is no, other than the fact, I may need to do some configuration on Amazon, or what would you tell somebody who is actually looking to make the move as to how they need to augment their skillsets, what courses they need to take, certifications they need to be very good at running VMware both on-premise and on Amazon?

Duncan Epping:

Yes, I think the big difference between what customers typically have running on-premise, and what we have running on VMware Cloud and AWS is that VMware Cloud and AWS for instance come with vSAN configured, it's comes with NSX included as well, and that of course may require some additional knowledge from that point of view. If I look at vSAN, for instance, the challenging aspect is that customers are so used to managing data stores and with vSAN we are now managing profiles, so they kind of need to get acquainted and adjusted to that mindset. But it's not awfully complicated, so it's not necessary to follow a full course, for instance to be able to manage and operate vSAN.

I think the great thing is well about VMware Cloud and AWS is that when you enable VMware Cloud and AWS, when you have that cluster created, you'll fill out some of the necessary details, but VMware and AWS then instantiate, (inaudible 06:52) for you, so the configuration of all of the different components, whether that's vSphere, whether that's NSX or something like vSAN, all of that is done for you. And that also applies to the, you know, some of the data operational aspects. Like a lot of our customers, or I wouldn't, probably shouldn't say, a lot of our customers, well some of our customers, have been challenged with over time.

For instance, upgrades from one version to the other, and especially in larger environments, you can imagine that becomes more complex, because there are more moving parts. Some may have third party vendors connecting to the vSphere platform or they have other VMware tools connected to the vSphere platform, within VMware Cloud and AWS VMware actually takes care of the upgrades as well or the updates. There are firmware updates, driver updates, vSphere updates, NSX updates, vSAN updates. We take care of those updates for you and upgrades for you, and I think that is a big change.

So that hopefully will present the need for running through certifications and running through advance courses as you named it. I think some additional knowledge around networking could be useful, but in most cases it's typically the biggest challenge is the organizational structure. What we've seen with the SDDC in general in terms of adoption, I think it's fairly similar to what we are seeing with VMware Cloud and AWS. In a lot of the enterprise organizations as you know we still have segregated teams, so we have a team responsible for networking, we have a team responsible for storage, and then there is a team that does virtualization, and potentially there is some application administrators around as well. In order to be successful when it comes to adopting VMware Cloud and AWS but an SDDC in general, I should probably say I think there is a need for all four teams to work closely together and potentially as one big team, and I think that is the biggest challenge customers are facing. It's not really the technical aspect; it's more the people and process aspect of things.

David Linthicum:

So, do you think in the future it's going morph into something that's going to work and play well with some of the Amazon native features, so they will need to kind of understand across a class platform understanding? I know right now it runs on a piece of raw hardware, doesn't run under the Amazon virtualization engine, so is there any chances of change in that in the future is that typically going to be the way VMware is going to take it?

Duncan Epping:

I don't see that changing anytime soon. I think the great thing about this offering is that if we would run virtual, that would be a lot of challenges that we would have. From an installation configuration performance perspective, this actually offers the customers the same thing as we have on-premise, with the added benefit that they get direct access from the SDDC within

VMware Cloud and AWS, direct access to all of the native cloud services as well, and I think that's also one of the reasons we are starting to see customers adopt this technology, besides having all of the different VMware tooling and solutions available. They, for instance, also have Amazon AWS S3 storage services available, or if they want to use some native EC2 workloads they can leverage that, or if they're doing something with the functions as a service through Lambda, or whatever it may end-up being, they cannot actually connect that easily as well, because that's already part of the same availability zone or the same cloud data center. I think that's also another benefit; it provides you low latency through those Amazon services.

David Linthicum:

So how are you guys dealing with security, both on-premise and in the cloud?

Duncan Epping:

Yes, security is of course always a big discussion. That's one of the reasons we included NSX, NSX, besides taking care of the networking of course, is also there for things like micro-segmentation. I think that is probably also one of the reasons a lot of customers feel comfortable with creating or building a hybrid cloud design. I think without a solution like NSX, that probably wouldn't be happening, so NSX is definitely a big part of the offering, and I suspect that, like I said, it's one of the reasons customers are adopting it.

David Linthicum:

So, walk me through kind of a migration project. Say I'm running lots of VMware on-premise in my data center, and everybody is doing that right now, going to move maybe 10%, 20% up into AWS and VMware running on AWS. How do I migrate those machine instances? How do I migrate the data? How do I migrate the application?

Duncan Epping:

Sure, if you look at VMware historically, we've had a lot of different tools when it comes to migrating virtual machines from one data center to the other data center, or for virtualizing the different workloads. We have things like the VMware Converter for instance. People have used something like SAP (inaudible 12:09) manager to move workloads, but by far the most used and easiest method right now is what we call the hybrid cloud extension HCX, and HCX is a tool that directly integrates into the current vSphere clients, and it allows you to connect your current environment out to a public cloud environment.

This particular case could be VMware Cloud and AWS, and basically what it does is, it assesses, it makes an inventory of the current environment, and it simply allows you to select the virtual machines that you would like to move, and literally with a couple of clicks, you can start either moving the virtual machines in a live manner, so what we call a true migration through something like Storage motion, or what you can do is potentially as well is, if they are extremely large virtual machines, we can use the replication techniques and actually seed some of the data over into VMware Cloud and AWS, and then when we have 99% of the data in VMware Cloud or on AWS, is do the cutover to VMware Cloud and AWS. So, we have some really useful tooling for that. Some of that tooling was also demoed during the last VMworld keynote, so there was, (inaudible 13:22), but it actually shows the migration a live migration over couple of the virtual machines. I think it was over roughly 100 miles, so it was 100 miles between to the on-premise data center and the cloud data center. The data center VMware Cloud and AWS, and they moved these virtual machines live from one data center to the other data center, so pretty unique toolsets we have available.

David Linthicum:

So what are you doing, what are you guys recommending in terms of ops, so if I actually have instances of VMware that's running on AWS, and I'm also looking to have a synergistic approach to cloud ops with my native AWS services, and perhaps some of the on-premise systems, things like that, would you recommend to a client or a customer that's moving to VMware as far as having operations tools that extend beyond the VMware stuff and communicate with other clouds as well?

Duncan Epping:

Sure. We already, well, we've had some different solutions for that for the longest time we have a solution called "vRealize Automation" and "vRealize Automation" has been used by many customers, even before we had the VMware Cloud and AWS offering, to do management, and provisioning of workloads, applications, both on-premises and into cloud environments as well. I think vRealize Automation is probably one of the solutions that people should be looking into when they are deploying a hybrid solution. I think it is the perfect solution to manage both on-premises workloads and VMware Cloud and AWS based

workloads.

The great thing about it, for instance, is as well, is that it allows you to create these blueprints, so it provides you a consistency in terms of what the applications look like, how they are provisioned, but also what's the underlying virtual machine and the operating systems look like and how they are provisioned and configured, because that's probably where a lot of the challenges start arising. We have multiple clouds to manage. Some operating systems may be configured in a very different way in the cloud than it would be on-premises, and that also leads to different – the need for different and operational procedures, and typically leads to issues with applications, or potentially configurational issues as well that could lead to downtime. So, I think “vRealize Automation” definitely delivers the consistency, that people need for end-to-end provisioning, configuration, and management of applications of virtual machines both on-premises and in the cloud.

David Linthicum:

So how are you dealing with performance management monitoring?

Duncan Epping:

Sure. We have multiple solutions for that. vROps is our main solution when it comes to performance monitoring management understanding. vRealize Operations allows you to connect to VMware Cloud and AWS as well, so it's a solution we had a lot of customers end-up leveraging. They potentially have vROps platform running on-premise as soon as they start leveraging VMware Cloud, and AWS they can simply connect those two environments, and they can start monitoring those solutions as well. So that's definitely something that customers are already doing as it is right now. The other thing that we have been looking into is how we can extend, for instance, something like “VMware Cloud Foundation,” VCF, and leverage that with some of the native cloud services that Amazon has to offer. So, there is multiple efforts happening right now, as you can imagine, like, I can't expand on our road map and some of the features too much, but we definitely constantly looking into improving what we have to offer right now.

David Linthicum:

So, let's look at the future of the industry, not necessarily the future of VMware. You wrote five books, excuse me eight books, on the topic of VMware, including essential virtual SAN, vSphere clustering deep dive series, and it looks like some very useful books, if you are in the VMware space. So, I write books as well, and so let's say we get into a time machine and go forward two or three years. What books do you think would be most in demand that people would love to read?

Duncan Epping:

That's a great question, I actually just finished a new book on vSAN and I think going forward I don't think there is a lot of, there hasn't been a lot written, even about why people are now moving toward a hybrid cloud architecture, for instance, what people should be doing in terms of data management and disaster recovery when it comes to hybrid cloud solutions, or even public cloud solutions. I think there's a big gap in that particular space, not just from a book perspective, but also from a technology point of view.

There are some customers, there are some companies, moving into that direction, but there's definitely still a gap in cross-cloud management of data governance and things around that, and of course security, when it comes to multiple clouds. So, I think hybrid cloud management is definitely one of those aspects that customers would be interested in. I also think it's probably one of the most challenging topics to write about, because there are a couple of really large cloud providers, but there's a lot of different combinations that you can have with all of the services that they have to offer, so thinking through all of the different combinations that there are what that means from an operational perspective, what that means from a security point of view, the architectural aspect of things is very challenging, so I suspect that that is a space that authors like yourself and myself probably should be exploring next.

David Linthicum:

Yes, I can't couldn't agree with you more, and I did a course on (inaudible 19:28) around multi-cloud management architecture, and in three hours I didn't even make a scratch into it. In terms of everything you kind of peel like the onion. You're dealing with data, you're dealing with security, you're dealing with governance, you're dealing with BCDR disaster recovery, and all these things become much more complex. And also, the tooling seems to be limited, and our ability to kind of solve the issues. And so, we can do it with our own native environments, with our own product efforts, products that we are putting out

because we're going to take care of our own. But if you're looking at this cross-technology play, there is a huge space that's missing in the space, and I think we're going to see that in two or three years. Do you agree with that? Basically, that's what I got out what you said?

Duncan Epping:

Exactly, and I think we've seen the same with the SDDC. We're starting to see more and more books popping up discussing solidifying data centers and what it takes to architect a full solidifying data center, including solidifying networking, solidifying storage, and of course the virtualization layer. And the same will apply to hybrid clouds, but that it's going to take a while before people reach that point, because it also means for all of us that they will need to educate themselves across multiple clouds, and that isn't the easiest thing, to be honest.

David Linthicum:

No, it's not. You have to be basically an expert in lots of things at the same time, and also an expert in some of the cross-clouds kind of technologies. You really kind of hide things behind an abstract layer and get into proactive and kind of automated operations, which is something I think we're not good at yet. I think that we have the concepts down, but as far as real technology, people understand it, things like that and just hasn't really kind of appeared. So where can we find you on the web, and where can we find your books?

Duncan Epping:

Sure, I have a blog that I update mostly weekly. It's yellow-bricks.com. Of course, I have a Twitter handle. You can find me on DuncanYB, and most of my books are being sold through Amazon. I think the majority of them were self-published, so I aim to actually price them reasonably. Most of the eBooks are available for less than \$10, so I think they are a bargain for most VMware people.

David Linthicum:

Well, Duncan it's great having you on the podcast. Like to invite you back in the future, especially after "VMware World" this September, and just kind of talk about what's emerging in that space and what you're up to. You game for that?

Duncan Epping:

Sounds good thanks for the opportunity, and we'll talk next time.

Operator:

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