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For Cloud Professionals, part of the On Cloud Podcast

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Title: **Strategies to help ensure multicloud success**

Description: Multicloud is now the norm, but multicloud environments are incredibly complex and can be maddeningly difficult to manage in a way that provides strategic value to the business long-term. In this podcast, David Linthicum shares tips to help organizations successfully migrate to, deploy, and manage multicloud environments. Long-term success lies in monitoring the middle, thinking long-term, staying app and security focused, building a solid business case, and following best practices.

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Operator:

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David Linthicum:

Welcome to this Deloitte On Cloud Podcast Knowledge Short, exploring specific topics related to cloud computing. This is a short tutorial talking about the real-world concept in the emerging world of cloud computing. I'm your host, Dave Linthicum, cloud computing SME (subject matter expert), author, speaker, and managing director with Deloitte Consulting. And this is five things to ensure multicloud success.

According to a recent study by Flexera in 2021, 92 percent of organizations have a multicloud strategy in place or underway, and 82 percent of large enterprises have adopted a hybrid cloud infrastructure. On average, organizations are using 2.6 public and 2.7 private clouds.

So, obviously we're getting into cloud computing, and multicloud computing, specifically, in a big way, and the reasons are starting to pile up. In other words, the enterprises are finding that there's value in leveraging a multicloud strategy. And a couple of the things that they cite including multicloud adoption drivers are reduced cost spend through competitive negotiations. Since you're able to, in essence, have different cloud providers which are able to broker services into your enterprise applications—they're basically consumed within your enterprise—you can shop around and find the best price. So, whether you're dealing with cloud storage, cloud compute, AI systems, things like that, if you have two or three public cloud providers, you can shop those particular providers to find the best price for the services you need to leverage within your enterprise.

The other thing is gained autonomy by minimizing vendor lock in. You have to be careful with this because you've got to remember when you leverage cloud-native features, that there's going to be a certain amount of lock in. So, for leveraging a native security service on something like Amazon or Microsoft or Google, that we're going to have to code specific interfaces to those security services, and that's really kind of what lock in is about. So, what they're saying here is we're minimizing lock in by the power of choice. So, in other words, we don't necessarily have to go to the same cloud provider each and every time; we can go to different providers that are in our multicloud service portfolio, find the services we need, and adopt them into our cloud solution.

Next would be to improve resilience and reliability by distributing workloads across multicloud service providers. And again, since we're not putting our eggs in a single basket, we're able to spread the load. And we can put our primary compute system and storage system on one particular provider and our secondary on another. So, if one provider goes out, or has an outage, or something occurs such as a business event that takes them down, then we're able to failover to another cloud provider, which chances are is going to be running just fine.

The other thing, and probably most importantly, is we're able to increase business agility through greater access to the latest technology across multiple providers. And you've got to remember that the idea here is we're not only looking at Agile technology, but the ability to talk about best of breed; in other words, leveraging the best services to support our particular application. We'll talk about that next. However, the agility factor means that we're able to adjust or reconfigure our cloud provider sequencing for the exact needs of the business. And, so, in other words, if we buy a company or sell a company or launch a product line, we can adjust those processes quickly around those business events. And that's really the power of cloud computing in general, and also multicloud specifically.

And as we discussed, we're able to optimize best of breed computing solutions across various cloud service providers. Again, we're not limiting developers to a single walled garden from a single cloud provider. And, so, in other words, we're providing different services that operate within clouds and also between clouds, and, so, they can pick the best storage services, AI services, development services to really kind of customize their cloud solutions to be the perfectly optimized solution for the particular business problem they're looking to solve. And again, choice can get us into trouble in terms of complexity— we'll talk about that later. However, ultimately, the ability to provide the developers and those who are innovative in the company with the ability to kind of take cloud computing to the next level and, in essence, optimize best of breed services is really going to provide you with a strategic business advantage.

And finally, we're able to meet current and future requirements of governance, security, privacy, risk management, and compliance regulations, again, since we have more choice. We have the ability to do governance from three or four different cloud providers, and security from three or four different cloud providers, and risk management and compliance regulations, and therefore we can leverage the best of breed of that technology to bring together these solutions. And that's why people are moving to multicloud.

So, now let's get to our five things to ensure multicloud success. Number one: Focus on what's in the middle, our common services. Keep in mind that we're playing the distributed computing game, where we're dealing with several public cloud providers. However, there has to be certain services that exist in between the cloud providers, you know, things such as security, governance, monitoring and operations, and directory services, and other things that we really do not want to have as cloud native services within our multicloud deployment.

So, keep in mind that we're dealing with common security services. That may be something that's native to a particular cloud, or it may be a third-party services that we're able to adopt. Same with governance, and governance includes financial operations, or FinOps, as well as resource governance, the ability to govern storage and compute. And then APIs are cloud services that need to be governed as well.

Monitoring and operations is something that should occur between the clouds. So, in other words, don't monitor systems within a single cloud provider. You're going to have to monitor systems holistically. And you may even need to, and should include, existing traditional and on-premise systems.

And then finally cross-cloud services like directory services: If we're doing something like identity access management where we're storing and managing identities, we don't want to do that within a single cloud provider. We want to do that across clouds within our multicloud deployment. So, keep those things in mind.

Number two: We need to consider how the multicloud will operate, need to understand the resources needed, in other words how we're going to in essence leverage technology to operate this thing effectively longer term. The success of a multicloud is really not your ability to do the best initial complex design. The success of a multicloud is your ability to operate longer term to meet the needs of the business. So, what are the resources you're going to need? Is it going to be AIOps or artificially intelligent operation systems, management and monitoring systems such as traditional systems that may have moved into the cloud? How are you going to deal with the organization operations models, the ability to align the human resources to the operational needs of the cloud? And, so, you're going to have to have different skillsets around. What are those skillsets going to be? How are the playbooks going to be worked out so you're able to go off and maintain these clouds longer term?

And then finally complexity mediation: We're going to get into a complexity management scenario. And, so, in other words, we're going to have lots of different resources and lots of different APIs and lots of different security services and lots of different governance services. How do you mediate and manage that complexity? How do you come down to a certain set of technologies that we're able to leverage which brings us into an operational state which allows us to scale? In other words, take the operations of the multicloud to the next level. Keep that in mind.

Number three: Focus on the applications to migrate and to be built. So, in other words, this is about looking at the existing application portfolio that's moving or migrating into a multicloud deployment, and also the ones you're going to build in the future. So, this is about looking at what you have in your current application portfolio, as well as understanding how applications are going to be built and deployed moving forward.

So, look at cross-cloud application development technology, things like containers and Kubernetes. How do they fit into this? We're going to have an opportunity to in essence create an abstraction platform on top of the existing multicloud scenarios where the applications are going to be able to run across or within a particular cloud provider, minimizing the amount or risk and cost it's going to take to move from one provider to the other, and then how we're going to deal with things such as security. Keep in mind that applications today need to be engineered to be secure. You can't just kind of wrap these things around—you can't wrap security around these things like we've done in the past. Ultimately, the applications have to leverage the APIs, or abstracting the security systems, getting into security operations, getting into a proactive stance to make sure we're battling breaches and other hack attempts, things like that. Again, complexity is going to be the enemy of application-level security. You need to get to a common security layer that's able to operate across these various systems.

So, figure out what you're migrating into the cloud. Figure out what you currently have as your portfolio, where it exists, what the platform analog's going to be in the particular multicloud deployment that you're moving to. And also think about the future, what you're going to be building, how you're going to be building the, and how you're going to be moving into a multicloud effectively.

So, Number four: Do a true business case? In other words, something that's going to have a very pragmatic grounding into what you're actually doing. And, really, the first question to be answered is why are we moving into cloud? Now keep in mind, this is a legitimate question. This is something you don't roll your eyes at. It's okay to have devil's advocates within the organization that are asking, "Why are we doing this? And can we justify the migration and the risk and the cost of moving into a cloud computing environment in general?"

And then once we answer that, why are we moving to multicloud? In other words, is it a matter of leveraging best of breed technology? Is it mitigating the choices? Is it providing the ability to be agile? You know, what's the business case behind it?

And then how are we defining the value? So, in other words, we define value as hard and soft costs in the world of cloud computing or IT in general. So, the hard costs—what are we going to be saving in terms of leveraging cloud-based resources versus traditional resources out of a datacenter, hard costs? And also, what's the value of agility in leveraging best of breed technology, the cost costs? In other words, that's typically where the business is going to benefit. Normally the hard cost differences between non-cloud environments and cloud environments, whether you're leveraging multicloud or not, are going to be fairly minimal. In other words, they're going to be there, but sometimes they're going to be something that doesn't necessarily move the needle of the business. And, so, again, we need to find the agile value, we need to find the choice value, the ability to create technology stacks that are strategic to the business.

Then finally, figure out how you're going to define success, or the metrics for success. In other words, what calculation are we going to use to find that we're taking business to the next level? So, is it going to be the degree of increase of agility, the ability to change the business as the needs change, at the speed of need, so to speak? Or is it the ability to leverage best of breed technology to allow developers more innovation and creativity options as they move their applications forward, in other words make them more strategic to the business? So, what's the business case? Where are we taking it? Can we define this to the stakeholders within the organization? It's really important that we do that.

Number five, and our last tip, is: Follow best practices or what we know works. So, keep in mind as we go through an as-is assessment or a to-be assessment, in other words, defining what we currently have and where we're looking to go, we need to leverage the work that others have done. So, I've published a lot of things on leveraging multicloud computing, including tutorials and things like that. Get all the information that you can. In other words, what's the inside track in making multiclouds work? What do you need to focus on? What's the critical success factor in you being successful with a multicloud deployment.

Next, find a migration process that's already done for you. You'll find that a lot of organizations, Deloitte included, have the processes already defined in terms of how you do a migration into a single cloud as well as multiple clouds in terms of what changes in moving from a single cloud deployment to a multicloud deployment. I already talked about some of the architectural challenges and dealing with complexity. Those have to be mitigated as you migrate into the cloud, but it's always better to start with things that other people have created and use those as checklists for your particular environment, your problem domain. Keep in mind that you may have to change or augment these processes based on the needs of the business. It's not going to be a one-size-fits-all thing. In fact, the migration process for one enterprise is going to be very different than the migration process of another, and, so, you have to customize those things to get close to ensuring that you're going to be success.

Next, test and acceptance: In other words, how are you going to validate to make sure that the systems work correctly when you move into a multicloud environment? All those things have to be figured out. Whether you're going to leverage continuous testing and automated testing procedures—all these sorts of things, how they fit into the operational platforms, those sorts of thing have to be considered at this step.

And finally, DevSecOps, development and security operations, your ability to, in essence, define how applications are going to be built and deployed, and that's another podcast unto itself. But that's a whole strategy and science that we need to consider, and make sure you're leveraging the best practices and tool chains to make those things work.

So, the advice that I provide you is learn all you can, listen to all your podcasts, listen to all your videos out there on how to do multicloud right, read as much as you can, read the articles that are out there, and get a good perspective in terms of what are the best practices in moving into a multicloud, and figure out how you're going to make that move unto yourself. And as always, you can reach out to us for help—happy to do it.

Thank you very much for listening to this Knowledge Short. Best of luck in building your multicloud solutions.

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