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connected world

# Multicloud Complexity to Multicloud Coherency

A CCS Insight  
Podcast  
Companion  
Report

In conjunction with  
VMware





This is an accompanying report to CCS Insight's podcast, Multicloud Complexity to Coherence. To understand important considerations for successful multicloud management and support, our principal analyst for cloud and infrastructure, James Sanders, spoke with VMware's vice president and chief technology officer (CTO) for the Americas, Amanda Blevins, and Richard Munro, from the office of the CTO for strategy and operations. Clive Howard, CTO at Huozhi, a provider of a humanitarian fintech platform, and associate analyst with CCS Insight, also joined the podcast discussion.

In this report we outline key insights from the discussion and provide strategic and tactical guidance in supporting multicloud operations.



## Benefits and drivers of multicloud

### “There are two sets of drivers for multicloud”

Three-quarters of enterprises in CCS Insight’s Senior Leadership IT Investment Survey, 2022 told us that they use more than one cloud provider, compared with only 55% in our 2021 survey. Many practitioners and executives believe that multicloud will be the norm for most large organizations. Embracing this approach now may give many an advantage, but it raises several questions that each organization must answer.

Firms must decide what benefits a multicloud strategy would bring. For many, the multicloud journey begins accidentally. As Amanda Blevins pointed out, customers often dabble in cloud through trials or proof-of-concept projects that result in the use of more than one cloud, and

“No matter your original objectives, you will end up in a multicloud state. And certainly those that set out to recognize this fact will be the ones to carry the competitive advantage”

acquisitions have also led to multiple clouds being used. Although some organizations may stumble into this situation, there are benefits to intentionally choosing a multicloud strategy.

When looking to move existing workloads to the cloud or building new cloud-first applications, development teams need to understand which technologies these applications need, what data is needed and where the business generates revenue. The answers on a per-workload basis may lead to choosing different cloud providers.

Similarly, organizations may want to use the best technology, which may be provided by different suppliers. Even where clouds have similar services, such as universal computing and storage, some cloud platforms may be better suited to some workloads than others.

There is also precedent in IT for the use of multiple suppliers. Enterprises often employ a combination of technologies, such as the established Java and Microsoft technology stacks. Organizations have amassed considerable code, skills and experience that they will want to continue to draw on, perhaps leading to different teams gravitating to different clouds.

For some, there will be external pressures such as regulation that require the business to not be dependent on a single cloud. Similarly, governance concerns such as data sovereignty or not wanting to be overly reliant on an environment that falls in a specific legal framework can lead to multiple clouds. Richard Monroe pointed to a VMware survey that found that 42% of organizations have this concern about US-owned clouds, with 70% believing the risk of compromising localized regulations an increasing threat to their business plans.

There are many reasons why an organization may employ more than one cloud, and it is worth keeping in mind that multicloud can include private clouds as well. Once an organization recognizes the value of multicloud, the next step is to address the resulting challenges.

## Challenges of multicloud

**“The biggest challenges are non-technical, and the main one is resisting to accept that you are in a multicloud state and to determine to take advantage of it”**

Getting to grips with cloud is hard, and adding more clouds makes it exponentially harder. Looking at the depth and breadth of services available on a public cloud such as Amazon Web Services, Microsoft Azure or Google Cloud Platform, it is clear just how much is on offer and how complex the landscape can be.

Cloud can be very different to traditional on-premises environments, especially in the journey to truly realize the value it brings — for example, global scale. As Amanda Blevins notes, this is one reason why most organizations have very few applications in the cloud today, despite having greater ambitions.

Beyond the platform technology, there are oversight and management challenges that include concerns like cost and security. It is not just about running a workload in a cloud, but often connecting that workload to on-premises infrastructure or other clouds and using automation to address application requirements such as life cycles.

This typically leads to multiple tools essentially doing the same thing for different teams running in different clouds. This creates more complexity — how does the business manage costs when cost data is coming from various sources?

With cloud offering a global capability, this can lead to workloads and data running in different regions, in addition to different databases and data services. Navigating and optimizing this globality is difficult with a fragmented set of tools and portals.

**“Using multicloud services to run workloads and multiple clouds removes the need for two, three or four times the number of tools and teams to be able to accomplish it, because the same solution can provide the same capabilities across several environments”**



To realize the value of multicloud deployments, organizations need to simplify resource management. For example, moving a workload between clouds through a single interface provides greater consistency between environments, and funnelling resource costs to a single interface allows practitioners to optimize usage.

This will lead many to look for a solution that enables multiple clouds to appear as a single platform.



## Benefits of a multicloud solution

**"There is value to having a single platform and being able to move your workloads around different clouds. Ramping into cloud is challenging and a single platform can shorten the time it takes to get going and embracing the cloud services"**

A single multicloud platform solution can come in many forms depending on the needs of each deployment. For example, there are singular development solutions that organizations can run in different clouds, essentially turning those different platforms into one platform.

By building to the capabilities of that platform, a workload can be deployed into any cloud on which that platform is running. If such a solution provides a management control plane, then resources, costs and security can be managed in a single location. VMware offers such a solution that enables customers to more easily extend their existing VMware estate into different clouds.

This approach may meet core requirements for some customers. For example, regulation can require that workloads be decoupled from a specific cloud and be portable. A single development platform enables this. However, for many organizations, the value of cloud rests on the capabilities of a given cloud service. Single development platforms often reduce cloud capabilities to the lowest common denominator. This results in the customer extracting very little value from any cloud they are running and being constrained by the limitations of the platform.

A better solution for many is one that provides the benefits of a single platform and that:

- **Highlights and uses the proprietary services of a given cloud**
- **Allows the customer to build out and use these proprietary services**
- **Allows the customer to see their cloud usage from a resource, cost and security perspective, whether they use the core platform or proprietary services**

In meeting these criteria, a solution can help to accelerate a customer's on-ramp into cloud. As noted above, getting into a cloud can be difficult, and getting into multiple clouds can make this even more challenging. With the help of a multicloud solution, this journey can be smoother.

For example, being able to extend an existing IT estate into cloud and have cloud behave in a similar way would allow customers to move existing workloads more quickly and easily. Over time they may want to optimize workloads to better harness the capabilities of cloud services,

but as an immediate solution, for example, when needing to reduce existing internal infrastructure, this can provide a significant benefit.

In addition, such a solution will provide insight into concerns such as cost and security, so the customer does not have to deal directly with multiple complex management tools.

Given time, organizations can then begin to employ proprietary cloud services and see increasing value from running in a single cloud. When doing this, an organization should understand what capabilities a workload really needs — new technology can be enticing, but it must ultimately be fit for purpose.

An example is databases. As Amanda Blevins said in our discussion, there are various data solutions across different clouds, but does an application really need one of the proprietary options? Or could the same be achieved using a cross-cloud data solution, of which there are also many? In this case, the capabilities of a single platform may be better than proprietary solutions. The priority for customers should be the flexibility to choose and not be locked into a single solution just because one operates across clouds. The value of a single platform should be in reducing complexity, not reducing flexibility or choice.

## Operational considerations of multicloud

**“If you have multiple clouds, you have a cloud operations team — make sure that you’re not creating silos of different teams”**

When implementing new technology in an organization, there are challenges that a single platform or solution cannot overcome. For example, digital transformation is a business change and not an IT one — each business needs to consider where value lies and what its ambitions are.



For many, a priority will be greater agility and speed, and cloud can help achieve that. But that does not have to mean public cloud. Perhaps modernizing internal infrastructure is the answer, or maybe the organization needs to stop running data centres, so public cloud is the solution.

If multicloud is the solution to achieve these aims, then an enterprise needs to consider what processes and skills are needed to implement it. Embracing this approach is often best done by creating cloud operations and cloud platform engineering teams for multicloud, rather than creating separate teams for different clouds. The latter only creates more silos and can pit different clouds against one another, rather than experiencing the benefits of being able to use different clouds.



For example, perhaps a single workload may benefit from using different services from different clouds. A siloed approach may prevent this by forcing development teams down a specific cloud path. Multiple teams also create additional overhead costs and do not allow the management of costs from a single central location.

Each organization should create a cloud operations model based on its specific ambitions. This is not an area where one size fits all — each business will have its own goals, challenges and requirements that their cloud model should be crafted to. This will help to address problems such as a lack of skills both in the organization and in the wider market.

A cloud-operating model can help to align existing skills with the technical direction of the business. This targets financial resources in the most effective way to help the business get what it needs.

## Attending to the skills gap

**“Make sure that people in your organization are on board with your mission and that you’re equipping them with support for the new technology components they need to learn. Partners often have the depth of experience and skill and can come in as a shortcut to get you operating well in the cloud”**

New talent can be hard to find, but existing talent should not be neglected. Many of the skills needed for cloud build on existing talents. For example, cloud will still require operations teams — the tasks will still exist in the cloud, but they may be done differently or use new tools. The fundamental experience in areas such as networking, storage and security will still apply, and upskilling these individuals is a better solution than replacing them.

Furthermore, people who have been a part of the business for some time hold valuable domain knowledge. This experience can be particularly beneficial in application architecture. When looking to modernize existing workloads for the cloud, having the expertise and experience of the workloads as well as new cloud skills may yield better outcomes more quickly than trying to recruit new talent.

In the current competitive landscape, retaining existing skills should be a priority. Introducing new technologies that allow individuals to learn new skills is one way to help keep the best personnel. Cloud is often referred to as a journey, and this is true for the organization as well as the individuals. Enabling people to take their own journey to the cloud can help retain talent and grow the capabilities of the organization.



Where there are gaps in skills and knowledge, partners can often fill in and help accelerate the difficult journey into cloud deployment. The aim is not to outsource everything — as has been the case in IT for some years now — but to fill gaps until they can be addressed internally and help upskill existing employees more quickly.

Most organizations will want to be self-reliant in the main ways that they differentiate from competitors — although that may not be possible now, there should be a plan to achieve this in the future.

## Conclusion

Cloud is now an integral part of modern IT, but these are still early days. Many organizations are struggling to navigate cloud ecosystems, and early ambitions have sometimes collapsed as they faced the reality that cloud is hard. A challenge that is emerging, in some cases by accident more than design, is that one cloud will not address everything. Organizations increasingly find themselves running multiple clouds, exponentially increasing the difficulty of their deployment.

The industry is moving toward multicloud, so it would be smart to embrace the concept early on and begin to put in place the strategy,

**“The industry is moving toward multicloud, so it would be smart to embrace the concept early on”**

skills and tools needed to get the most out of each cloud platform. This will provide a competitive boost, with these organizations moving faster and further from less progressive rivals.

This journey will not be easy, but solutions are available to optimize an organization's ability to manage and benefit from multiple clouds, embracing the heterogeneity of multiple clouds while ensuring consistent security and operations. These solutions should not sacrifice flexibility or choice, and businesses should retain the ability to unlock the value in the proprietary capabilities of one cloud — often the reason for choosing a specific cloud in the first place. Importantly, organizations need to be able to better manage critical concerns such as cost and security and meet requirements of data sovereignty, governance and regulation.

The answer is not just technology. Customers need to consider skills and processes in a custom cloud operating model built to their specific needs and future ambitions.

It is important to recognize that cloud will not prompt change, but will play a supporting role in the journey to unlock new business value. A multicloud approach can help, but just being in multiple clouds should not be the destination.



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