Leveraging Strategic Hybrid Cloud in Enterprise IT

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Introduction

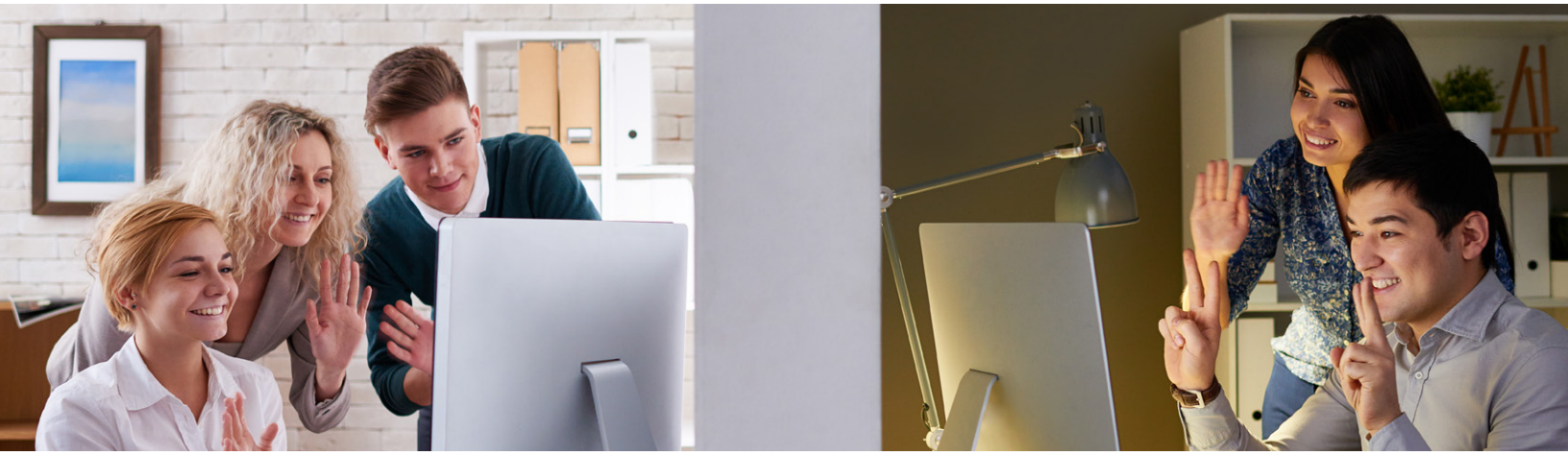
One of the biggest changes in a post-pandemic business environment is the number of organizations that support hybrid work. Employees are not always located at a corporate facility; remote workers are far more common. Bring-your-own-device policies enable workers to access corporate applications (apps) and services from multiple places and platforms, and modern development tools decouple apps and services from the infrastructure that they run on, allowing flexible movement according to business needs.

To accommodate these changes, IT departments have adopted a variety of infrastructures and platforms on corporate premises and in a cloud, creating the corporate hybrid cloud. Simultaneously, businesses are evaluating their infrastructure needs more critically and making more strategic choices among the available options, sometimes using multiple public cloud providers, or a multicloud environment. Frost & Sullivan's 2021 research finds that **41% of businesses globally had implemented a hybrid cloud**, with another 43% expecting to do so by 2023. Similarly, 36% of businesses reported that they were using a multicloud environment, with 47% expecting to do so by 2023. Businesses are using 3 public cloud providers on average to meet their computing needs. However, managing those relationships and ensuring visibility and control across the total environment can be challenging. Some businesses use a hybrid cloud platform to introduce visibility, control, advanced data protection and security, and analytics. Others, however, struggle to manage their assets as a complete environment.

Frost & Sullivan, a leader in growth, innovation, and leadership for 60 years, invited a select group of high-level IT executives from diverse organizations to a Virtual Think Tank to assess how some of the largest enterprises are handling cloud migration and to discuss hybrid and multicloud strategies, challenges, and paths to success.

Participants included **Natasha Davydova**, head of Infrastructure and Information Security at Allianz Technology; **Dimitris Karabinis**, senior director of Global Offerings and Practices at DXC Technology; and **Daniel Trigg**, chief information security architect at Zurich Insurance.

The following are highlights from that discussion.



A Well-managed Hybrid Cloud Offers Significant Benefits

The panelists opened by discussing their general experiences with deploying hybrid or multicloud environments. Most agreed that, regardless of their cloud migration speed, all were working in multicloud environments whether they adopted these solutions because in-house developers use their preferred cloud or 1 of the big 3 hyperscale cloud providers house commonly used business software-as-a-service apps. Most large enterprises today work in hybrid or multicloud environments, and the key to success is management.

Some panelists noted that working in a hybrid or multicloud environment was not intentional but a result of choosing different providers for different services. This allows them to take advantage of multicloud possibilities rather than designing the business around it. However, policies, enforcement, and security can be difficult to manage holistically across vendors. Among the businesses that Frost & Sullivan surveyed, 56% confirmed that deploying apps across multiple infrastructures is a significant challenge in their cloud journey.

Dimitris Karabinis at DXC Technology stated: "A lot of organizations can't quite get to the ideal hybrid scenario because of complexity, organizational challenges, or team structures. One thing we've found … is developing robust landing zones in different public and private clouds opens up a 'refined menu' and [allows] developers to consume that menu in an effective way that still fits within your governance and corporate guidance. It meets your security standards but still gives developers the flexibility they need… without unlimited flexibility. Without control, you lose cost management and can open the business to security risks."

Businesses that implement strategic, well-managed hybrid or multicloud environments allow the flexibility of using the best cloud to optimize costs and reduce dependence on a single provider, which is a vital issue for many organizations. However, achieving flexibility requires modern management platforms and tools, such as DevOps, AIOps, and infrastructure-as-code, to realize the full benefit of cloud deployments.

Daniel Trigg at Zurich Insurance noted: "Multicloud also helps against cloud lock-in, but when talking about hybrid cloud and multicloud and the movement of apps and data from your traditional brick-and-mortar on-premises data centers to these ephemeral cloud environments, you have to do it the cloud way; otherwise you can find yourself locked into a single IaaS model. If you can do infrastructure-as-code and deploy that in one public cloud today but shift to a different public cloud a month from now because the price point is better… then you've avoided cloud lock-in and you're able to optimize costs continually. So the ability to pivot very rapidly and have that flexibility is where you gain tremendous value from the cloud if you have that level of maturity."

Businesses recognize that hybrid or multicloud deployments prevent lock-in; improve cost optimization, uptime, and governance; and mitigate security and compliance risk. Frost & Sullivan's 2021 survey reveal that 42% of businesses stated that using multiple clouds to deploy workloads helped them implement their data protection strategies.

"We have both hybrid and multicloud in our organization, and from a multicloud benefits perspective, we experience increased uptime and improved governance and compliance," said **Natasha Davydova of Allianz Technology**. "As others have discussed, you can optimize your company's ROI and reduce the vendor lock-in, but one of the other major advantages is the flexibility to do what you need to in between the clouds [in on-premises infrastructure] as well."

Knowledge Gaps in Cloud Technologies Require New Services

While panelists all touted the benefits of hybrid and multicloud architectures, many noted that a lot of IT employees who have training and work on on-premises traditional hardware lack knowledge about cloud technologies, making strategic cloud deployment a challenge.

One panelist even noted that the Great Resignation following the global pandemic has made retaining newly trained employees difficult. Creative outsourcing for particular areas of cloud deployment and management helps bridge this gap.

"You could get to cloud relatively easily, and certainly it's not necessarily as difficult as it was, say, five, seven years ago," said **Trigg**. "But to really see value, you do need a high level of skill. You need to be doing this the cloud way. And that talent is difficult to find."

Frost & Sullivan's research corroborates this trend, with 50% of surveyed businesses citing lack of in-house expertise as a key challenge in cloud environment deployment, and 86% had engaged or planned to engage a third-party service provider to help with their cloud strategy and roadmap.

Gaining Stakeholder Support for Hybrid and Multicloud Migrations

A managed service provider can help an enterprise successfully deploy hybrid or multicloud environments by addressing the lack of in-house expertise and getting shareholder agreement—another area that our panelists discussed as a potential stumbling block in their cloud deployment. However, most had found ways to build a successful business case that stakeholders would find compelling.

Davydova stated: "The ROI is very important. Sometimes the mistake is to look at the cloud transformation in isolation. For example, assuming that the diminishing mainframe will pay for the cloud. I don't think that's the case in [the] majority of companies I've had [the] pleasure of sharing the experience with. I think we need to look at it [from] a more holistic perspective: What is the operational benefit [and] what is the business benefit? That's what will drive the buy-in from the stakeholders. It's the flexibility and scalability. It's the security. It's the access security as well, which is now well-established from the cloud perspective."

In addition to providing businesses with the traditional cloud benefits of scalability, flexibility, and security, cloud migration unlocks their data's value and allows access to modern services that provide softer benefits, like operational efficiencies or improved regulatory compliance.

Trigg noted: "Can you do more with less so you're more resilient? Is your governance process improved in cloud? Are your compliance reports for local or regional regulatory compliance automated and more available? While perhaps there are no direct cost savings, [a migration will] result in allowing you to reallocate your staff, do a little bit more with less, [and] allow the platforms to take over some of the burden that was manual in your old legacy environment. That's how I would probably enable securing stakeholder support: as a dialogue, as a user story to my business partners and my customers inside my organization."

Hybrid and Multicloud Best Practices for Enterprises

After addressing the potential challenges and pitfalls of creating a cohesive hybrid cloud and discussing the benefits of a successful journey, including how to gain executive support for cloud migration, the group discussed best practices for workload placement in the cloud. While most panelists agreed that some apps are suitable for the cloud and others for a private environment, all confirmed the needed workload to drive the infrastructure decision.

Davydova stated:" I would say [that] there are some workloads that are not ideally suit[ed] to the cloud. This includes applications that interact at a low level with hardware and chips and are, therefore, bound to proprietary hardware systems. There are certain large relational database management systems [that] experience latency and other performance issues on the cloud. There are also those that deal with sensitive health or defense information or other information you don't want to be on the cloud. There are legacy applications that are incompatible with modern cloud architecture, even."

Although some panelists are bullish about using all cloud for modern apps, most stated that an all-cloud environment is unlikely.

"There is even a term called cloud repatriation, which basically involves some companies moving their workloads back from the public cloud or outsourced private cloud to an on-premises or hosted private cloud," **Davydova** continued. "And the reasons for the shifts include performance, cost optimization, data regulation, security issues, latency, et cetera. So I have certainly seen that some companies which have legacy technology and went aggressively to the cloud, they're actually involved in a little bit of repatriation back to on-prem or hybrid cloud."

Davydova's experience is common. A Frost & Sullivan survey reveals that 63% of businesses had repatriated apps from the cloud in 2021. An additional 24% were considering this solution, with 42% citing difficulties in managing or optimizing cloud apps, 37% citing challenges with their backup or recovery of a cloud app, and 36% citing issues with app migration to the cloud as the top reasons.

Davydova observed: "Hybrid clouds can provide a workable centralized storage and management solution that keeps data within an on-premises data center that has low latency, high throughput connections to multiple private-to-public cloud systems where different production workloads reside, but I think it's not only security. There are other considerations, like business impact; application architecture; technical characteristics; [and] nonfunctional requirements, like security concerns, data protection, support, and costs. So there are multiple factors which help you decide the best-use case for which type of cloud."

The Last Word

The panelists made it clear that, regardless of the challenges of and reasons for cloud migration, most businesses will be hybrid or multicloud soon if they are not already using a hybrid environment. For most, a thoughtful and carefully planned application and business-specific migration will provide the best benefits.

"The best use cases are really organizational-dependent. Whether or not they want to do machine learning, data analytics, whether they've adopted modern applications, they can do functions, Kubernetes, whatever the case may be," said **Karabinis**. "But at the end of the day, for large organizations, the kinds of organizations that are represented on this call, hybrid and multicloud are definitely the future. It isn't one or the other. It's very definitively going to be both."

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