KPMG

Navigating the Multi-Cloud Landscape

Unlocking the Power of Flexibility, Resiliency, and Cost Optimisation

Structure

Savvy enterprises know why they are adopting Cloud. They put high value workloads there which use the premium capabilities of cloud to deliver enterprise impact. Many then use private cloud or on premise to deliver their commodity compute and storage needs.

KPMG sees this as an increasingly polarising trend as economic change and regulatory pressure hits the cloud market. We call this the premiumisation of Cloud meaning enterprises will need to be more dynamic in using their multi and hybrid-cloud strategies to get best value.

But what does this mean for an organisation's Cloud strategy, architecture, and tooling?

Digital transformation leaders who remain committed to their innovation priorities will continue to realise value at pace. By aligning investment in technology with strategic ambitions, they maintain momentum. When it comes to digital transformation, they are ambitious, structured and pragmatic. Ensuring organisations use the right tools and services for their needs at the right time is critical to enabling this innovation and customer satisfaction. Rather than risk becoming complacent about the strength of existing tech stacks, leading organisations recognise the importance of being nimble with innovation in the face of rapid technology change and evolving customer expectations. It is significant, for example, that AI is now seen as the most important technology for achieving short to medium term ambitions.

Cloud plays a key role in driving this innovation at pace. Early adoption of cloud has historically focused on migrating and building new applications on public cloud providers, namely AWS, Azure and GCP. Today, the focus has shifted towards cloud models that embrace multiple platforms seamlessly. Competition and investment within the cloud space from major vendors has resulted in the development of compelling infrastructure and state of the art services, each with their own alternatives and unique propositions. Organisations seek to balance security with flexibility and want the ability to pick and choose the services they need from a plethora of options available to them. In today's age multi-cloud is inevitable for most organisations, which makes it imperative for organisation to have a robust multi cloud strategy that will help them navigate the Cloud landscape in a secure, compliant, and cost-effective manner.

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What is multi-cloud?

Multi-cloud is when an organisation runs their applications on cloud computing services from two or more cloud providers, without creating dependencies that limit agility. A multi-cloud environment can consist of private, public, or a mix of both types of cloud environments.

The main purpose of a multi-cloud strategy is to give organisations flexibility to use the best computing environment for each workload.

This approach has democratised access to cloud services, enabling non-IT departments such as marketing to utilise Platform as a Service (PaaS) and Software as a Service (SaaS) efficiently.

This streamlined access and integration into the broader ecosystem not only accelerates innovation but also paves the way for addressing critical challenges such as security compliance, resilience, risk mitigation, and cost optimisation in the multi-cloud landscape.

Benefits of adopting multi-cloud

Flexibility

Multi-cloud decisions usually rest on a few considerations, the first one being flexibility. This enables organisations to tailor cloud environments to each specific requirements by selecting providers with the most relevant features, capabilities, and pricing. The desire to increase agility and avoid or minimise vendor lock-in is becoming a common trend, as reliance on a single cloud provider increases the risk of significant business continuity disruptions, affecting operations and scalability. The flexibility offered by different cloud providers can enhance the performance of specific workloads, effectively allocating resources to where they are needed the most.

Cloud Cost Management

Multi-cloud enables opportunities to further reduce cloud spend by flexing platform adoption to achieve the best price point and organisations are already taking advantage of some key technologies, resulting in considerable savings across the infrastructure. The easiest and most immediate cost saving can be leveraged through comparing vendor landscape and finding the most suitable services at the point of deployment. Organisations can utilise the vendor's best price point at a single point of time. By combining this with a well-designed solution and multi-cloud strategy, organisations can move services as needed to the most cost-efficient platform with ease, taking advantage of the best price, every time.

KPMG has supported an oil & gas company to prioritise a multi cloud strategy and transformation roadmap across their private cloud and Azure, to define a governance and target operating model enabling a hybrid cloud ecosystem, which resulted in forecasted annual saving of 45-50% in infrastructure costs.

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Security and Compliance

To safeguard the environments and meet regulatory demands, organisations should maintain comprehensive oversight across all platforms and uphold a security posture consistently. A multi-cloud approach can significantly enhance an organisation's security framework, thanks to the extensive range of services offered by leading cloud providers. Organisations can benefit from the substantial investments in security made by these cloud service providers. By selecting from a diverse range of top-tier security solutions, organisations can assemble a tailored security toolkit, which can be effortlessly adjusted to meet evolving requirements.

To preserve the hard work put into digital transformation journeys, technology leaders are intentionally keeping a close eye on cyber security considerations. In fact, many organisations have discovered that proactively managing security risks in the early stages of projects has significantly increased the success rates of their transformation projects[1].

Resilience and Risk Mitigation

The scalability and flexibility of cloud platforms, when used correctly, brings significant capabilities to support the design and construction of highly resilient services, even in single Cloud Service Provider (CSP) deployments. Cloud platforms, while often hugely more resilient than traditional on-premises deployments, do still suffer from disruption and outages. Cyber incidents and large-scale infrastructure failures do still happen. Having a multi-platform strategy and the ability to move workloads quickly and redeploy to multiple clouds adds a further layer of protection to minimise downtime, data loss and offer valuable additional options in times of disaster.

Multi-cloud can provide additional risk mitigation in the following areas:

01 **Concentration Risk:** Using one provider for all deployments can bring commercial advantages because of scale, ease of deployment via a single code base and simpler management via a common interface. But it also places a huge reliance on one provider and can also lead to unwanted 'lock-in' to a single platform. According to Gartner, the risk associated with cloud concentration is fast losing its 'emerging' status as it is becoming a widely recognised risk for most enterprises[2]. Multi-cloud operation offers a way to spread the risk across multiple platforms and ensure that any disruption can be contained and managed more tightly.

02 **Capacity Management & Resource Limits:** Instant resource provisioning is a key benefit of operating in the cloud but ultimately no matter how much capacity a CSP has, it is still finite. When demand is high some regions have reached their limits with one major provider recently experiencing resource shortages that prevented virtual machines being deployed. Changing region may not always be an option due to factors such as data sovereignty or local regulatory requirements. Being able to take advantage of another providers capacity in the same region could be the only viable solution. Taking that to the next level could see your applications intelligently load balancing themselves across multiple providers as part of BAU operations.

03 **Shortages of Technical Skills:** Where technical skills are in high demand, being able to access the right people with the right skills is often a challenge. Having the capability to be flexible about which cloud platform to exploit offers another way to manage skills shortages and mobilise delivery using the skills you can access.

[1] KPMG global tech report 2023 - KPMG Global

[2] Https://www.gartner.com/en/newsroom/press-releases/2023-10-30-gartner-says-cloud-concentration-now-a-significant-emerging-risk-for-many-organisations#:~:text=In%20September%202023%2C%20Gartner%20surveyed,more%20for%2020%20emerging%20risks

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Cloud Service Provider Exit Strategy

This aspect is of specific relevance to financial services currently but could also apply to other highly regulated sectors in the future. The financial regulators have placed additional requirements on organisations to ensure critical services are protected from disruption which could cause harm to customers and/or financial markets. As more services move to cloud-based hosting regulators expect organisations to have well understood plans to mitigate the failure of a cloud provider's platform.

The complexity and urgency of exiting any given CSP will depend on workload types or tie-ins to specific CSP features and scale, to name a few considerations, but is a key requirement for FS and a potential consideration for many others. In these cases, the link between multi-cloud strategy, architecture and solutions engineering needs to be robust to ensure services provide ways to meet the requirements of the CSP exit plan.

How to get multi-cloud right?

Having a clear strategy is crucial for leveraging the services offered by various cloud platforms effectively. Many organisations might find multi-cloud introduces complexities like policy enforcement, security, compliance, and cost management. The common mistake is the operational burden of managing diverse systems and keeping teams updated. To avoid this, standardisation is crucial. Centralising on a single control plane and tool set reduces complexity, eases training requirements, and improves cost control across multiple clouds, thereby encapsulating the essence of digital transformation through the integration of cloud and DevOps practices.

- Organisations must first define a strategic approach that explores business opportunities and answers key questions such as "why multi-cloud?" This involves selecting the right public cloud vendors and services based on a thorough rationale, followed by outlining detailed roadmaps and plans. A comprehensive assessment of applications to understand both business and technical considerations and create a robust business case is crucial to understanding the readiness of the technology estate for migration and decide on the most suitable approach.
- Navigating the complexity of multi-cloud adoption requires a strategic approach to technology integration and architecture. To harness multi-cloud's full potential for enhanced resiliency and flexibility, companies must streamline their tech stack, prioritise automation, and embrace architectures that reduce technical debt. This involves designing systems that not only meet business needs but also enable applications to fully leverage cloud features, transforming operational challenges into competitive advantages.
- As with any cloud journey, cost can be considered a dark art for those that are at the early stages of adoption. Utilising cloud to its fullest potential and moving capital expense to an operational expense could potentially see monthly costs increase exponentially. The trend aligns with the rise in multi-cloud adoption and an increase in cloud service usage. Having a robust FinOps capability can help mitigate this and deliver the value multi-cloud promises. The 2024 Flexera State of Cloud Report[3] polled 753 business and tech leaders from around the world, the survey shows, only 51% of organisations have a FinOps team that advice or manage cloud cost, the rest are planning to establish one in the next 1-2 years, underscoring the growing emphasis on FinOps—a practice focused on the financial optimisation of cloud resources.

By equipping teams with the necessary tools and methodologies, organisations can ensure a smooth transition into a multi-cloud environment. This not only enhances operational capabilities but also positions teams to thrive in the dynamic landscape of cloud computing, leveraging the full spectrum of benefits offered by a multi-cloud strategy.

[3]https://info.flexera.com/CM-REPORT-State-of-the-Cloud-2024-Thanks?revisit

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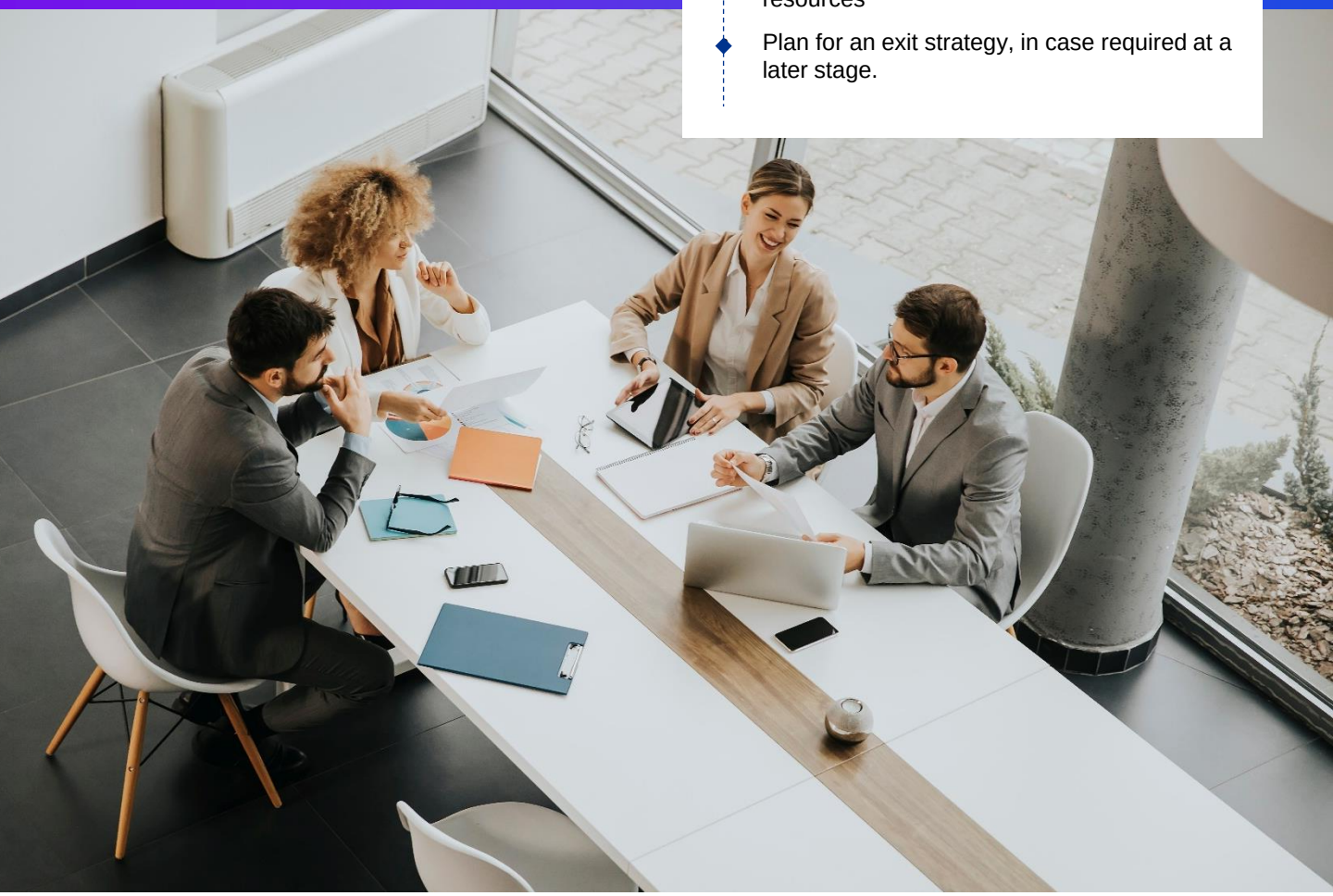
How Can KPMG help?

Multi-cloud enables organisations to leverage the skills already deployed within their teams to provide greater flexibility and choice.

We, at KPMG, can help guide you through your multi-cloud journey using our well establish Cloud Adoption Framework. With over 1,000 team members, KPMG is one of the largest Cloud Transformation providers in the UK. We bring end-to-end services across the entire cloud life cycle from strategy and planning to architecture and build, through to running cloud-enabled applications. Our alliances with Microsoft Azure, GCP and AWS, enables us to be up to date with the latest evolutions in the Cloud marketplace.

KPMG's approach to enabling clients adopt the hybrid and multi cloud model covers all phases from strategy and on-boarding to on-going operations.

- Provide technical guidelines for architects and engineers, including tooling, automation, and guard rails to meet the hybrid/ multi cloud control requirements.
- Identify key technical activities in cloud setup, on-boarding, and application migration.
- Comprehensive checklist for each stage to verify that controls have been executed.
- Create clear and auditable traceability between controls and the compute environment.
- Balance skills and training requirements of resources
- Plan for an exit strategy, in case required at a later stage.



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Reach out to find out more!

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Ashish is a Lead Cloud Architect with 13+ years' experience in Enterprise and Solution Architecture. He has expertise in Cloud Transformation, Designing Architectures, DevOps Implementations, Disaster Recovery setup and Technical Program delivery. Working from various Client sites, Ashish has managed multi-geographic, multi-cultural teams and has a broad range of experience from Strategy/Concept to Technical implementation. This experience enables him to understand the challenges facing the modern Cloud Architect and develop effective solutions

Ying Li

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With a multifaceted background in technology and project delivery, Ying's expertise extends to cloud transformation and remediation, ensuring resilient and robust IT infrastructure. Additionally, Ying has been at the forefront of implementing Gen AI use cases and pilots, showcasing her ability to leverage cutting-edge technologies to drive quantifiable value

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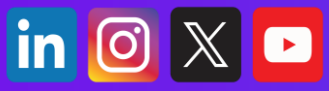

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