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Multi-cloud strategies for operational resilience

To compete in today's fast-moving environment, banks are embarking on digital strategies of which cloud adoption is an intrinsic part. Dimitrios Petropoulos outlines the requirements of establishing a multi-cloud hosting environment that may ensure data and systems security, balanced costs, scalability and other benefits that a single-cloud strategy may not provide.

The banking sector is adopting the cloud, predominantly in a hybrid mode, combining on-premise private cloud and public cloud (SaaS and IaaS). Operating in the cloud provides scalability, flexibility, faster time-to-value, cost effectiveness and a range of other benefits. Cloud service providers (CSPs)—in addition to raw compute, networking and storage—offer a comprehensive range of CSP-native proprietary products/services including high-performance databases, data analytics, AI and ML, serverless platforms, developers/DevOps, automation, orchestration and security tools. The seamless integration of these solutions invites further cloud workload migration which increases the value of cloud adoption.

The use of CSP-specific products and services also increases cost-effectiveness; yet it can result in vendor lock-in. Moving traditional commercial off-the-shelf (COTS) platforms between hosting environments is no mean feat but is a tractable problem solved many times in the past. However transitioning out of a CSP when the service consumer is completely relying on CSP-native and proprietary products and services is a different challenge.

The continuous provision of important financial services by institutions is reliant on the resilience of their respective CSP. Regulators are therefore issuing supervisory expectations specific to cloud outsourcing. They are requiring financial institutions to identify the cloud services that the provision depends on, and set cloud exit strategies and CSP migration plans in line with the importance of the services offered. Regulators would also demand action to be taken in some cases of systemically critical entities or considerable concentration of risk.

Very seldom will a de-risking cloud exit strategy involve migrating the bulk of the workload back to on-premise hosting environments as this is the least cost-effective and sustainable strategy.

Usually, these strategies involve taking advantage of multi-cloud hosting environments by preparing the plans and architecture to transition services to different CSPs that can provide the required scalability. Therefore it is essential to apply containerization, cloud-native but CSP-agnostic platforms, and careful planning and testing to ensure the delivery of results within the required impact tolerance. This works better in IaaS and PaaS than in SaaS where exit strategies might be more complex and alternatives are more limited.

A host of benefits

Developing a strategy that involves a multi-cloud provides a solid foundation for IT resilience and introduces a wide range of additional advantages including greater agility, while avoiding vendor lock-in. Although these hosting environments bring numerous benefits to an organization, IT departments are still facing some management challenges associated with the multi-cloud. These include increased architecture complexity, requiring additional employee skills and securing heterogeneous hosting environments at scale. Identity, access management, data visibility, data protection, and network and communications security are foundational capabilities that can be developed across the multi-cloud to reduce residual risk regardless of the hosting environment.

Financial services industries around the world started embracing the benefits of the cloud decades ago. This allowed numerous organizations to reach advanced levels of digital maturity. Their experience has created a comprehensive body of knowledge that organizations can benefit from today as they embark on their multi-cloud journey.

There are a number of CSPs currently operating in the UAE, removing data residency/sovereignty obstacles to the adoption of multi-cloud strategies. Financial institutions should consider multi-cloud hosting environments at the macro level to enhance organizations' operational resilience. At the micro level, they can also reap the benefits of tailoring workloads to CSPs on a fitness-for-purpose basis.

In this article the term 'multi-cloud' is used to denote the use of more than one IaaS/PaaS CSP.

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