

The Opportunities and Data Management Considerations of Hybrid Cloud

The 451 Take

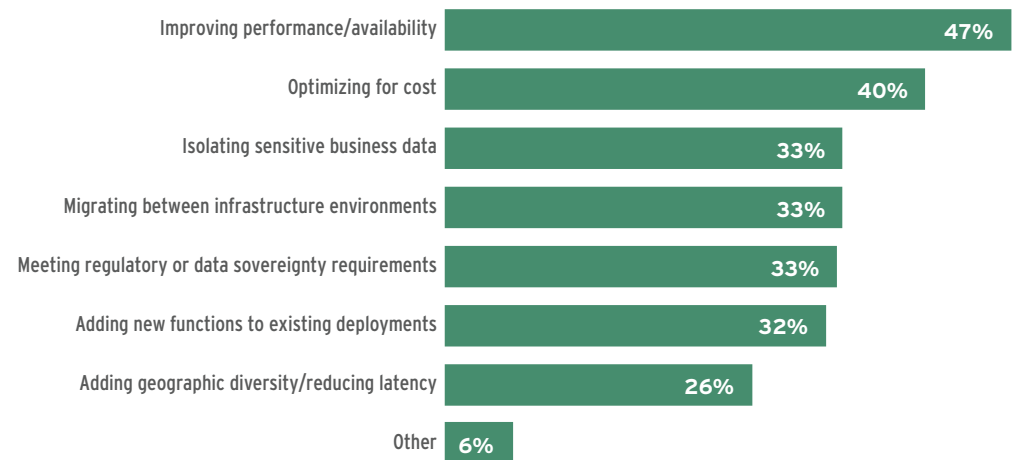
Using multiple cloud services from multiple cloud providers is not the same thing as having a hybrid cloud strategy. Many enterprises have stumbled into the use of multiple cloud environments thanks to tactical, departmentally driven approaches to cloud service adoption, as well as through shadow IT efforts. However, as more companies see the benefit of operating multiple infrastructure environments (both on- and off-premises), an increasing number of enterprises are adopting strategies that enable and encourage hybrid cloud adoption.

451 Research defines true hybrid cloud as the use of both on-premises and public cloud, with multiple environments – potentially including the edge – supporting the seamless delivery of a single business function. It is an approach adopted by about 16.5% of cloud users, according to our Voice of the Enterprise survey respondents (as opposed to 32.4% who use a single cloud environment, 27.2% who have multiple cloud environments with little or no interoperability, and 23.9% that have multiple cloud environments with accompanying workload and data migration strategies).

Hybrid or not, the use of multiple cloud providers is a growing trend. In relation to data processing, analytics and business intelligence workloads, for example, our data indicates that 52% of respondents are currently using multiple infrastructure environments, while a further 9% plan to, and an additional 14% are considering it. Why are companies deliberately adopting multiple cloud providers? Our research points to multiple business benefits, including improved performance and availability, optimizing for cost, and the need to isolate sensitive business data (see figure below).

Reasons for Choosing Multiple Infrastructure Environments (Multi-Cloud and Hybrid Cloud)

Source: 451 Research's, Voice of the Enterprise: Cloud, Hoisting and Managed Services, Workloads and Key Projects, 2018



However, there are some important considerations to think about here – not least of which is data management. In short, as data is increasingly spread across on-premises infrastructure and multiple cloud environments, as well as relational and nonrelational databases, Apache Hadoop, and other data processing and storage technologies, it will become increasingly difficult for enterprises to understand what data they have and where it resides. If enterprises don't know what data they have or where to find it, they cannot use it to affect business outcomes – not to mention the potential for increased risk to the business from ungoverned and unsecured data.

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Business Impact Brief

Business Impact

IMPROVED PERFORMANCE/AVAILABILITY. The most popular reason for using multiple infrastructure environments is to improve performance and availability. While enterprises are not necessarily moving workloads between cloud providers on a regular basis, they do like the safety net of being able to do so, while also selecting specific services from different providers in order to maximize performance and availability.

COST CONSIDERATIONS. While using cloud services has the potential to lower up-front infrastructure costs considerably, the devil is in the details in terms of comparing costs for individual workloads. Using multiple infrastructure environments provides the potential to switch providers for individual services as new offerings are introduced and prices change.

DATA PRIVACY AND SOVEREIGNTY CONSIDERATIONS. The recent introduction of GDPR has focused attention on data privacy requirements, and the risks enterprises face if they are unable to demonstrate compliance, while enterprises also need to be cognizant of legal requirements to store data in specific geographic locations.

DISTRIBUTED DATA MANAGEMENT CHALLENGES. As data is increasingly distributed across multiple environments, it potentially becomes more difficult for an organization to consistently apply data governance policies, which poses risks in terms of ungoverned and unsecured data, as well as potential data quality concerns.

CONSISTENT EXPERIENCE BOTH ON-PREMISES AND IN THE CLOUD. While enterprises are looking to enjoy the benefits of using multiple infrastructure environments, they are also looking for consistency in terms of user experience to maximize their investment in skills and supplier relationships across the distributed estate.

Looking Ahead

There are a handful of enterprises moving the vast majority of their operations to cloud services, and there will likewise be a small number of enterprises that will remain on-premises for the foreseeable future. But it is now clear that most enterprises will be operating hybrid strategies going forward, involving on-premises and public cloud infrastructure, including multiple cloud providers as well as edge processing. As such, enterprises are increasingly looking for a consistent experience in terms of managing data in multiple environments – both on-premises and in various clouds.

Cloud providers offer their own products and services for managing data within their own environments, and are looking to enable migration from on-premises environments to cloud, but are naturally less inclined to encourage data and workload movement between cloud services, and from cloud to on-premises environments. Thus, the functionality for multi-location data management will likely continue to be delivered by independent data management and data platform vendors.

It is still in the early stages for products and services that enable true multi-location data management, but key areas of concern for enterprises evaluating potential suppliers should include data catalog and metadata management services to enable the identification and management of data across multiple environments, as well as associated data security and data governance functionality.

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