451 Research | Business Impact Brief

Formulating Cloud Strategy in the Hybrid Multi-Cloud Era

This Business Impact Brief on crafting cloud strategy is the first in a series of three. The second will identify what's needed to migrate and reposition workloads accordingly. The final Brief will describe how to automate business processes effectively across hybrid multi-cloud IT architecture.

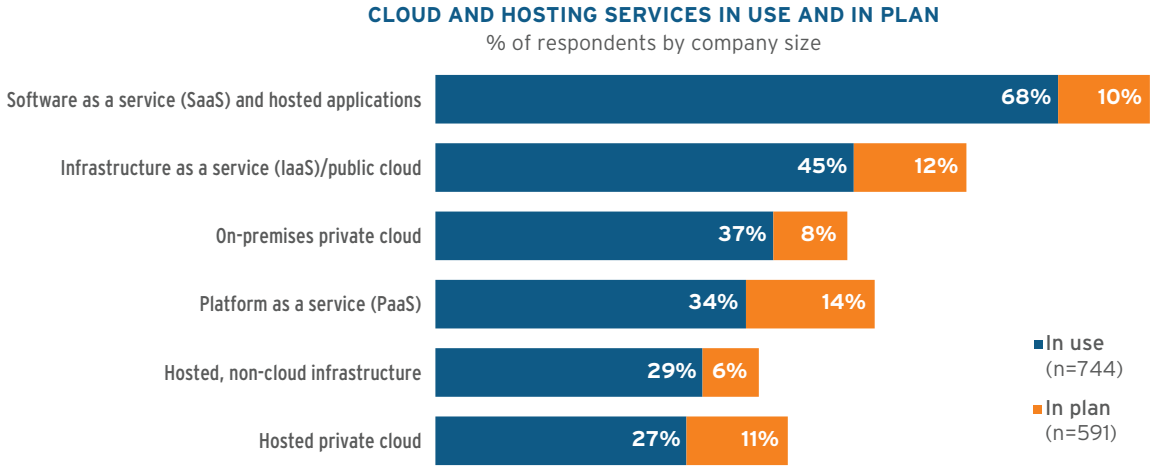
The 451 Take

Enterprises in pursuit of digital business will demand that IT vendors craft a holistic and uniform means to deploy portable workloads to best execution venues (BEVs) – e.g., on-premises infrastructure and public and private clouds – and manage business continuity across what is now a hybrid IT architecture. As workloads shift to exploit the price/performance advantages of various cloud services, the current means to evaluate workload and venue characteristics, integrate data and applications, and orchestrate distributed business processes will be challenged. New tools and techniques will be required for IT infrastructure analysis and strategic planning. While the market now lacks mature offerings, we believe the best way to address these issues can be found in the product management and professional services teams of IT vendors tasked directly with hybrid multi-cloud client engagements.

IT organizations are no longer limited to managing datacenters and a few hosted and managed services providers. Needy line-of-business teams and impatient IT developers have procured SaaS, IaaS and PaaS clouds to overcome resource constraints and exploit their economic and productivity advantages. Figure 1 illustrates this trend. In a recent survey, we asked 744 business and IT decision-makers about the types of cloud or hosted services they are using now, and their plans in the next 12 months.

Multi-Clouds Well Entrenched and Growing

Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Organizational Dynamics 2018



We found that the demand for SaaS, IaaS and PaaS continues to accelerate, closely followed by the need for on-premises private cloud infrastructure. Indeed, several other IT trends such as the migration toward container and microservices architectures and emerging IoT initiatives add to the range of IT architecture options (and potential confusion).

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The 451 Take (continued)

Invariably, such on- and off-premises venues will need to interoperate, exchange data and support the execution of distributed business processes. This is the role of a modern hybrid multi-cloud IT architecture, a design all enterprises must master, but it requires a well-reasoned cloud strategy. To master it, strategists must answer two fundamental questions.

1. ***Under what conditions do we put a specific workload on a specific execution venue?***

   This requires an understanding of workload characteristics and the capabilities of various execution venues (beyond just cost) to intelligently map workloads to their BEVs and to migrate, monitor and manage the workloads across them. In some use cases, data and logic may need to be redistributed. For example, in core/fog/edge IoT architecture, the issue is how to intelligently and dynamically choose and shift where logic is computed – i.e., in the core (cloud), in the fog (nodes), on the edge (devices) – and how to minimize data in motion. Strategists must answer the next question.

2. ***Under what conditions do we move the logic to the data or the data to the logic?***

   Such decisions require detailed analysis of many complex variables beyond cost. New tools and services are required to assist with data-based analysis and planning to determine the BEV for various workloads and guide a migration strategy. This will usher in next-generation infrastructure and cloud management systems we refer to as unified infrastructure management (UIM) platforms. UIMs will be equipped with intelligent price/performance analytics and potentially include automation tooling to help migrate workloads to their BEV.

The UIM market is just emerging, and such planning and analysis tools are nascent. In the interim, we believe it's best to work with the professional services and product development teams of trusted IT vendors skilled in the automation of workload development, deployment and hybrid cloud management.

Business Impact

ON THE ENTERPRISE. Business and IT decision-makers must begin to think more strategically about the composition of multiple execution venues and distribution of workloads across them. Data-based answers to the questions posed in this Business Impact Brief should be top priority.

ON BUSINESS OUTCOMES. Enterprises that systematically review and compare the operational requirements of their core workloads with the price/performance characteristics of their distributed execution venues may be able to improve operating margins and wield competitive advantage over rivals that do not.

MARKET IMPLICATION. The IT infrastructure and cloud management platforms in use today were designed with little consideration for hybrid multi-cloud management and the strategic planning tools needed to fully exploit hybrid IT architecture. Emerging UIM platforms are on the way. In the meantime, the expertise of professional services teams skilled in hybrid IT architecture design and deployment can fill the void.

Looking Ahead

Building a next-generation UIM platform will require considerable forethought. The platform must be able to answer the strategic planning questions noted above. It must be able to assist enterprises in intelligently guiding and adapting cloud strategy using data-based decision-making capabilities. Then it must enable, or at least support, the means to migrate and manage workloads across multiple execution venues (datacenters, multi-clouds, managed services), and to manage data and logic placement across these distributed architectures. This will be discussed in the next Business Impact Brief in this series.