S&P Global
Market Intelligence **Business Impact Brief**

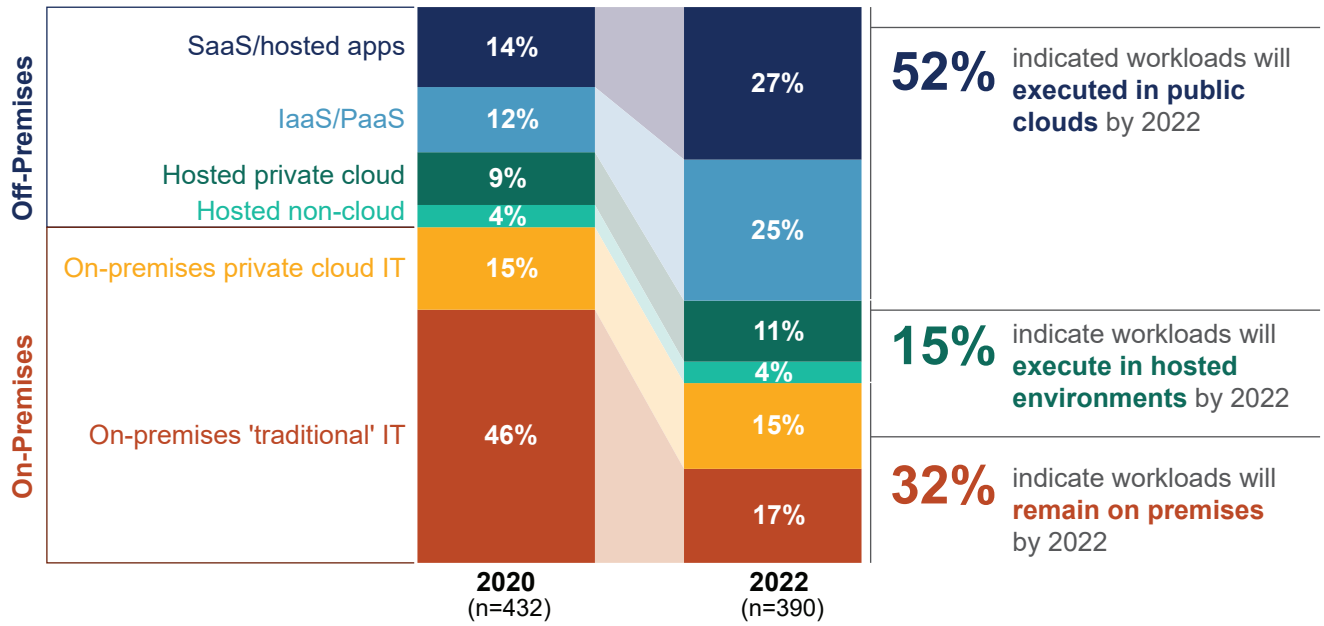
Formulating Cloud Strategy in the Hybrid Multicloud Era

The 451 Take

In their constant pursuit to create competitive digital businesses, enterprises will demand that IT vendors take full advantage of the benefits of cloud computing. Specifically, they will seek vendors competent in crafting holistic and uniform means to create and deploy portable workloads to their best execution venues (e.g., on-premises infrastructure, public and private clouds) and manage digital business continuity across highly distributed hybrid IT architecture. As workloads continue to shift to exploit the price/performance advantages of various cloud services, the current means to evaluate workload and venue characteristics and orchestrate distributed business processes will be challenged. New tools and techniques will be required for IT infrastructure analysis and strategic planning. The current market lacks mature offerings. However, we believe the best way to address these issues today can be found in the product management and professional services teams of IT vendors tasked directly with hybrid multicloud client engagements.

IT organizations have many more deployment options beyond traditional on-premises datacenters or hosted and managed services providers. Indeed, needy line-of-business teams and impatient IT developers continue to seek and procure SaaS, IaaS and PaaS clouds to meet accelerating demand, overcome resource constraints, and exploit the evolving economic and productivity advantages they offer. The figure below shows that this trend will continue to unfold.

Hybrid Multicloud Architectures Continue into the Future



Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Workloads & Key Projects 2020

Q: Which of the following best describes the primary environment used to operate your organization's workloads today and in two years?

The demand for public cloud environments such as SaaS, IaaS and PaaS will continue to accelerate into 2022. The use of hosted private clouds and hosted non-cloud services will remain steady. On-premises infrastructure will continue to diminish but will remain intact for the foreseeable future, and likely always will. Indeed, several other IT trends such as the migration toward containers and microservice architectures, edge computing and emerging IoT initiatives add to the range of IT architecture options (and potential confusion). Invariably these on- and off-cloud workload execution venues will need to interoperate, exchange data and support the execution of distributed business processes. This is the role of a modern hybrid multicloud IT architecture, a design all enterprises must master, and one that requires a well-reasoned cloud strategy. To master it, business and IT strategists first must answer two fundamental questions.

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

This requires an understanding of workload characteristics (e.g., operating environment, data requirements, latency, et al.), and the capabilities of various execution venues beyond just cost (e.g., security, agility, resiliency, et al.) to intelligently map workloads to their best execution venues (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 computing and 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, as well as new tools and services 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. UIM platforms will be equipped with intelligent price/performance analytics and strategic planning techniques, and they will include automation tooling to help migrate workloads to their BEV.

While the UIM market is still nascent, the various tools the platforms use to enable hybrid multicloud management are slowly maturing, but at different rates. For example, Kubernetes can provide a flexible container infrastructure that can provide consistency across execution venues today. Notwithstanding, to minimize complexity and flatten the learning curve, 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 multicloud management.

Business Impact

On the enterprise. Business and IT decision-makers must always think 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 assist and be top priority.

On business outcomes. Enterprises that systematically review and compare the operational requirements of their core workloads, with the price/performance/resiliency characteristics of various distributed execution venues, can improve operating margins and wield competitive advantage over rivals that do not.

Market implication. Many of the IT infrastructure and cloud management platforms in use today were designed without sufficiently considering the strategic planning techniques needed to fully exploit hybrid IT architecture. Emerging UIM platforms are being specifically designed for this purpose. Nevertheless, the expertise of professional services teams skilled in hybrid IT architecture design and deployment can accelerate time to value.

Looking Ahead

Next-generation UIM platforms are gradually being equipped with the tooling needed to answer the strategic planning questions noted above. Moreover, they will soon be able to assist enterprises in intelligently guiding and adapting cloud strategy by using AI-powered decision-making and resource-optimization capabilities. They will then enable, or at least support, the means to migrate and manage workloads across multiple execution venues (datacenters, multiclouds, hosted/managed services), and manage data and logic placement across distributed architectures.