

Formulating an agile integration strategy in the hybrid multi-cloud era

The 451 Take

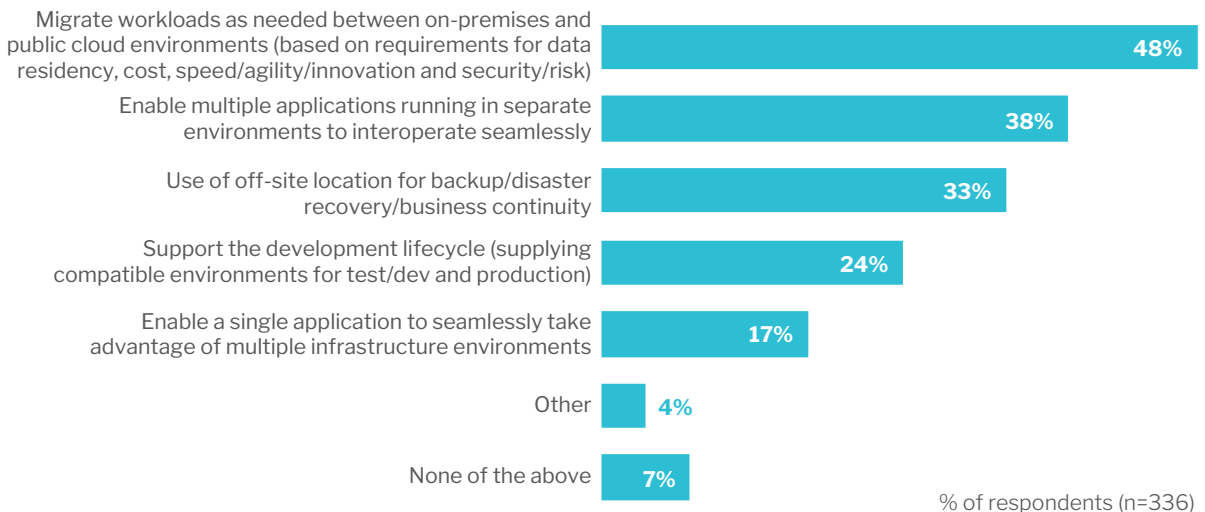
The modern digital business demands that enterprise and IT leaders continuously reexamine their customers' experiences and expectations, improve business efficiencies and fend off threats from rivals. The 'digital transformation' phenomenon has driven a cloud-first mentality that explores multiple cloud service options and innovative technologies such as containers, microservices, machine learning and Internet of Things initiatives. It has transformed IT into a highly distributed hybrid architecture composed of multiple datacenters, multi-clouds, managed services, edge computing, devices and things. This changes the way applications must be designed, crafted, deployed and integrated for interoperability as needed. Classic IT integration strategies and technologies have struggled to cope in the hybrid multi-cloud era. Today, a new distributed, containerized, API-centric and adaptive approach to IT integration is required – an agile integration approach that streamlines, improves and accelerates integration process design and deployment. Such capabilities, we believe, are found in next-generation hybrid integration platforms.

Hybrid integration platforms represent next-generation technology to enable data exchange and interoperability across distributed on-premises infrastructure, software, cloud services, mobile devices and things. They are necessary because enterprises are transforming their IT strategies and infrastructure to a distributed hybrid multi-cloud architecture (i.e., hybrid IT). To better understand this, 451 Research conducted a survey asking IT decision-makers about their hybrid IT strategies. Of the 336 respondents, 48% stated they will migrate enterprise workloads as needed between on-premises and public cloud environments based on policy requirements for data residency and security, the need for speed agility and innovation, as well as cost factors. Perhaps a more telling finding, and one of significant relevance to integration strategy, is that 38% said they must enable multiple applications that run in separate environments to interoperate seamlessly.

Reasons Organizations Use Hybrid/Multi-Cloud Environments

Source: 451 Research's Voice of the Enterprise: Cloud, Hosting and Managed Services, Workloads and Key Projects 2019

Q: Which of the following use cases are most important to your organization's use of hybrid/multi-cloud environments? (n = 336)



The 451 Take (continued)

Many organizations are also adopting a cloud-native approach to application development. Modern programming techniques now exploit shared-distributed cloud architectures, portable container technology, and discrete microservices designed to quickly assemble logic, automate processes and adapt when needed. Moreover, IT organizations are pushing their AppDev and operations teams and systems closer together to form a DevOps capability to better respond to changing conditions in support of a digital transformation strategy. Applications move from development to production almost instantly with the use of automated continuous integration and continuous delivery techniques. Overlooked, though, have been the integration technologies needed to enable interoperability across the distributed systems that now compose hybrid IT. Centralized enterprise service bus technology was not designed for these purposes. What's needed is an agile and adaptive approach to integration, similar in rigor and scope to agile software development methods. This is the role of hybrid integration platforms.

A hybrid integration platform is a set of tools and resources structured within a uniform framework to enable developers/architects – and even less-technical business or ‘citizen’ integrators – to rapidly design, automate, deploy, manage and monitor integration processes. The platform generally includes common integration patterns and pattern development tools, real-time messaging, data integration and API management capabilities, as well as a low/no-code user experience that uses visual models, prepackaged templates, and graphical drag-and-drop design tools to compose rather than code integrations.

Hybrid integration platforms may also include machine learning resources to assist in design, acting as recommendation engines to help improve developer productivity. Changes can be instituted on the fly, making them agile integration platforms in support of DevOps strategy. Hybrid integration platforms also abstract away layers of complexity and make underlying IT infrastructure invisible to developers – allowing them to concentrate on the logic and interoperability of the applications, devices and things that now compose hybrid IT.

Business Impact

IMPLICATIONS OF DISTRIBUTED ARCHITECTURE. The accelerating pace of workload migration to cloud services in the coming years is driving a new generation of agile and adaptive technology designed to assemble, integrate and manage hybrid multi-cloud computing architecture and run interoperable applications and workloads across it.

INTEGRATION PROFESSIONALS NEED NEW TOOLS. Classic enterprise integration and bus technologies cannot cope. Integration and application developers, architects, data scientists and citizen integrators will need agile integration technology designed to rapidly compose integration processes across any distributed source, target or endpoint, and adapt when needed with minimal disruption to operations.

EMERGING TECHNOLOGIES WILL REQUIRE HYBRID INTEGRATION PLATFORMS. Distributed cloud-native applications, streaming data processing and serverless functions are just a few of the innovations now being considered to enable the modern digital business. These and other innovations will influence and stimulate continued investment in the next generation of hybrid integration platforms needed to enable a hybrid multi-cloud IT strategy and architecture.

Looking Ahead

Going forward, hybrid integration platforms will become smarter, network-aware, data-aware and security-aware, and they will evolve to include emerging service mesh technology that is needed to orchestrate microservices-based applications – all capabilities required for rapid change at scale. The platforms will extend into and connect virtually all types of enterprise data endpoints and extend into the systems of customers, partners and suppliers to fulfill the business outcomes required of digital transformation initiatives in the hybrid multi-cloud era.

**Red Hat**

As applications and services become more central to business strategy, and as methodologies like agile and DevOps change the way teams operate, it is critical for IT leaders to find a way to integrate their backend systems, legacy systems, cloud services and teams in an agile, adaptable way. Red Hat proposes an agile integration approach which is based on key capabilities such as distributed integration, containers and APIs. This approach supported by cloud-native technical capabilities helps enterprises effectively handle distributed, hybrid, multi-cloud challenges.