Accelerate digital transformation with enterprise apps on the cloud

Understand the risks and rewards of moving enterprise applications to a multicloud environment

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Digital transformation requires shifting critical and noncritical workloads to the cloud

Many enterprises began their cloud journeys by migrating customer-facing applications and adopting cloud-native applications. This approach makes sense, since the first workloads moved to the cloud were those that could more easily be deployed. However, these applications are only a fraction of the total run by enterprises. In fact, only 20 percent of all workloads have moved to the cloud.[1] Complete digital transformation requires organizations to enter the second phase of cloud adoption—enabling and integrating cloud-native front-office and back-office applications, such as enterprise resource planning systems, in hybrid multicloud environments.

By bringing a hybrid cloud operating model to mission-critical applications, your enterprise can more effectively mine customer, supply chain, sales and marketing data to deliver new applications and services to customers, employees and partners. Multicloud environments can optimize your applications and provide you with the ability to match the right workloads to the right cloud providers. However, multicloud environments can be complex and require additional skills and resources to deploy and manage. IT leaders need to understand the risks and benefits of adopting a multicloud strategy for enterprise applications.

Research methodology

A recently conducted IBM® Market Development & Insights (MD&I) survey pursued a deeper understanding of the challenges and benefits of migrating and managing non-SaaS enterprise applications across multiple clouds. MD&I surveyed 204 business and technology leaders. Of the respondents, 58 percent were chief information officers (CIOs), chief technology officers (CTOs) and 39 percent were IT directors or IT managers. Sixty percent of respondents said they used a multicloud environment. The other 40 percent reported they planned to adopt to a multicloud environment. Most of these organizations viewed multicloud as a distinct advantage for their enterprise applications that allows companies to achieve cost savings, flexibility and scalability. However, these organizations acknowledged some resulting challenges, such as added complexity, consistent management and integrating legacy platforms. Most respondents indicated that successful IT management requires a single view of the hybrid multicloud estate for monitoring and management.

Multicloud is a growing reality for many businesses

In the next three years, 98 percent of businesses plan to adopt a multicloud architecture. However, as a result of the growth of shadow IT and partial migration of IT infrastructure, many companies already use a multicloud approach.[2] Employees look to simplify daily tasks and search outside typical procurement processes for solutions, which increases costs and risks for your enterprise. Additionally, only 38 percent of organizations have the right procedures and tools in place to operate in a hybrid multicloud environment.[2] While installed hardware and customer-facing applications have shifted to the cloud, some workloads, such as SAP and Oracle applications, have been managed on premises for years, making this shift more intimidating. To continue to innovate, increase business agility and gain competitive advantage, your organization needs a digital transformation strategy that includes moving these critical applications to the cloud.

Benefits of running business-critical workloads in multicloud environments

Leading enterprises appreciate the value and accompanying complexity of shifting business-critical workloads to a hybrid multicloud model. By moving installed applications, organizations can experience greater scalability, cost savings and flexibility.

Scalability
By accessing resources from multiple clouds, 44 percent of IT leaders who use multicloud environments expect to increase scalability.[3] An increase in the ability to scale enterprise applications allows enterprises to quickly adapt to competitive pressures. Multicloud environments provide the ability to run workloads in the cloud where they fit best, based on your unique strategy and objectives. The right multicloud management platform allows you to provision resources more effectively and cohesively manage private and public clouds.

Cost savings
Of leading IT enterprises, 49 percent currently using multicloud environments realize lower costs.[3] A cloud infrastructure has inherent cost savings, such as paying only for computing power required and having the ability to shift costs from capital expense (CAPEX) to operating expense (OPEX). Companies can decrease cloud spending for critical workloads using hybrid multicloud infrastructure and the right vendor.

Flexibility
Having the ability to choose the right vendor for specific workloads is a benefit for 43 percent of multicloud users.[3] Beyond cost savings, vendor flexibility has other benefits that allow companies to grow or change their application portfolio in ways that might not be possible with a single cloud vendor. A multicloud approach allows you to match vendors to workloads based upon capabilities and avoid the limitations of a single cloud vendor. In fact, 44 percent of organizations currently using multiple clouds indicate that they benefit from avoiding vendor lock-in.[3]

Challenges of a hybrid multicloud world

The complexity of a hybrid multicloud environment is one of the key inhibitors of digital transformation, and enterprises struggle to manage traditional and cloud environments across different infrastructures. Business-critical applications, like SAP and Oracle, integrate key functions across the business, so a seamless transition of these workloads to the cloud is essential to the success of an organization. Added complexity, lack of in-house management skills and tools, and potential for inconsistency are key challenges for enterprises.

Added complexity

While working with multiple cloud vendors helps avoid vendor lock-in, 42 percent of these companies feel it can result in added complexity.[4] As organizations increase the number of managed applications and experts needed for systems across clouds, day-to-day operations and advanced functions like identifying data patterns and trends can become more complicated.

Lack of in-house management skills and tools

To deliver reliable and responsive IT, organizations need resources trained across multiple cloud infrastructures and applications. Finding, hiring, training and retaining skilled talent to manage a multicloud environment in-house is a primary challenge for 43 percent of organizations planning to use cloud.[3] This challenge can limit the ability of a company to integrate applications across its traditional and cloud environments, negatively impact user satisfaction, increase risk and decrease IT responsiveness to internal and external customers.

Organizations that are currently using or planning to use a multicloud environment have different opinions on the challenge of finding the right talent. While 43 percent of organizations planning to use a multicloud environment view the lack of in-house cloud skills as a primary challenge, only 18 percent of enterprises have the same concerns.[4] This difference suggests that those currently using a multicloud environment have either successfully hired in-house resources or outsourced them to third parties.

Figure 1. Primary challenges in running enterprise apps in a multicloud environment: complexity
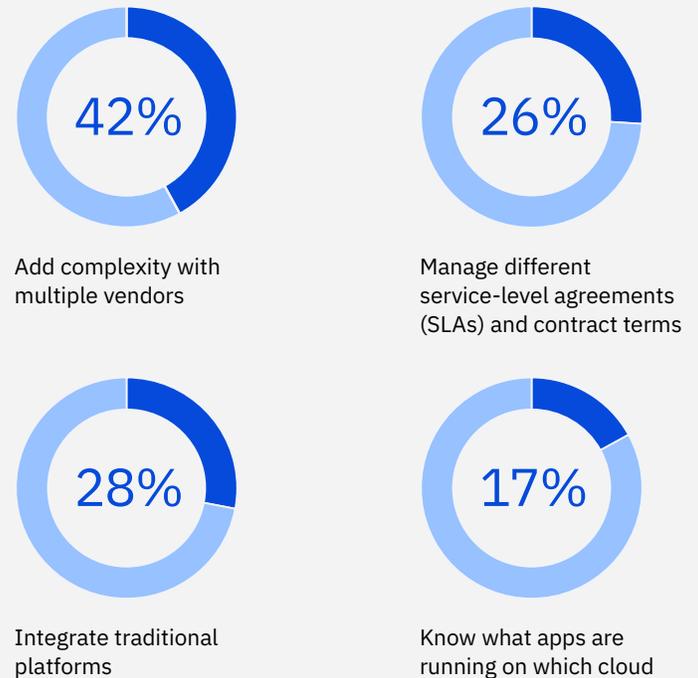

42%

Add complexity with multiple vendors

26%

Manage different service-level agreements (SLAs) and contract terms

28%

Integrate traditional platforms

17%

Know what apps are running on which cloud

Figure 2. Primary challenges in running enterprise apps in a multicloud environment: skills-based

Lack of in-house skills

Currently on multicloud
18%

Planning for multicloud
43%

Security and compliance challenges in the multicloud
The added complexity of managing multiple vendors can result in difficulties maintaining security and compliance. Forty-one percent of enterprises that currently use multicloud indicate that security is a challenge, and 24 percent of surveyed organizations planning to use multicloud state that maintaining compliance is a challenge.[3]

Without a disciplined approach to monitor security and compliance across multiple clouds, IT leaders may experience unplanned system downtime, decreased customer trust and fines due to consumer data privacy violations. Integrated, built-in security is essential to managing enterprise applications across multiple clouds.

Potential for inconsistency
The need for consistency across hybrid multicloud environments is an issue among customers, as 36 percent of organizations cite consistent management across multiple platforms as a challenge. Roughly 39 percent of organizations state having a single view into applications as a primary challenge in running non-SaaS applications in a multicloud infrastructure.[3] But how can teams more effectively provide this simplified view?

The importance of a single view across your infrastructure

Inconsistency, inability to manage costs and security and compliance risks across platforms can create operational inefficiencies for organizations. A single view across vendors can help. Seven out of ten enterprises state having a single view of their applications across public clouds as important.[3] Surprisingly, only 42 percent of multicloud users have a central console for a single view.[4] Enterprises using a single view of applications experience benefits, such as greater efficiency, improved cost and more effective performance management, and the lack of a single view impacts visibility across cloud providers.

70% of respondents view having single view of enterprise applications across public clouds as important.[3]

Figure 3. Primary challenges in running enterprise apps in a multicloud environment: security and compliance
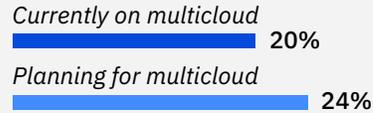
Security
Currently on multicloud
41%
Planning for multicloud
34%

Maintaining compliance
Currently on multicloud
20%
Planning for multicloud
24%

Figure 4. Primary challenges in running enterprise apps in a multicloud environment: consistency

Have a consolidated view
Currently on multicloud
39%
Planning for multicloud
30%

Provide consistent management
Currently on multicloud
36%
Planning for multicloud
44%

The advantages of using a service provider to manage your enterprise applications in the public cloud

Having a single point of responsibility was cited most often as an advantage by current multicloud users.[3] Transparency is not easy to achieve across multicloud providers, but a single vendor can provide teams visibility across mission-critical workloads, help develop repeatable standards and optimize cloud use and spend.

Once you have visibility, managing multiple public cloud vendors can present challenges. Difficulties in defining the right architecture to enable cloud deployment, managing the complexities that come with multiple clouds and a lack of in-house skills can frustrate enterprises. Some businesses manage cloud providers in-house, and others rely on third parties to help. Sixty-three percent of IT leaders show interest in having a third party manage their enterprise apps across public clouds and approximately 55 percent use at least one service provider to manage non-SaaS applications across the public cloud.[3]

When considering a single provider, three out of four enterprise leaders cite vendor lock-in as the biggest drawback to having a single vendor manage their workloads.[3] However, a single vendor can simplify multicloud management and create transparency, flexibility and predictability, which help avoid vendor lock-in. By using a single vendor, 30 percent of enterprises decreased their need to retrain in-house staff and 27 percent had the ability to redeploy resources to other strategic priorities.[3] Ultimately, a single point of responsibility provides a simplified, consistent user experience that can help increase the efficiency of your organization.

Accelerate the impact of digital transformation
When planning for the evolution of their IT infrastructure, 89 percent of IT leaders plan to use artificial intelligence (AI) and analytics, 83 percent plan to use the Internet of Things (IoT) and 59 percent plan to use blockchain.[3] Effective implementation of these technologies in a multicloud infrastructure can radically change day-to-day operations and deepen your competitive advantage through smart data use. Developing and executing your strategy can be difficult. Some organizations find value in an integration expert that understands their business and how to best optimize data analysis, workflow automation, client experience and asset use. The ability to choose the right cloud for the right workload is vital and can create opportunities for simplified management, security, governance and data leveraging. The right guidance helps ensure that your organization uses the advantages of AI and analytics to help increase your ability to scale.

Figure 4. Advantages of single vendor management for enterprises currently using a multicloud environment

59%	43%	42%	34%
Single point of responsibility	Reduced complexity	Single contract	Standard and consistent delivery

33%	30%	27%	23%
Single set of SLAs	No need to find skills or retrain in-house staff	Ability to re-deploy in-house IT resources to other strategic priorities	Predictable costs

The value of migrating critical applications to a cloud environment

As businesses progress along their digital transformation journey, the right multicloud strategy and deployment can enhance business results. A flexible, hybrid multicloud model can provide controlled access to managed applications and cloud providers, increase visibility to costs and reduce risk with built-in security features. By matching workloads to optimal cloud infrastructures, you can more efficiently optimize your cloud deployment. A single view of your applications across cloud providers and infrastructure helps manage complexities, amplify insights and increase return on investment (ROI) through technological advances like AI. Migrating critical enterprise applications to the cloud and managing these resources requires specialized, high-demand talent that need frequent retraining. As a result, many IT leaders have turned to third parties to help manage complexity, enabling IT staff to focus on other strategic priorities. While a multicloud approach may increase the complexity of your IT operations, benefits, such as greater scalability, cost savings and flexibility, can help your organization use critical business applications to increase competitive advantage.

A single view of your applications across cloud providers and infrastructure helps manage complexities, amplify insights and increase return on investment (ROI) through technological advances like AI.

Why IBM?

Accelerating digital transformation with cloud is a key area that enterprises focus on for innovation. Most organizations view their future cloud environments as both hybrid and multicloud. In a hybrid approach, clients run applications across private, dedicated and public cloud infrastructures. In a multicloud approach, they use multiple cloud providers to support a breadth of enterprise workloads. The IBM point of view on managing hybrid multicloud IT environments is based on a strategy that offers clients enabled workloads, excellent user experiences, application-level SLAs and consistency. With its services and solutions, IBM can accelerate clients' digital transformations wherever they are in their journeys and deliver business value through cloud transformation, minimizing risk and using existing investments.

Enterprise applications management helps manage enterprise resource planning (ERP) applications across a growing number of cloud providers. IBM can connect your expertise and business solutions to help you achieve the following business goals:

– Provide insights into consumer behavior and security threats
– Connect global supply chains with demand chains
– Transform business best practices with client-centric approaches
– Increase sales
– Accelerate product development
– Enable consistent global pricing and offerings

By providing a single portal view independent of the cloud platform, IBM can simplify the management of your multicloud environment and help protect your application data with integrated security. Backed by a worldwide delivery team, IBM solutions have comprehensive support across the globe.

For more information

To learn more about IBM Enterprise Application Management, please contact your IBM representative or IBM Business Partner, or visit
ibm.com/services/cloud/enterprise-application-management

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2. "Assembling your cloud orchestra, A field guide to multicloud management." 75019775USEN-02. IBM Institute for Business Value, October 2018. ibm.com/downloads/cas/EXLAL23W

3. "Multicloud Application Management Survey." IBM Market Development & Insights, August 2019.

4. "Multicloud Management Report." IBM Market Development & Insights, June 2019.