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Cloud Migration And App Modernization: Complements Of A Successful Cloud-Native Strategy

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FORRESTER OPPORTUNITY SNAPSHOT: A CUSTOM STUDY COMMISSIONED BY IBM | MAY 2020

Cloud Migration And App Modernization Are Your One-Two Punch For A Successful Cloud Strategy

Enterprises that are moving core applications into the cloud want to make quick progress. Migrating existing virtual machine-based workloads into the cloud is one way to accomplish this. Migration sets the foundation for your cloud modernization strategy, but it is only a starting point. To get full benefits from public clouds, teams will need to modernize their applications and containerize applications they've already migrated.

IBM commissioned Forrester Consulting to conduct a study around cloud migration and modernization efforts — where companies are today, what challenges they are facing, and what they need to do to succeed in the future.

Key Findings



Enterprises are rapidly moving to the cloud. Teams are quickly moving core app workloads to the cloud, but their desire to move fast creates substantial challenges.



Cloud migration is only the first step for most enterprises. Migration is a good first step, but decision makers want modernized applications that fully benefit from cloud-native architecture.



Teams use multiple approaches to modernize applications. Apps using virtual machines and containers will coexist side by side for the foreseeable future, so flexibility is key.

Cloud Migration Is Becoming An Imperative

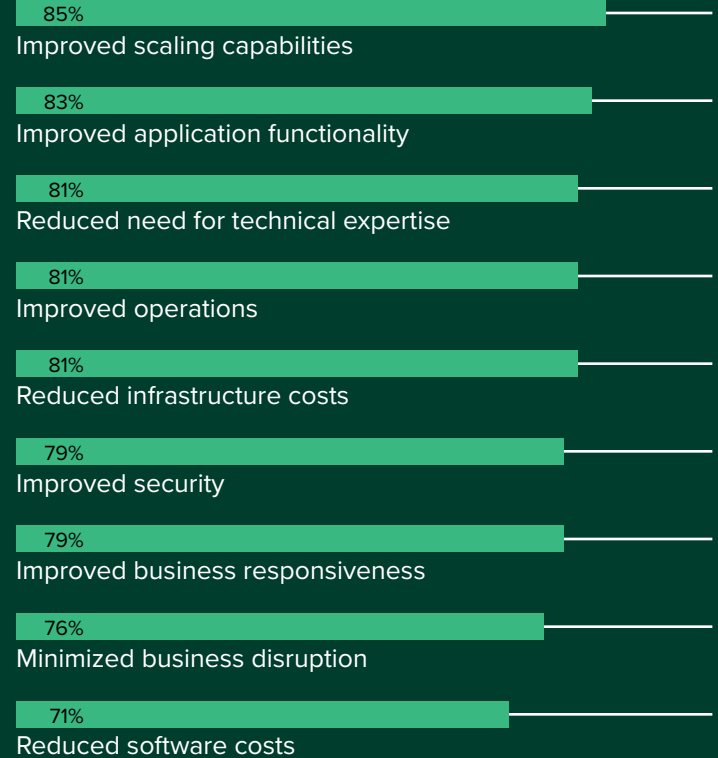
Companies are racing to the cloud. Our respondents indicated that the percentage of their organizations' core applications in the cloud has more than doubled in the last two years and will nearly double again in the next two years.

While some companies scramble to keep up, decision makers whose firms are already migrating have seen substantial benefits for their organizations. Respondents cite improvements in scaling, application functionality, operations, and security, among others.

It is increasingly clear that the question is no longer “if” companies migrate to the cloud — but “when” and “how.”

To what extent has your organization achieved the following benefits by migrating applications to the cloud?

● Transformational/Significant benefit



Migration Sets The Foundation For Your Cloud Modernization Strategy

Cloud migration may be imperative and immediate, but it is only a starting point. What most decision makers (44%) really want is to fully modernized cloud-native apps deployed on the public cloud, using containers and microservices. Only one in 12 (8%) sees a world where their journey ends at migration (lift and shift). Other respondents fall somewhere in between: Not everything will end up at the cloud-native end of the spectrum. The key for companies in transition is to identify which mission-critical apps or services they should prioritize for modernization as their migration strategies evolve. Companies must decide where it makes the most sense to begin or continue their modernization efforts.

**Which scenario best reflects
your desired end state
for application workloads
currently deployed using
virtual machine infrastructure
once they are modernized?**



Cloud-native applications composed of containers, microservices, and/or public cloud services deployed on a fully managed infrastructure (44%)

Applications and services refactored to take advantage of a managed Kubernetes-based container infrastructure (17%)

Applications and services that are partially refactored to use containers and microservices mixed with other components (14%)

Applications that have been lifted from on-premises infrastructure and shifted to public cloud infrastructure (8%)

A combination of the scenarios above (17%)

Transitioning From Cloud Migration To App Modernization Is Difficult

While modernization is the end goal for many organizations, executing on it is not simple. Application modernization is a complex, multifaceted process. To solve for that complexity, companies often utilize multiple methods of modernizing. Nearly two-thirds of respondents indicated that their organizations use multiple approaches to modernize their applications, ranging from containers to virtual machines (VMs) to public cloud services. In addition, the majority expect migrated and modernized workloads to coexist side by side for a long period of time and will need them to be able to work together.

Modernization comes with considerable challenges, especially around maintaining security while modernizing. Almost half of cloud teams (48%) lack a strategic, end-to-end approach to modernization, exacerbating these challenges.

Which of the following apply to your organization's application modernization efforts?

65%

We expect to use multiple modernization approaches, including containers, virtual machine, and public cloud services

57%

We need to ensure that we keep or improve the security of our application workloads as we engage in application modernization

57%

We expect cloud-modernized apps and legacy workloads to coexist and run side by side for the next few years

56%

As we modernize our application workloads, we are also modernizing our development and deployment processes (e.g., implementing DevOps or Agile)

52%

We expect to modernize our applications in multiple phases, based on complexity, available skills, or migration risk

A Checklist To Speed Up A Successful Journey To The Cloud

Going fast is good, unless you are hurtling toward a cliff edge. Getting to the cloud fast is good, as long as migration and modernization efforts pay off in the form of business and operational benefits. But today, four in 10 cloud decision makers wish they had selected a different vendor, and more than half wish they had spent more time choosing their vendor (58%).

Taking the following steps can reduce your cloud migration and modernization risks:

- 1. Focus on security from the start.** Security was the most challenging element of both cloud migration (57%) and app modernization (47%). Make sure the platform you select can meet your needs before investing significant efforts in app modernization. According to 90% of decision makers, a strong security process during migration is important.
- 2. Invest for long-term flexibility.** Most enterprises will use multiple modernization approaches (65%), and these

efforts will include integration with VM images for the foreseeable future, so it's important to have a cloud environment that can support both VMs and containers living together along with public cloud-native services.

- 3. Embrace open technologies.** With high levels of angst regarding cloud provider selection, firms should select technologies that can reduce lock-in dependencies on a single provider. In particular, invest in container and container orchestration technologies that can run wherever you need them to.
- 4. Map out an end-to-end modernization approach.** The complexity of application migration and modernization makes it even more important to create consistent practices that guide when to move from VMs to containers and redeploy refactored applications.



- 5. Slow and steady beats big-bang thinking.** With all the challenges moving to the cloud presents, it makes sense to keep consistency where possible. Solutions that enable consistent governance policies and security practices reduce two key areas of challenge at the start of migration and modernization.
- 6. Don't over-rotate on initial costs.** While cost reduction is an important goal (62%), many decision makers feel their platform choices depended too heavily on cost (65%). Make sure lower initial start-up costs don't result in increased security risks or a lack of long-term flexibility.
- 7. Prioritize cloud services that offer control and configuration during migration.** Migration environments that offer full control over configuration during migration (93%), include a range of deployment options (88%), and let enterprises migrate at their own speed (88%) are critical enablers of success.
- 8. Inventory current skills and identify potential gaps.** Almost

a third of cloud strategy decision makers surveyed say it is difficult to find skills to support app modernization. Look for solutions that can reduce the gap by leveraging existing skills and a provider that can supplement migration efforts with skilled personnel.

- 9. Use cloud-native services to supplement modernized applications.** As applications are refactored into modern microservices, look for opportunities to augment or replace bespoke capabilities with cloud-native services, specifically in emerging areas like artificial intelligence and machine learning.



Conclusion

It is becoming abundantly clear that cloud is the future for core enterprise applications. Most organizations have already begun the process of migrating their existing application workloads to the cloud. However, this is only the beginning.

Forward-thinking companies see fully modernized cloud-native applications as their ultimate goal. And while the modernization process can be very challenging, companies that are strategic and thoughtful in their approach to the process and utilize the right partners can find themselves with a significant competitive advantage compared to their peers.

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Methodology

This Opportunity Snapshot was commissioned by IBM. To create this profile, Forrester Consulting supplemented this research with custom survey questions asked of 100 cloud strategy decision makers at North American enterprises. The custom survey began and was completed in February 2020.

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Demographics

COMPANY SIZE

1,000 to 4,999 employees: 74%

5,000 to 19,999 employees: 21%

20,000 or more employees: 5%

RESPONDENT LEVEL

Director: 48%

Vice president: 11%

C-level executive: 41%

GEOGRAPHY

United States: 89%

Canada: 11%

RESPONDENT ROLE

IT: 84%

Enterprise architecture: 16%

The image features a central graphic of a cloud shape filled with a complex, multi-colored circuit board pattern. The colors transition from blue on the left to red and orange on the right. The word "FORRESTER" is written in a white, serif font across the middle of the cloud. The background is dark with faint, glowing binary code (0s and 1s) and abstract geometric lines, suggesting a digital or technological theme.

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