

## WHITEPAPER

# Cloud-native or cloud-migrated: why it matters to the future of digital banking



## Approaches to cloud app adoption

As cloud computing becomes essential to modern financial operations, understanding the nuances between different types of cloud solutions is critical. Two primary approaches to cloud adoption are cloud-native and cloud-migrated applications. Both offer ways to leverage cloud technology, but distinct differences impact scalability, performance, and agility. Knowing these differences can help businesses make more informed decisions, tailoring their cloud strategies to achieve maximum benefit.

## Defining cloud-native and cloud-migrated applications

### What is a cloud-native application?

Cloud-native applications are designed and built specifically for cloud environments, often termed “born in the cloud.” These applications are engineered to fully harness the capabilities of the cloud, such as scalability, flexibility, and resilience. They often follow modern software architecture practices like microservices

and containerization, making them highly adaptable to rapid changes in business needs. In addition, there is a rich landscape of open-source tooling and products that are specifically designed to work with cloud-native applications. Over the long term, this module can yield cost savings as organizations no longer need to maintain physical hardware and the staff required to support it.

- **Microservices architecture**

A key characteristic of cloud-native applications, this approach breaks down a large application into smaller, independently deployable services. Each service can be scaled and updated independently with demand spikes without impacting the entire architecture; this flexibility allows for easier maintenance and faster innovation.

- **Immutable infrastructure**

The infrastructure hosting the application is never manually changed. If a server hosting the application requires a change, such as more resources, the old server is replaced with a new server in an automated fashion. This makes updates more predictable and avoids manual mistakes.

- **DevOps culture**

To fully take advantage of cloud-native applications, organizations are more likely to adopt DevOps practices, emphasizing concepts such as continuous integration and delivery (CI/CD) and enhanced collaboration between development and operations teams.

Success for cloud-native solutions depends on significant investment in cloud-savvy talent and creating the right kind of culture. The initial setup can be complex, and much learning is required about new technologies, architectural patterns, and organizational shifts.

## What is a cloud-migrated application?

Cloud-migrated applications were initially developed for traditional, on-premises infrastructure. These

applications are later migrated to a cloud environment, often without rewriting them to take full advantage of cloud-native features. This strategy allows companies to leverage their existing legacy systems while transitioning to the cloud, gaining some cloud benefits without entirely redesigning their infrastructure. The lower initial investment makes this approach attractive for organizations that lack the resources or readiness to adopt a fully cloud-native solution. Migrating to the cloud incrementally provides a cost-effective path to modernizing IT environments while retaining legacy assets.

## Types of cloud migrations

- **Retain/Relocate/Rehost**

Legacy applications are moved into the cloud without making any application changes. These are the easiest types of migration; however, they provide the least benefits compared to a cloud-native application.

- **Replatform/Repurchase/Refactor**

Legacy applications are refactored to work with cloud services. These migrations are more complex and costly. In some cases, the cost of refactoring a legacy application exceeds the benefits gained from doing so.

## Key differences and considerations: cloud-native vs. cloud-migrated approaches

Aspect	Cloud-native	Cloud-migrated
<b>Architecture and design</b>	Purpose-built for the cloud, taking full advantage of the cloud and all of the latest design patterns and architecture	Originally purpose-built for on-premises data centers, the architecture and design patterns used make it more challenging to take advantage of all the cloud offers
<b>Scalability and performance</b>	Takes full advantage of automated cloud scaling of resources (autoscaling), resources management, and cloud services	Design choices may limit the ability for automated scaling and integration with high-performance cloud services
<b>Agility and innovation</b>	Allows organizations to maximize resources used to deliver value to customers	Organizations could spend significant effort to modernize applications rather than delivering value to customers
<b>Reliability and availability</b>	<p>Applications using cloud-managed services have better availability and reliability.</p> <p>Applications using CI/CD and DevOps practices have better MTTR (Mean Time to Resolution) of failures</p>	Applications may be using technology choices that don't have corresponding cloud-native services, which can be more difficult and costly to provide the same level of reliability as a cloud service

In both cases, cloud-migrated applications may still rely on legacy systems, infrastructure, and architectural patterns, which reduces their benefits compared to a cloud-native application and can also increase operational costs. Cloud-migrated applications may also be limited in the cloud services that they can utilize, which can impact scalability and reliability.

## The importance of being cloud-native for digital banking

As financial institutions (FIs) increasingly embrace digital transformation, cloud-native technology will become a cornerstone of modern banking. This approach not only enhances operational efficiency but also supports the industry's fast-paced demands. Here's why cloud-native is particularly important for digital banking, benefiting both financial institutions and their users.

### Benefits

#### 1. **Fast and seamless updates**

Cloud-native architecture is better suited for continuous delivery and integration (CI/CD), allowing for frequent updates without downtime. FIs can quickly roll out new features and fix issues.

#### 2. **Scalability and flexibility**

Cloud-native solutions allow FIs to scale their services up or down based on demand. This flexibility is essential for handling peaks in transaction volumes, such as during holidays or special promotions, without overburdening the infrastructure or the teams managing it.

#### 3. **Less downtime**

Cloud-native applications are more likely to be designed for fault tolerance and leveraging highly available cloud services. This translates to less downtime and better mean time to resolution (MTTR) when issues occur.

## Cloud-native vs. cloud-migrated applications: Key differences for financial institutions

For FIs, the distinction between cloud-native and cloud-migrated applications is critical. Cloud-native applications are purpose-built to fully utilize the capabilities of cloud computing, offering greater scalability, agility, and security. In contrast, cloud-migrated applications often retain legacy limitations, hindering the ability to fully capitalize on the cloud's benefits.

Choosing a cloud-native approach is essential for FIs looking to stay competitive, agile, and responsive to the ever-evolving needs of the digital banking landscape. This approach ensures that the institution and its users both experience the highest levels of performance, security, and innovation.

### How to choose the right approach

Your organization's goals, resources, and industry demands should dictate whether to adopt a cloud-native or cloud-migrated strategy. Businesses prioritizing agility, scalability, and innovation will find cloud-native applications a better fit. Conversely, organizations that need to maintain legacy systems may initially benefit from migrating their existing applications but will soon notice scaling and innovation limitations. Aligning your cloud strategy with your business objectives is essential to harness the full potential of cloud computing and maintain a competitive edge.



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