onix | Google Cloud

Mitigating Cost Overruns in Cloud Migration

Adopting the best strategies and practices

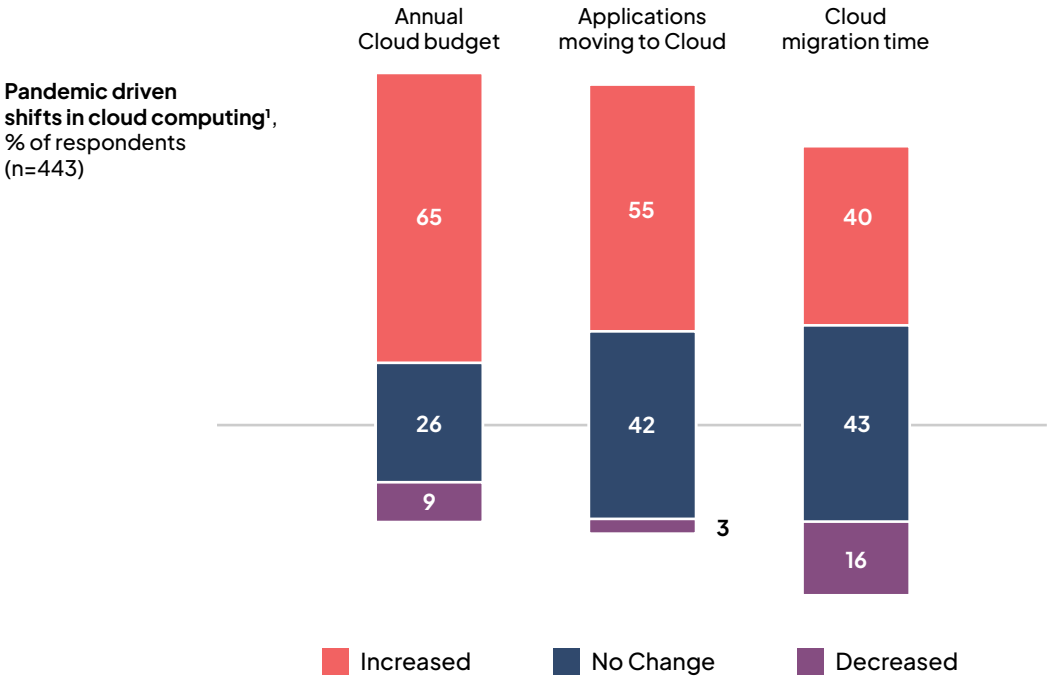
Table of Contents

Executive Summary

The 2020 global pandemic accelerated the pace at which organizations migrated to the cloud. Organizations now fully understand the value of cloud adoption – and the $1 trillion business value that it unlocks.

A 2022 Google Cloud survey found that 41.4% of business leaders plan to increase their use of cloud services. Further, 33% plan to migrate from legacy tools to cloud-powered tools.

Companies aim to shift the majority of their IT-hosting spend to the cloud



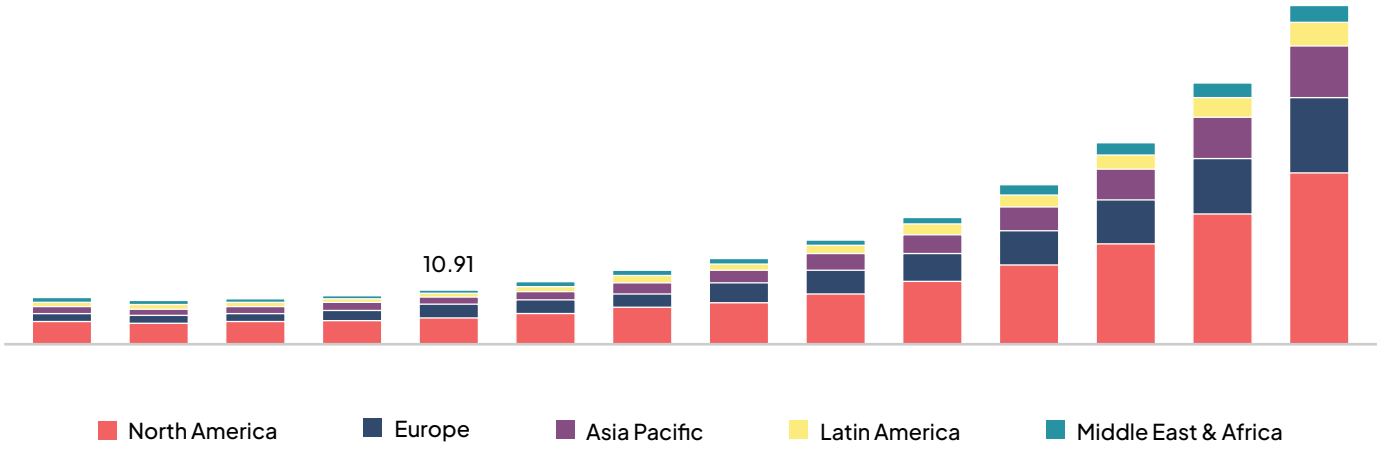
However, inefficient cloud migration is also adding up to unexpected delays and cost overruns. According to McKinsey, organizations are expected to lose over $100 billion in wasted spending over the next 3 years. During the same period, shareholder's value could be reduced by $500 billion due to the costs of moving workloads to the cloud.

This whitepaper highlights how efficient cloud migration can mitigate cost overruns and delays. Let's look at some insights into practical strategies and best practices for mitigating cloud cost escalation.

Introduction

As part of digital transformation, the shift toward cloud migration continues to stay strong in 2024. The global market share for cloud migration services is expected to grow from $12.54 billion (in 2024) to $69.73 billion (in 2032).

Cloud Migration Services Market Size, by Region, 2019– 2032 (USD Billion)



Source: Polaris Market Research Analysis

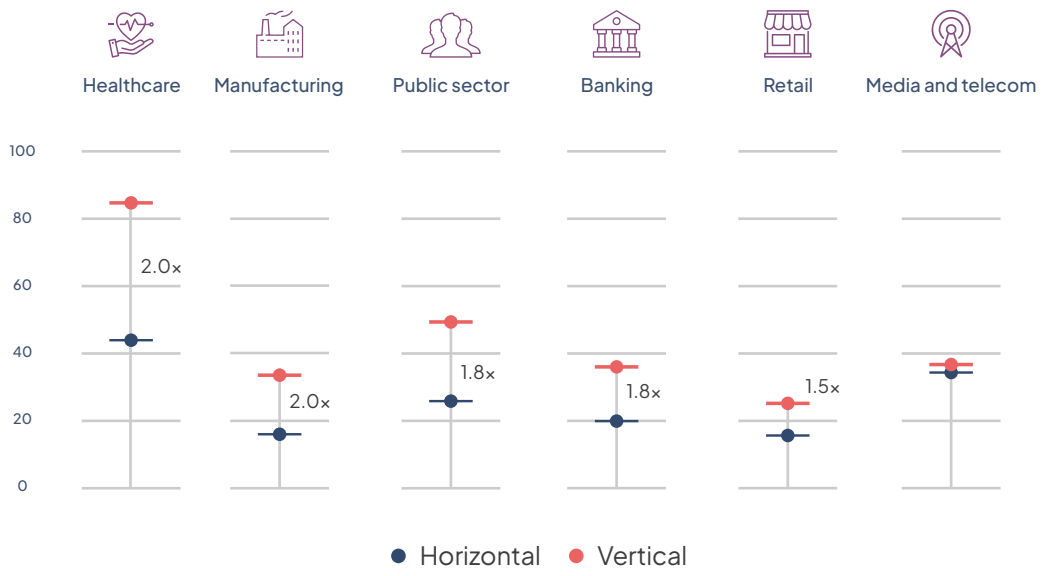
Here are some more compelling statistics about cloud computing:

- 94% of global companies are using cloud computing in their business operations
- 97% of IT business leaders plan to expand their cloud systems
- Global spending on public cloud services is expected to rise by 20.7%
- 85% of companies will adopt a cloud-first principle by 2025

Between 2021 and 2024, there has been a significant rise in the use of cloud-powered vertical applications across industries.

Cloud-based vertical applications are a major draw

Estimated change in public-cloud spend from 2021–24, % CAGR



At the same time, cost management is critical to the success of cloud adoption. 70% of companies have incurred cloud costs that were significantly higher than anticipated initially. A 2022 study reports that over 50% of organizations are hiring or retraining staff to optimize their cloud spending.

To manage their cloud spending, more CFOs are adopting a proactive approach with cost management strategies. This involves analyzing and optimizing their cloud spending to extract maximum value from their cloud investments.

This 2022 Google Cloud survey revealed that C-level decision-makers prioritize these focus areas when choosing their cloud strategy partner:

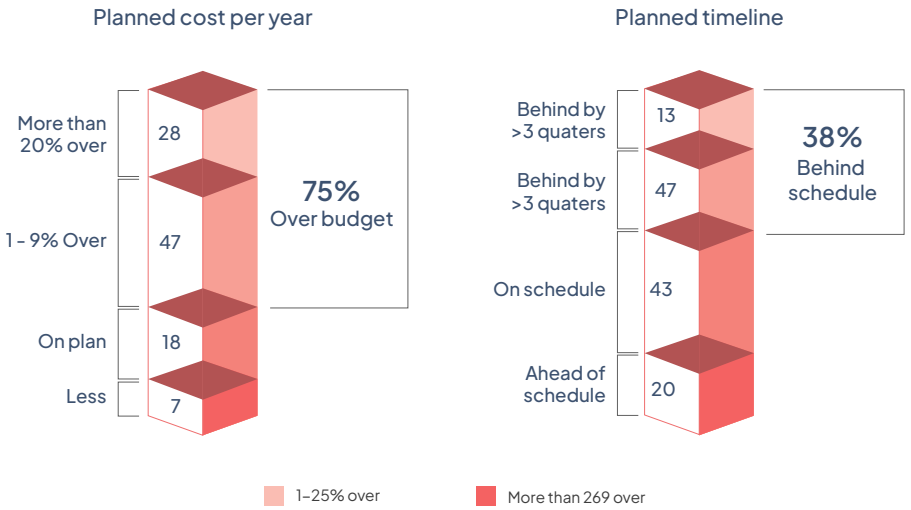
- 54% want a cloud solution provider who can identify cloud strategies to improve revenues or reduce costs
- 50% want a cloud partner that understands their business trajectory and future needs
- 50% want a cloud services partner to set up and cost-effectively maintain their cloud infrastructure

To improve their cloud adoption, C-level executives first need to streamline their cloud migration process, which can be a major cost factor. Next, let's understand why organizations incur cost overruns during cloud migration.

Understanding cost overruns in cloud migration

Cloud migration cost overruns are mounting

Budget for cloud migration vs actual spend on cloud migration, % of respondents (n=443)

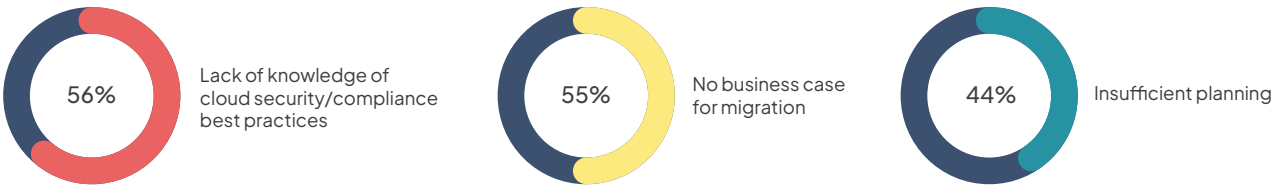


Degree to which spend was over budget by area, 56 share of respondents In 443)
(share of respondents who indicated over-budget spending)

Cloud migration is typically done to achieve cost efficiency. However, inadequate planning can often lead to significant cost overruns in cloud migration projects.

A recent study found that 38% of projects involving data migration to the cloud fail. This means over 1 in every 3 cloud migration initiatives fails to achieve its objectives. Why do cloud migration projects experience major cost overruns?

Reasons for Failure



Source: Survey commissioned by Sungard Availability Services.

Reference link

Here are 5 common reasons for cost overruns in cloud migration:

1. Lack of planning and cost control strategies

Cloud migration requires an ample amount of strategic planning. Most companies adopt either of the following migration approaches:

- The Big Bang approach involves extracting and processing data from the source system and then loading them into the target system. This is both fast and efficient. The disadvantage of this approach is the extended downtime period, which can add to the length and cost of the migration process
- The Trickle approach is a more incremental method. Rather than a single migration, data is migrated between the source and target system in phases. This eliminates any downtime. However, this process is also time-consuming, thus adding to costs

Before undertaking the migration phase, companies must plan their business objectives on why they are moving to the cloud. Here are some effective strategies to implement a risk-free migration:

- Do not move all your data and processes at the same time to the cloud
- Build your cloud infrastructure gradually
- Examine your existing applications and workloads for refactoring or re-architecting along with the associated costs

2. Failure to understand the complexities of migration

Most companies believe that a simple "lift and shift" approach is sufficient to migrate their legacy systems and data. Simply put, they fail to understand the complexity of cloud migration. This lack of understanding can lead to unexpected downtime and cost escalation.

Here's how you can address this challenge:

- Perform a detailed assessment of the existing system to identify any dependencies and compatibility issues
- Design a detailed cloud roadmap for migrating to the cloud

3. Lack of resource management

Cloud migration costs are not simply about the initial investment, but also about how enterprises manage their cloud resources in the long run. Lack of resource management can escalate costs in the later stages. 40% of companies fail to keep their cloud costs under control – while 33% find their cloud budget overrun by 40%.

Incremental cloud migration (or breaking down the migration into phases) can help companies manage their cloud budget. By adopting hybrid cloud migration, they can now scale up (or down) their resources based on demand.

4. Technical challenges

Unforeseen technical challenges can also slow down the migration process, thus adding to costs. One common technical problem is the incompatibility between legacy systems and the cloud environment.

With a proper risk assessment strategy, companies can deeply assess existing systems to know "what could go wrong" and prepare for unforeseen problems. Risk assessment can expose any technical, compliance, or operation-related pitfalls that are likely during the migration process.

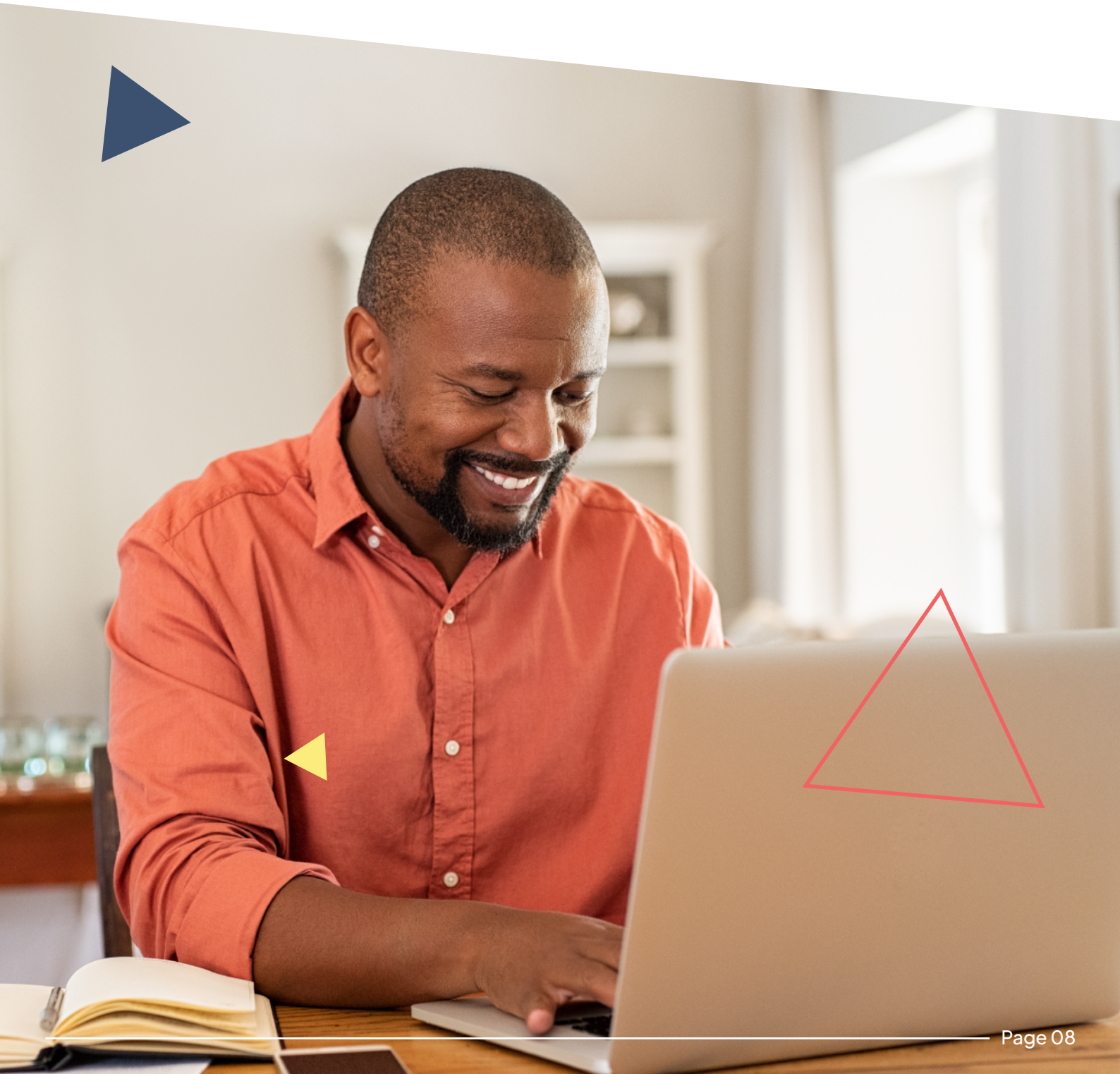
5. Skills gap

Companies transitioning to the cloud also have to deal with the skills gap challenge. According to Forbes, 95% of IT leaders have been adversely impacted by the cloud skills gap.

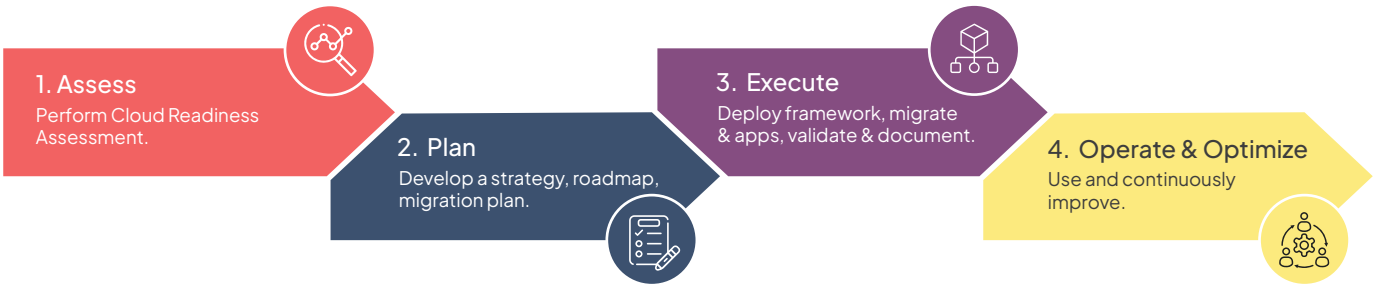
The solution lies in either of the following:

- Hiring professionals with extensive cloud skills
- Retraining the existing development team on cloud-related skills
- Both these solutions can spell higher costs for enterprises – particularly for smaller companies with limited resources

How do companies mitigate these cost overruns? Let's discuss some strategies next.



Best strategies for cost overrun mitigation



For a successful cloud migration, organizations must adopt the right migration strategy that is aligned with their business goals. Here are 4 effective strategies for a smooth migration to the cloud:

1. Cloud planning and assessment

This is the foundational step that can help you optimize your on-premises infrastructure for the cloud. Through a comprehensive cloud readiness assessment, you can examine your existing on-premises resources and environment. Cloud assessment typically includes:

- Identifying the existing applications and workloads most suitable for the cloud
- Identifying any potential dependencies or incompatibilities that can escalate costs at a later stage
- Evaluating the existing team skills and the level of training that they need
- Determining your cloud migration plan and budget

2. Effective resource utilization

Right-sizing your cloud resources is the "mantra" for effective resource utilization for any company. Through right-sizing, you can analyze the resource consumption (for each application or workload) and accordingly "size" your cloud instances. Besides performance improvement, this can avoid unnecessary cloud expenses due to over-provisioning.

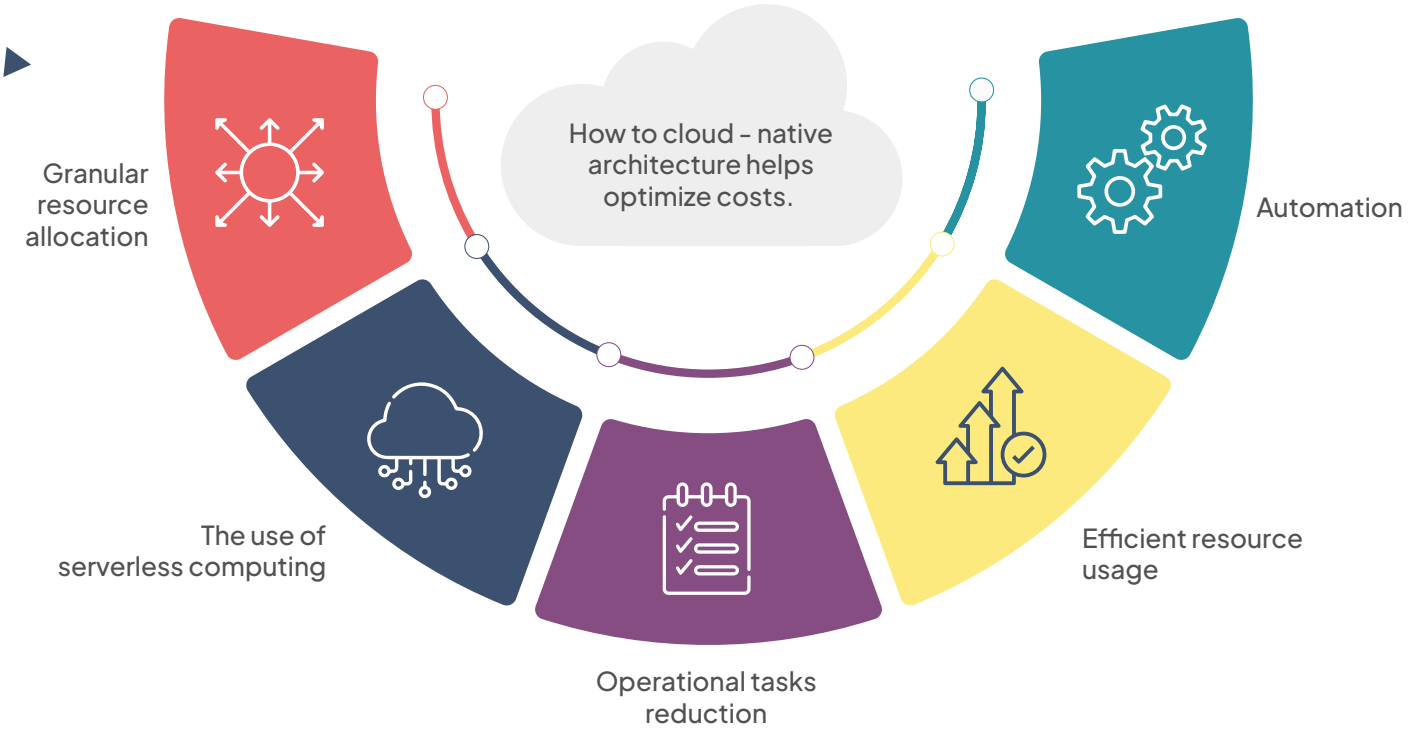
Auto-scaling of resources to fluctuating workloads is another effective resource optimization method. During peak times, auto-scaling can improve performance while saving costs during periods of low cloud activity. Load balancing is another method that can optimize your cloud resource utilization. Essentially, it allows balanced utilization of available resources, thus reducing waste and costs. Overall, load balancing can improve the performance and scalability of cloud-hosted applications.

3. Continuous monitoring and optimization

To optimize their costs, organizations must also continuously monitor their cloud operations. Here are some best monitoring practices that they can implement:

- Set clear and measurable goals for cloud monitoring
- Choose the right cloud monitoring tools (for instance, Google Cloud Monitoring) to extract actionable insights
- Implement FinOps practices to manage and optimize cloud costs
- Configure automated alerts and notifications to report any deviations from your cost baselines
- Perform regular audits to identify and eliminate unused (or underutilized) cloud resources

4. Cloud-native technology adoption



Cloud-native technologies like Kubernetes can also optimize cloud costs through dynamic resource allocation. Among its capabilities, cloud-native technology offers elasticity that supports horizontal scaling or the dynamic addition (or removal) of cloud instances to meet changing demand.

Additionally, cloud-native functionalities like load balancing, resource pooling, and dynamic resource allocation can optimize cloud usage, thus improving cost efficiency.

What's more, cloud-native applications are specifically designed to work in cloud environments. This makes them more cost-effective and scalable than cloud-enabled (or cloud-hosted) applications. Besides that, the cloud-native framework enables managed services that reduce the cost of managing the cloud infrastructure.

Best practices in cloud migration – a 3-phase approach

To migrate to the cloud, enterprises can take a 3-phase approach comprising best practices grouped as follows:

1. Before migration (or pre-migration)
2. During migration
3. After migration (or post-migration)

Let's look at these phase-wise best practices:

1. Before migration:
   a. Define your cloud migration strategy in clear terms – and involve multiple stakeholders including business partners, decision-makers, and implementation team in the cloud planning
   b. Perform a comprehensive assessment of your existing ecosystem – including the applications, databases, and systems – that are critical to your business operations
   c. Allocate your existing resources – including personnel, technology tools, and budgets – for cloud migration

2. During migration:
   a. Prepare your organization for change management – comprising of people, processes, and policies – that can smoothly move assets from on-premises to the cloud environment
   b. Partner with the right cloud implementation company that can provide automated cloud migration tools to migrate data and workloads to the cloud

3. After migration:
   a. Perform continuous cloud monitoring for performance
   b. Perform continuous improvements and iterations to address and resolve vulnerabilities

Onix Birds: Optimizing cloud costs

With our suite of Onix Birds – Eagle, Raven, and Pelican – you can automate and accelerate your cloud migration at a lower cost. As a Google Cloud migration partner, we at Onix understand the complexities of the cloud and can assess your existing environment to optimize your cloud operations. With our efficient FinOps framework, you can improve your business agility and optimize your cloud spending.

Here's how our Onix Birds can optimize your cloud costs:

- The Eagle Cloud migration tool provides a detailed analysis of your existing cloud environment and identifies any areas of improvement. Additionally, this cloud migration assessment tool provides end-to-end visibility into your cloud usage and cost patterns
- The Raven Automated Workload Conversion tool can automatically allocate cloud resources based on changing demand. Additionally, it can convert legacy code from on-premises systems into cost-efficient cloud-native applications
- The Pelican data validation tool is an AI-powered tool that provides real-time "intelligent" recommendations for cloud optimization and cost-savings. With its minimal design for data transfer, it can lead to significant savings in data storage and network costs

Here are some successful case studies of companies using our Birds suite to achieve cost optimization:

- How a leading financial institution achieved cost optimization using the Pelican tool
- How a U.S.-based retailer achieved 90% cost savings in data validation by using the Pelican tool

Conclusion

Without proper planning and execution, cloud migration efforts often run into major cost overruns, which can impact most enterprises. Automation tools like the Onix Birds from Onix can streamline this migration process, thus ensuring both ease and cost efficiency.

Learn how to accelerate your data migration with our Onix Birds suite. Sign up for our free product demo today!

Get in touch

onixnet.com

connect@onixnet.com