

Cloud Migration **Best Practices**





CLOUD MIGRATION BEST PRACTICES

Introduction

Cloud migration is a hot topic these days. Just about every business is investing in some type of cloud plan to move their data and workloads from on-prem storage to the cloud.

The majority of organizations are looking for cloud migration services however, the procedure to move your business to cloud is a tedious task. Many organizations struggle to reach their cloud migration objectives due to a lack of planning and implementation challenges caused by the lack awareness of cloud migration best practices.

When migrating to the Cloud, there are some very important challenges to consider and steps to follow. Even though each Cloud Provider has comparable services and platforms, how they deliver those services and platforms to the end user means that migrating to a specific provider such as IBM, AWS, Azure, or Google are very different in how you execute on your plan.

Cloud Migration Common Challenges

Undefined Goals

Without a well-defined plan, a cloud migration could become a needlessly long and challenging task that fails to meet the original vision.

Incorrect Delivery & Operation Model

A successful cloud migration starts with the right people, processes, and technologies.

Lack of Sponsorship

It's important to have buy-in from all stakeholders and departments including the right skills internally and it is highly recommended to get assistance from platform experts to help you along your cloud journey.

Wrong Technology Choice

Selecting the wrong technology, not understanding the organizational structure of your new Cloud Tenant and available features can significantly increase workload. This can cause major delays, resulting in a lot of re-work, and introduces the risk of a failed implementation which loses the confidence of your stakeholders.

Compliance & Security

Protecting your data should be the bedrock for everything else that your cloud migration rests upon. To ensure data security while migrating to the cloud, the data must comply with relevant requirements and regulations for its protection and significant planning around the technology and implementation and most importantly focusing on how you configure your initial Cloud Network Architecture all plays vital roles in this process.

The best way to overcome cloud migration challenges is to enlist the help of platform experts that can augment your technical staff's knowledge of your systems and procedures. This can help a company adhere to the best practices for successful cloud migration so they can achieve real-time performance and efficiency of cloud services for your business.



Best Practices for a Successful Cloud Migration

Migration Strategy

First and foremost, it's important to have comprehensive preparation and a clear understanding of business goals for the migration to prepare a migration strategy. The migration strategy step is crucial for an active migration of applications and infrastructure to the cloud.

Let's look at Gartner's five Rs that highlight your options for migrating applications to the cloud. These options are rehost on infrastructure as a service (IaaS), refactor for platform as a service (PaaS), revise for IaaS or PaaS, rebuild on PaaS, or replace with software as a service (SaaS).

Rehosting

The rehosting strategy involves lifting and shifting and is ideal for organizations which want quick migration to the cloud.

Re-Platforming

Re-platforming involves retaining the integrity of the core architecture and is also quick in introducing change.

Repurchasing

Repurchasing involves shifting one product to another entirely for addressing business use-case needs. Repurchasing is ideal in cases such as moving from one CMS platform to another.

Gartner

Re-architecting

The re-architecting strategy is also one of the cloud migration best practices. Organizations can choose re-architecting for modifying entire applications for addressing business use-cases.

Retiring

The final recommendation for migration strategy refers to retiring. Retiring generally involves excluding resources which are not used after completing the migration process.



Perhaps the most advisable strategy is to migrate in phases or conduct a pilot light migration in which you start with the least business-critical workloads that can give you the experience and confidence to move forward with a larger migration.

Best Practices for a Successful Cloud Migration

Cloud Governance Framework

Cloud governance is an extension of IT governance that takes into account the inherent risks of trusting data and apps to third-party services. It defines ways of doing things – tools, procedures, skills, and competencies – so that the company migrating to the cloud can do so with minimal risk and maximum value. Good cloud governance incorporates a wealth of things such as structures, roles, responsibilities, policies, plans, objectives, principles, measures, and a decision framework. Cloud governance models must be outlined and shared clearly to the team involved. A clear cloud governance model enables you to integrate the right controls for improving your security.



Identify Workloads

Workloads generally involve applications and the supporting ecosystems. The suitability of an existing workload for the cloud relates to the application and the supporting ecosystems. Topology maps can help the cloud migration by visualizing workloads. It's also important to include dependencies such as application-to-application, VM-to-physical machine, and application-to-VM. Companies should invest in correlating applications and infrastructure performance for understanding workloads effectively.

Document Existing Performance Baselines

A very important step of the cloud migration process is capturing existing performance baselines. This data is important for evaluating the feasibility of workload migration from perspectives of cost-benefit and performance. Diagnosis of performance issues should be supported with combined efforts from various stakeholders. Understanding of current performance baselines can help in realizing immediate value for the enterprise well ahead of migrating applications to the cloud.

Train Staff Early

Due to the level of abstraction the cloud introduces and the inherently different design of public cloud systems, it is suggested to establish a series of training sessions designed to get employees across different teams up to speed in cloud concepts. By training staff early, you can give them a better chance of adapting to the new ways of doing things in a timely manner. They can also adapt to the new way of working quickly and makes the migration process much smoother.

Best Practices for a Successful Cloud Migration

Optimize the Network

For some organizations the Public Internet is too slow and not secure enough to meet their business goals. Some third-party public cloud providers recognize that an Internet connection might not be the optimal choice. AWS, for example, offers a dedicated network connection to its infrastructure from company offices. Azure has its ExpressRoute service that establishes a connection directly between your network and Azure, bypassing the Internet. If a dedicated network connection is not necessary, it is still worthwhile to pursue a better, faster service from your Internet Service Provider given that moving to the cloud encompasses users transitioning from accessing data or apps locally via gigabit-speed local network connections to much slower Internet connections.

Understand the Challenges

Cost is a notable factor that affects the choices and approach of a cloud migration strategy. Security of the data during and after the migration is also another major factor to consider. Maybe the biggest challenge is finding the right people to conduct the migration successfully. Choose an experienced cloud service provider as your partner who helps you throughout your cloud migration journey. Not only technical expertise and experience, but the cloud service provider must also have the knowledge and experience in agile methodologies and project management frameworks.

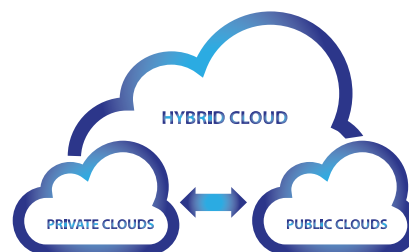
Manage Software Licensing

License management is important for different aspects of migration such as operating system licenses, third-party tool licenses, and application server licenses. Some software vendors operate a Bring Your Own Software and License (BYOSL) program that gives enterprises express permission to migrate their applications to the cloud. Other vendors specify usage rights per number of concurrent users. Therefore, you have to make a choice between two distinct models such as Bring-your-own-license (BYOL) or the pay-per-use model.

Evaluate the chosen approach

This involves a comprehensive evaluation of the cloud migration model selected for your requirements. After verifying the cloud provider, it is very important to review the approach for migration. The elements include infrastructure migration decisions, the security of data, governance for data access and resource utilization on the cloud.

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Select a Cloud Migration Model

A significant detail in the best practices for cloud computing involves emphasis on data migration models. The three common models include Forklift, Hybrid and Hadoop AAS. The Forklift migration involves the migration of on-premises Hadoop clusters to basic compute instances in the cloud. A Hybrid cloud migration involves hybrid architectures that implement various cloud-native storage options and services. Hadoop As A Service (AAS) is where the cloud provider deals with the majority of the heavy lifting work.

Automate When Possible

Automation can speed up the migration process and lower both risk and cost. Identify processes that are revisiting and establish new methods that can be automated. There are tools that help automate the migration of virtual machines and data. Scripts can prove useful, like when you need to change a database from an on-premise one to a cloud version. Automation and the phased cloud migration approach can work in tandem, as you identify repeated patterns over time that you can automate in subsequent migration phases.

Monitor Cloud Usage

35% of cloud budgets are wasted due to lack of monitoring the cloud usage. Monitoring for compliance and security is crucial, and you'll ideally want to collect logs from apps, systems, databases, and network touchpoints to ensure information security requirements are being met. A centralized dashboard that identifies running instances across different cloud services can help give you a clear picture of what is going on during the migration process.

Access Management

Centralized security access mechanisms help in allowing functional role-based access to team members. Therefore, you should look into the capabilities of the cloud for linking centralized access management with cloud services.

Network Management

Before starting a large-scale cloud migration, you need to design the entire cloud architecture. The cloud architecture design should also involve mapping of resources to respective areas or subnetworks. Cloud can give the ability for creating virtual private cloud or network that helps in creating subnets.

Best Practices for a Successful Cloud Migration

Assign Leadership & Allocate Talents

Allocate talents wisely across the organization. Gather all talented employees and allocate them to different roles and responsibilities across several teams in the organization to ensure a smooth transition of cloud migration. Create a program team (PMO) with a leader responsible for managing the migration operations, ensuring frequent communication. Create a Cloud Center of Excellence (CoE) team to monitor your migration efforts. The team also provides technical support and guidance.

Leverage Support

A good support team can provide a critical ally during any cloud migration project. Cloud support staff are experts in the particular service they work for, and they should be able to promptly answer technical questions or help you with any issues you have.



Thanks for checking out our best practices for a successful cloud migration. Asponte Technology has a clear understanding of all aspects of cloud migration strategies, workloads and performance baselines. We can help you to choose the best cloud migration options for your organization.

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