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Moving apps, data, and other business components from an on-premises infrastructure to a cloud-based architecture is known as cloud migration. There are various cloud migration strategies, each with a unique combination of benefits and drawbacks. Four well-known cloud migration strategies will be covered in this article, along with their benefits and drawbacks (Jamshidi, Ahmad, & Pahl, 2013).

# Rehosting or Lift and Shift:

Application, data, and other business-related components are transferred from an on-premises infrastructure to a cloud-based infrastructure through a process known as cloud migration. There are various cloud migration strategies, and each has pros and cons of its own. The benefits and downsides of four well-known cloud migration strategies will be covered in this essay.

Pros:

* As there is no need to alter the application architecture, this solution is easier to implement and takes less time.
* It is a rapid and affordable method of switching to the cloud.

Cons:

* Rehosting does not fully benefit from cloud-native capabilities and advantages including managed services, serverless computing, and auto-scaling.
* Given that the programme is still being run on a virtual machine, which needs continuing management and maintenance, there may not be a considerable cost savings as a result (Jamshidi, Ahmad, & Pahl, 2013).

# Replatforming or Lift, Tinker and Shift:

Replatforming, sometimes referred to as lift, tinker, and shift, entails modifying the application architecture in a modest way to benefit from cloud-native features and advantages. This approach entails migrating the application to the cloud and then altering the application architecture to benefit from cloud-native features like managed services and auto-scaling (Khajeh-Hosseini, Sommerville, Bogaerts, & Teregowda, (2011, July).

Pros:

* Organizations can benefit from cloud-native capabilities and advantages through replatforming, which can boost performance and result in significant cost savings.
* Due to the fact that it only necessitates modest changes to the application design, it is simpler than other migration approaches.

Cons:

* Replatforming calls for a certain amount of cloud-native technology expertise, which might not be easily accessible internally.
* If the firm does not fully utilise cloud-native features and advantages, it might not lead to appreciable cost reductions.

# Refactoring or Re-architecting:

Refactoring, sometimes referred to as re-architecting, is fundamentally altering the application design to fully benefit from cloud-native capabilities and advantages. By redesigning the application architecture, this methodology enables the use of cloud-native technologies like managed services, serverless computing, and microservices.

Pros:

* Refactoring enables businesses to fully benefit from cloud-native capabilities and advantages, leading to substantial cost reductions and increased performance.
* It may lead to a more resilient and scalable application design that can change to meet shifting business requirements.

Cons:

* The most difficult and time-consuming way of migration is refactoring, which calls for extensive knowledge of cloud-native technology.
* Because it necessitates fundamental changes to the application architecture and can necessitate rewriting some of the application, it can be expensive.

# Replacing or Rebuilding:

* Rebuilding or replacing an application entails creating a fresh application from start utilising cloud-native technologies. Instead of porting the current application to the cloud, this process entails creating a new application architecture from scratch (Khajeh-Hosseini, Sommerville, Bogaerts, & Teregowda, (2011, July).

Pros:

* Organizations can fully benefit from cloud-native features and benefits by replacing or rebuilding their systems, which leads to considerable cost savings and enhanced performance.
* It may lead to a more resilient and scalable application design that can change to meet shifting business requirements.

Cons:

* The most difficult and time-consuming form of migration is replacing or rebuilding, which calls for extensive knowledge of cloud-native technology.
* It can be costly, as it requires building a new application architecture from scratch and may require significant re-training of staff.

There are a variety of cloud migration strategies, each with a unique combination of benefits and drawbacks. The complexity of the application, one's level of knowledge with cloud-native technology, as well as the organization's objectives and financial constraints, all play a role in selecting the best migration approach (Zhao, & Zhou, 2014).

Using a migration approach that supports the objectives and priorities of your firm is crucial overall. Rehosting can be the best option if you want to go to the cloud quickly and affordably. Replatforming or refactoring may be preferable if you want to benefit from cloud-native capabilities and advantages. However, replacing or rebuilding may be the best option if you want to create a brand-new application from the ground up using cloud-native technology.

Whatever approach you decide on, it's critical to carefully plan your move, test your applications extensively, and keep a constant eye on your cloud infrastructure to ensure a successful conversion. Cloud migration may assist your company in utilising the scalability, flexibility, and cost benefits of the cloud with the correct strategy and experience.

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