Plan your cloud data warehouse migration now

A cloud data warehouse migration aligned with business goals can boost operational efficiency, cut costs, and enable scalability for organisations

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Migrating to the cloud is becoming increasingly important for enterprises. It can increase their agility, reduce costs, improve security, increase accessibility, and stay ahead of the curve when harnessing it for digital transformation.

Cloud-based data warehouses offer scalability that can be challenging to achieve with on-premises systems. However, businesses can easily scale up their storage and compute resources to handle the increasing volume of data. In addition, cloud-based data warehouses can be more cost-effective than purchasing and maintaining their own infrastructure.

Enterprises can integrate with other applications and services quickly and easily, which can improve efficiency

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and productivity. Many cloud providers have security certifications and compliance standards in place to ensure your data is protected.

While there are many pros, enterprises should consider the cons when deciding to migrate their data warehouse.

GET THE BASICS CORRECT

Cloud-based data warehouses require a reliable and fast network connection, as latency issues can affect the performance of the data warehouse. While cloud providers offer robust security features, there is still concern about data security and privacy. Once an organisation migrates its data warehouse to the cloud, moving to another vendor or platform can be challenging. It is essential for enterprises to carefully assess these factors and ensure that the decision to migrate to the cloud is the right one.

Migrating a data warehouse to the cloud is a complex process that requires careful planning and execution. One should define the objectives of migration, which include understanding the business drivers behind the migration, such as scalability, cost saving, or improved performance. Once the business case is built, you go through the assessment, planning, migration, and optimisation phases of the data warehouse.

To ensure a successful outcome, businesses must follow few important steps as part of their migration plan.

FIRST STEP: ASSESS THE DATA

Assessing the current environment for data sources, data architecture, including data models, schema, relationship, etc., helps organisations understand the complexities involved. The assessment should also include dependencies or integrations between the data warehouse and other applications or systems.

Reviewing the data completeness, accuracy, consistency, and integrity will enable organisations to identify data quality issues to address before migration. Evaluate the data governance practices, policies, and processes to manage data security, privacy, and compliance.

Businesses also need to gauge the performance of the data warehouse, including query response time, processing time, and data load times, which will help discover bottlenecks. Moreover, understanding the current capacity and storage requirements will help to provision the required resources on the cloud.

SECOND STEP: RE-PLATFORMING APPROACH

There are several approaches to migrating a data warehouse to the cloud, including lift and shift, re-platforming, and re-architecting. The choice of approach depends on various factors such as the level of customisation required, available resources, expected benefit, and complexity involved.

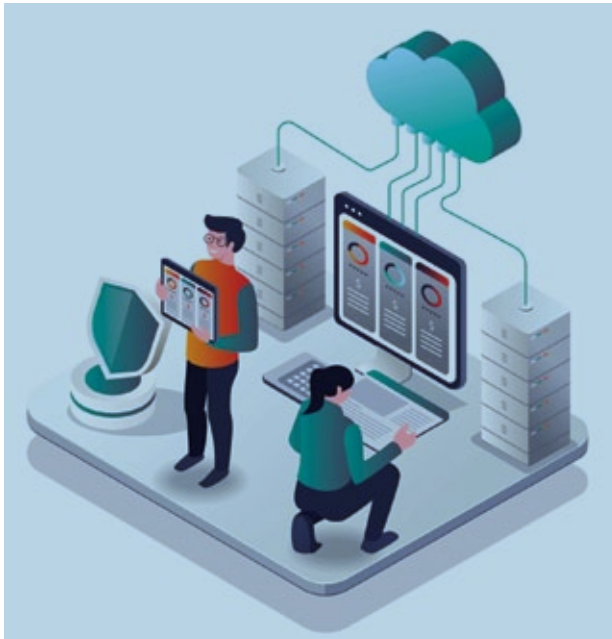
The lift and shift approach is the quickest and simplest option where the data warehouse is migrated without making major changes to the data architecture and schema. However, this approach may not result in significant cost savings and enhancements.

Re-platforming involves making some changes to leverage cloud-native features and services without significantly changing overall architecture and schema. In the re-architecting approach, the data warehouse is redesigned and re-architected to take full advantage of cloud-native features.

The new data model is a better fit for cloud-specific tools for data processing using a distributed architecture. This approach can lead to significant performance improvements and cost savings, but it also requires more time, effort, and resources.

THIRD STEP: THE MIGRATION PLAN

Based on the approach, organisations must define a detailed migration plan, including timelines, milestones,



IN SHORT

- Before migrating to the cloud, enterprises should carefully assess factors such as network connectivity, data security, and vendor lock-in.
- A successful data warehouse migration involves assessing the data environment, identifying performance bottlenecks, and provisioning cloud resources accordingly.
- Organisations can choose from several migration approaches such as lift and shift, re-platforming, and re-architecting.
- Executing a migration plan requires defining detailed timelines, identifying skilled resources, and leveraging third-party tools.
- After migration, businesses must validate the data, monitor the performance of the cloud data warehouse, and optimise it according to business needs.

> After migration, organisations must monitor and optimise the cloud data warehouse to ensure that it continues to meet business needs.

and specific tasks and activities. Businesses need to identify skilled resources who are trained in relevant cloud technologies for a successful migration. Additionally, they can leverage several third-party tools to fast-track their migration efforts. The choice of tool depends on the data warehouse platform, cloud provider, and migration requirements.

FOURTH STEP: DATA PREPARATION, TESTING

Besides moving data from source to target, migration involves optimising ETL pipelines for the target platform and migrating them. It is important to test the migration process on a sample dataset by setting up a proof-of-concept lab to ensure that everything works as expected.

Businesses must adopt an incremental approach for data warehouses containing a large amount of data. In this approach, the on-premises data warehouse can remain operational while data is being migrated. During this transition phase, organisations need to synchronise the data between the on-premises data warehouse and the cloud data warehouse.

FIFTH STEP: VALIDATION, OPTIMISATION

Once tested successfully, organisations can execute the migration plan. It is important to test and validate the migrated data to ensure that everything works as planned. After migration, the organisation must monitor and optimise the cloud data warehouse to ensure that it continues to meet business needs.

Overall, the success of cloud data warehouse migration depends on how well it is aligned with the business goals. If planned and executed appropriately, it can lead to signification operational efficiencies and major cost-savings to help organisations realise maximum returns and help scale the business.

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