Migrate your database to the cloud

BNZ policy is to reduce the on-premises spend on its Systems, by taking advantage of the services offered by two Cloud providers, **Amazon Web Services (AWS)**, and **Microsoft Azure (Azure)**. The idea of using two Cloud providers, or a ***dual-cloud strategy*** is to reduce risk by not being overly reliant on a single provider.

Putting your applications and their associated databases in the Cloud offers a number of advantages versus hosting them on premises (in the two BNZ data centres in Auckland). The stated advantages follow this kind of narrative: "*Cloud hosting allows website and applications operators to add or remove resources when necessary. That includes more RAM, storage space, or support services such as security or data storage. Cloud hosting provides reliability and flexibility at a manageable cost.*"

Considerations before migrating your database to the Cloud

If you have an existing on-premises database, you may want to migrate it to a cloud platform. The migration of the database itself may not be the most difficult part and detailed planning and discovery will help to make this more successful for you. There are a large number of considerations including:

Ensure the application that uses your database can actually work with a cloud database

- Does the application need to migrate to the same cloud platform or can it remain on premise?
- Are there issues you may experience if the application is on premise and the database in the cloud (such as latency, processing delays, ingress/egress costs, network bandwidth)?
- Is your intended Cloud provider (AWS, or Azure) recommended or certified by your Application (if third-party)?
- Is the version of your cloud database certified by your Application (if third-party)?
- Are the required accesses (such as database roles, firewall access) CSAM compliant?

- Are there licencing requirements with your new on-cloud Database? For example, Oracle on the cloud still requires a licence.
- Are there data flows from, or to, other systems that will no longer connect, or will need to be re-routed?

Cost and supportability

- Are you aware of the on-going cost of your application or database being hosted on the cloud? Cloud databases have availability, maintenance, and often licencing advantages, but are not always cheaper in dollars and cents.
- Have you worked out the support strategy for your Cloud Application and database set up? This includes people and processes.

Migration approaches

Moving a database is a complex task, there are several options to consider for how to do it, along with considerations. For you particular system, choose a strategy that balances risk, utility, and efficient use of resources. Generally migration strategies fall into several categories:

- **big-bang** is an all at once migration in a single activity that includes data preparation, data movement, application changes, outages and cut over.
- **over-time** is an approach where there are staged data loads, potentially involving continuous replication of changed-data (via something like Change Data Capture) to enable flexibility in application cut over, ideally limiting outages.
- **start-over** where you create a new cloud infrastructure stack and begin using it with limited data migration.
- **hybrid** where you do some kind of mix of the other strategies with an objective of running both systems concurrently. For example, using the on-premises system for existing work, and the on-cloud system for any new work.

Business requirements may dictate your approach:

- Whether you are leaving the old on-premises database running, or switching it off
- Service availability or criticality requirements
- Data integrity requirements, particularly with systems of record, and how your application behaves

- Upstream or downstream providers or consumers of your data, so other systems don't break when you move to the cloud
- Can you archive any old or redundant data first?
- Do you need existing data in the cloud before you cut over? If your "new" on-cloud database is smaller, or even empty, at day one of your switch over to the cloud, the time and resources required to do your data migration will be much reduced. Your Application will also find it faster to access the data it needs, and your on-cloud archiving strategy will be less urgent to implement on Day 1.

We recommend you read our ideas in plan your migration before you begin.

Edit this page