

Everything You Need to Know About Migrating Netezza Databases to Snowflake Data Cloud

SNAPSHOT | DATA INTELLIGENCE AND AUTOMATION



IBM Netezza is often compared to a toaster: You take it out of the box, plug it in, adjust the knob to your preferences and it just works. Although Netezza has been a high-performance SQL data warehouse engine for many years, it was designed for a pre-cloud world. Now, enterprises need a more elastic, speedy and affordable data warehouse that can exceed their performance goals and easily grow with the organization. This is where cloud computing comes in.

Why is cloud adoption accelerating?

Organizations choose to adopt cloud for a variety of reasons. The demand and backlog from data consumers and users continues to grow, with no end in sight for new analytics applications, reporting needs and data applications. Data science teams also benefit from cloud data platforms that enable both cost control and significant scale when required. Ultimately, it comes down to delivering quicker business outcomes and greater value in a highly sustainable service.



The benefits of migrating your data to a cloud data platform include:

1. **Affordability.** Cloud providers often have a pay-as-you-go model that allows you to scale up or down without wasting storage space. The storage itself is inexpensive and virtually unlimited.
2. **Scalability and elasticity.** You can modify your resource allocation according to changing demands, and computing power can be ramped up or down easily with the push of a button.
3. **Speed of deployment.** You can develop and deploy applications with almost instant access to nearly unlimited computing power and storage.
4. **Increased reliability.** Cloud providers deliver uptime from 99% to 99.9%.

- 5. Improved disaster recovery.** Cloud computing enables easy and automatic backup of data as well as faster disaster recovery of critical IT systems.
- 6. Increased security and accessibility.** Cloud providers comply with industry standards, such as HIPAA, PCI and ISO, and continue to create industry-specific solutions so you don't have to worry about compromising your data quality for accessibility.

So, all Netezza users now face two questions: To which cloud data platform should you move your data? And how can you securely and quickly migrate to a modern and sustainable SQL data warehouse without massive costs and risk? If you want better performance with scale and elasticity at a lower price while maintaining a software-as-a-service experience, then Snowflake Data Cloud is the solution. And NTT DATA can help. We'll guide you through our three-stage approach to successfully migrate your organization from Netezza to Snowflake.

Snowflake has quickly become a leading solution for cloud data storage. The platform stands out from on-premises warehouses and its competitors by embracing the capacity of the cloud. Analytics is a great example of this. Over the past 20 years, the world of analytics has become increasingly fragmented. It's created demand for a structure where the traditional schema of data management and full SQL support can be utilized with the flexibility of the cloud.

Snowflake takes all these considerations into account and combines the best components of on-premises appliances with the best aspects of the cloud — including elasticity, scalability and consumption-based pricing.

Snowflake's value proposition includes:

- Zero management. Snowflake handles maintenance, administration and a host of other automated services so you don't have to fine-tune anything.
- Centralized storage. Store and access your structured, semi-structured and unstructured data in one location (JSON, AVRO, XML).
- Support. Snowflake is compatible with a variety of tools, including business intelligence and data integration.
- Unlimited access. No performance degradation for your concurrent users and applications.
- Flexible pricing. Whether you want to pay as you go, pay by the second or even meter usage to allocate costs to different departments, Snowflake has a plan to fit.
- Seamless data sharing. Securely share and access governed data, tools, applications, other technologies and data services while preserving your privacy.
- Complete SQL database. Snowflake enables full SQL support with the flexibility of the cloud.

What are the top concerns for Netezza to Snowflake migrations?

NTT DATA regularly hosts data and cloud migration and modernization workshops where clients often ask:

- What does the migration process look like? And what's the timeline?
- What's the best strategy for moving our data? Should we lift and shift, optimize or modernize?
- How secure are we in a cloud environment?
- How do we balance speed versus cost versus a range of other dimensions?
- Can we reduce our overall technical debt?
- How do we automate our environment and ensure a sustainable DevOps and DataOps process?

The challenge is that each situation is different — there's no one size fits all.

The three stages of migration

One concern for many organizations looking to migrate from Netezza to Snowflake is the difference in the skillset Snowflake requires versus Netezza. You can achieve a successful Netezza migration on your own, but it's not always easy. Plus, you need to have a general understanding of SQL for Snowflake. While Snowflake has a huge community base and an active forum to answer questions, wouldn't it be better if you had an experienced provider by your side who has migrated critical data many times before and can help you navigate safely?

Let NTT DATA be your guide. Our technical experts will help you migrate from Netezza to Snowflake with an approach that's customized to meet your organization's data initiatives and goals. We have experience with the world's most complex data environments, guiding clients through the setup process, policies, data governance and data management to ease the transition and ensure you get the most value from the Snowflake platform.

We apply a three-stage approach for successful migrations that works reliably for Netezza, as well as with other legacy data warehouses, such as Teradata, Oracle Exadata and SAP Business Warehouse. But it's not a simple sequence of events in a data migration. The best migrations work iteratively across all three stages, with a user-focused, agile approach to accelerate value delivery, remove weeks of unnecessary migration of outdated workflows and improve adoption of your new data platform.

Stage 1. Analysis and tooling: Understanding the past

This stage sets the foundation for the success of all following stages. During stage 1, we focus on:

- Static analysis
- Automation estimates
- Effort sizing
- Modular migration pilots



Netezza migration analysis tooling



Conversion validation and automatability assessment



Discovery analysis and effort report



Pattern-based database and ETL pilot conversion

Static analysis tooling helps us confidently determine which parts of your platform are candidates for automated migration and which parts are likely to require veteran data engineering know-how. We use this information to craft a custom discovery analysis and effort report. These foundational findings from our analysis serve as the roadmap for the entire migration. It's a living document, updated as we validate assumptions and uncover new requirements.

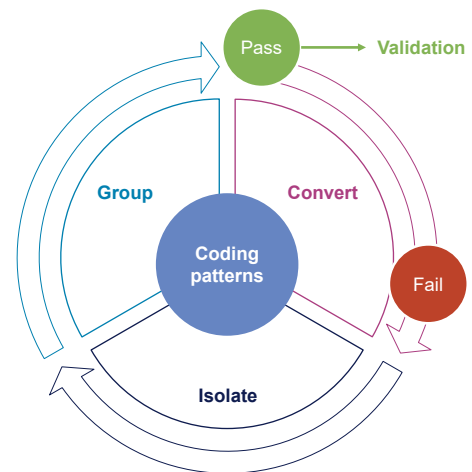
Stage 2. Migration and validation: Migrating for the present

In the second stage, production use cases move from Netezza.

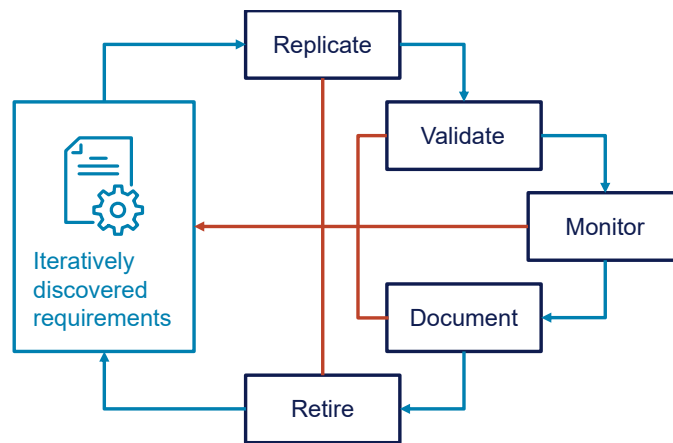
Using the results from our analysis in stage 1, we begin migrating workloads to the new environment using a multifunction approach. This includes the following steps:

1. Replicate parallel pipelines for a discrete portion of the migration effort
2. Validate the migration against the existing platform
3. Monitor through audit, alerting and data quality checking to ensure the replicated pipeline remains valid going forward
4. Document the process for handoff and ongoing team reference
5. Retire replaced workloads

Something important to note about this phase: By focusing upfront on users, it's common for a significant portion of workflows to be retired



without conversion. Even one to two weeks of upfront design effort can and regularly does save months of work. As workload migration progresses, it's common and expected that new efficiencies and advanced approaches will become available in the target architecture. This leads to our third and final stage of Netezza migration.



Stage 3. Modernization and innovation: Building for the future

This is the final stage for all migrations. Once the immediate threat of losing support for a Netezza appliance is gone, the team can focus on finding advanced approaches in the new environment that improve existing workflows or represent net-new capabilities. These include predictive maintenance, natural language processing, process automation and real-time decision-making.

Common modernization examples include:

- Removing redundant and unnecessary operations due to updated business needs or constraints imposed by Netezza or legacy ETL tooling
- Simplifying complex stored procedures, custom functions and other advanced transformation initiatives using new services and approaches
- Accelerating transformation workloads by taking advantage of the elasticity and scale of the cloud

Net-new innovation efforts include:

- Single-pane-of-glass monitoring of data governance, cybersecurity, compliance and cloud costs
- Increasing the use of continuous integration and continuous deployment practices to enable greater automation and more reliable production deployments
- Developing an advanced analytics infrastructure for artificial intelligence, machine learning, industrial internet of things and time-series analysis applications

Please remember that this is an agile approach. As with any migration, you'll need to do a lot of heavy groundwork. But the thoughtful and methodical process of an agile approach lends itself to the migration of more usable data in your new warehouse. Migrating from Netezza to Snowflake is worth the effort. Snowflake will deliver quicker business outcomes and greater value in a highly sustainable service.

NTT DATA can help guide your organization on the path from Netezza to Snowflake. Working through the setup process, policies, data governance and data management will help ease the transition and ensure you get the most value from Snowflake. Connect with one of our technical experts today to get started on your migration journey.

Visit nttdataservices.com to learn more.

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