Transforming Database Architecture to Improve Performance and Reliability for our Financial Services Client

CGI is proud to have been involved in a bold initiative to help our client utilize cutting-edge replication software to manage the migration of enormous databases without interruption or loss of data.

Immediate Problems Requiring Fundamental Architectural Change

- **High Availability**: The existing infrastructure had no capacity for HA solutions. Higher availability was needed to ensure optimal uptime.

- **Scalability**: The infrastructure had grown significantly over the years, the then-existing infrastructure only offered vertical scaling with no capacity for horizontal scaling.

- **Disaster Recovery**: Non-Oracle supported solutions were used for disaster recovery. The existing DR solutions did not meet the determined requirements.

- **Oracle patching**: The infrastructure had grown significantly over the years, so keeping up with Oracle patches in a manual capacity was not a viable option.

- **Reporting**: A centralized reporting or Datawarehouse environment was not available.

Oracle GoldenGate

Oracle GoldenGate allows replication, filtering, and transforms data from one database to another database.

This allows committed transactions across multiple heterogeneous systems in your enterprise. Oracle GoldenGate enables you to replicate data between Oracle databases to other supported heterogeneous database, and between heterogeneous databases. In addition, you can replicate to Java Messaging Queues, Flat Files, and to Big Data targets in combination with Oracle GoldenGate for Big Data.

"It was a massive undertaking involving the efforts of experienced Database professionals in Calgary with additional expertise CGI's National Centres of Excellence."

Through our DB Access and DB Migrate programs, CGI provided managed consulting services to upgrade & migrate existing databases to highly available environments. Advanced replication software was implemented for production migrations to ensure minimal downtime while migrating multi-terabyte databases. Disaster recovery software was implemented to ensure minimal data loss in case of a complete data centre failure. A centralized mechanism for the Patching/Upgrading of databases was implemented to support patching in a scheduled and automated way. In addition, advanced replication was utilized to build a dedicated reporting environment with real-time data from production environments.

Key Benefits and Value Delivered

With this new environment our client now has:

- The flexibility to scale nodes up & down based on the workloads.
- HA solution (Oracle RAC) provides fault tolerance and eliminates unplanned outages.
- Optimized and automated patching for database servers with minimal downtime.
- A centralized reporting environment with Realtime data from production environments and the ability to generate additional analytics.
- An Oracle supported DR solution (Data Guard) with real-time application.
- Improved performance and a substantial decrease in issues have enabled DBAs to allocate their resources toward the exploration and management of additional technologies.
- Ability to use Oracle database Enterprise features such as Index Partition.

"Database downtime is a significant challenge for the banking and financial sector when upgrading & migrating mission-critical database environments. Any outage of an application or website – even if that outage is scheduled or planned – has a direct impact on the revenue and reputation of the business. Oracle GoldenGate can be used to reduce or completely eliminate the downtime of database migrations and upgrades."

Hamza Afzal
Senior Database Administrator, CGI

About CGI

Insights you can act on

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world.

We are insights-driven and outcomes-based to help accelerate returns on your investments. Across 21 industry sectors in 400 locations worldwide, our 90,250 professionals provide comprehensive, scalable and sustainable IT and business consulting services that are informed globally and delivered locally

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