Highly Available Greetings:
Greetz uses MariaDB Galera Cluster for on-line Greeting Card Platform

Greetz provides on-line personalized greeting cards to thousands of customers. Their web-shop application is built on Java and Hibernate (Object Relation mapping) and, prior to moving to MariaDB Galera Cluster, used Oracle™ RAC as its underlying database. Their infrastructure is based on Linux and they use Ansible for configuration management.

Greetz approached Codership's partner SkySQL (now MariaDB Corp.) to provide them with a replacement database technology for their web-shop that would significantly reduce the total cost of ownership of their database, while ensuring high availability and a solid, predictable performance.

Challenges

Greetz was concerned by the shortage of internal Oracle DBA resources and the increasing complexity of managing their Oracle database as their business grew. They wanted a real-time replica of their production database in their facility in case of disaster, but they weren't able to have this under the existing MySQL database license terms they had with Oracle.

The inflexible approach to MySQL database licensing pursued by Oracle became a significant barrier to Greetz's growth, would eventually become one of the key reasons they switched to MariaDB.

A key part of any database implementation is the accuracy of data, together with its successful migration from the old legacy systems. This is particularly important in the e-commerce sector where customer details and purchasing history must be fully traceable and auditable. This was to be one of the main challenges of the project.

Solution

Greetz insisted that Linux, Hibernate and Ansible remain as part of any replacement solution they might implement. They were willing to replace only the database system.

Greetz was using MySQL for Business Intelligence, Disaster Recovery and other supplementary services. These servers were updated on a regular basis using purpose-built scripts and programs. They wanted them migrated from MySQL to MariaDB. However, Greetz's existing Hibernate deployment used Hibernate's default query setup, which ensured that there was no native SQL to replace prior to the migration.

MariaDB's project team concluded that migrating the
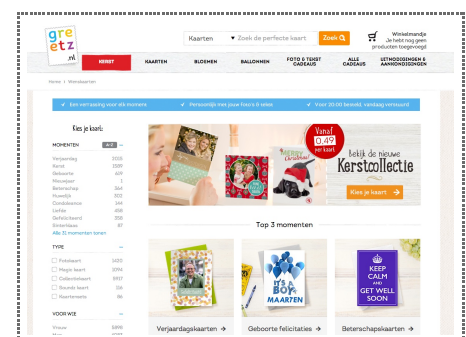
application would consist of moving the database schema and data, pointing Hibernate to the new database, end-to-end testing and then performance tuning. Only a few difficulties were encountered during the migration process, but all were easily addressed.

The differences between Oracle and MariaDB Galera Cluster presented a few problems related to Hibernate, but they were resolved. This included the development of an Ansible configuration for MariaDB and Galera Cluster. The load balancer / failover also needed to be configured, as well as Galera Cluster itself.

Their table schema was fairly easy to migrate, but it was often adjusted during the migration process (e.g., data type mappings and indexing). The big issue with the migration of data was performance during scheduled downtime. During a very restricted time window, large amounts of data had to be extracted from the existing servers, transferred to the new ones and then imported into MariaDB Galera Cluster.

The testing of the resulting schema and data was a continuous process through the migration, including application testing as well as automated verification of migrated data. As part of the migration, consideration was also given to Greetz's future data growth and services to ensure the system could be scaled, both horizontally and vertically.

Results

The Greetz migration project set out to deploy a more scalable, more performant and highly available database solution while providing real-time disaster recovery and BI databases.

From a performance point of view, the new MariaDB with Galera Cluster setup is now faster than Oracle RAC and provides just as good, if not better, stability and high availability. MariaDB successfully reduced the total cost of owership of Greetz's database solution by removing the need for a SAN and significantly lowering license and maintenance costs.

Today, MariaDB with Galera Cluster provides Greetz with a stable, proven and reliable platform for its high capacity web-shop, ensuring that it is highly available at all times.

About Codership

Codership Oy provides high availability, no-data-loss and scalable data replication and clustering solutions for open source databases. Codership's flagship product is Galera Cluster™ for MySQL, a True Multimaster Cluster based on synchronous replication. Galera Cluster is an easy-to-use, high-availability solution which provides high system uptime, no data loss and scalability for future growth. For more information about Galera Cluster, please contact info@galeracluster.com