

HIGH AVAILABILITY

MYSQL & MARIADB FOR

TELEPHONY, IPTV, AAA AND BILLING

CAN'L

- Industry: Internet Service Provider
- Location: New Caledonia
- Data Center: 2

USE CASE

Clustered MySQL & MariaDB databases for Telephony, IPTV, AAA and Billing Services

WHY SEVERALNINES

Complete management system allowing the sysadmin team to deploy and operate high availability MySQL and MariaDB Clusters.

INTRODUCTION

Can'l SAS is an internet service provider located on the beautiful Pacific island of New Caledonia. Its many services include internet broadband service (DSL & Fiber), VoIP phone service, website hosting, domain registration, and TV service. Can'L services opened on December 18, 1995 making it the first internet access provider present on the territory of New Caledonia. Since then, Can'L has focused on keeping up with technology, new developments around the world of internet, and the needs of its customers in both the technical and commercial arenas.

CHALLENGE

Can'l has embraced open source technology for a long time. All of their services (applications, billing, customer information, etc.) are based on a database environment consisting of MySQL and MariaDB. "We originally had it all running on MySQL (NDB) Cluster databases ... with no management tool, all done manually by command line. It was a real pain to maintain it," said Alain Cocconi, CTO of Can'l. Although Alain managed a team of five, only the DBA was able to do anything of consequence to the database clusters, such as troubleshooting performance problems or other operational anomalies, recovering from failures, upgrades or backups. This created a

bottleneck and was a risk to the business. "The team was overly relying on one person, and this dependency was detrimental to our infrastructure operations. The database is the heart of our systems. If we don't have a database, we don't have a business," said Alain.

The other challenge was to evolve the database architecture so it could handle a combination of real-time and longer-running reporting queries. Telephony/network applications typically had a number of small requests that had to be handled with short, predictable latency. NDB Cluster was great at handling such requests. Back office systems like billing, reporting and user/service management typically required good support for longer-running reporting queries. The NDB Cluster engine was not a great fit for complex queries that required multi-table joins.

More specifically, these are the types of applications (and their purpose) that access their databases:

1. *Middleware MaGoTV - Android/IOS MaGoTV application support:*

- Channels Deployment and Channels Packages
- Customer Management & Equipment
- Wholesale / Retail
- Subscription Management, Billing, Payments via Stripe
- And more ...

2. *Middleware MaVoIP - VoIP wholesale / retail service based on an 8-node Asteriks cluster and redundant load balancers*

- Vendor Management, Trunk & Purchase Pricing
- Sales Pricing Management

- VoIP Packs Management: minutes packs, prepay or postpay
- Equipment Management
- Customer Management, Associates Numbers, Preferential Numbers, Voicebox, etc.
- CDR
- Statistics
- Billing
- And more ...

3. Cluster DHCP (12k leased): Kea based

The Can'l team set out to find a management system with the following requirements...

- An easy way for the entire sysadmin team to manage and operate high availability MySQL and MariaDB clusters
- Web interface
- Comprehensive monitoring
- The ability to easily schedule and manage backups

SOLUTION

The Can'l team began searching for database management tools and utilities, and evaluated a few of them. Eventually they found the free ClusterControl Community Edition. After using the free deployment and monitoring features of ClusterControl for some time, they then decided they needed a "do over."

They approached Severalnines for a combination of consulting and a commercial licence for ClusterControl.

They initially focused on implementing ClusterControl Enterprise, so the whole sysadmin team could manage their NDB Clusters. The consulting part involved designing a future-proof database architecture, where Galera Cluster would be gradually introduced to the environment, especially for the back office applications.

"We decided to order Severalnines services to help us architect the database environment, and make sure our clusters were optimized," said Alain "We wanted to be sure they were perfectly optimized!"

Can'l needed more than just the monitoring features: they also wanted automatic failover/recovery and the ability to manage their backups with ClusterControl.

Over the course of the following year, Can'l and the Severalnines team re-built their entire database infrastructure. The management of the NDB Clusters was now automated using ClusterControl. The team also started introducing Galera Cluster to handle some parts of their data.

THE RESULTS

Three years after the initial deployment of ClusterControl, their setup is still up-and-running and meeting the growth needs of their business. In addition they have been able to increase their uptime from 99.9% to 99.999% achieving the "severalnines" they were looking for.

"One word: Perfect. Our customers are enjoying a service with no problems and that is good for our business," said Alain "We will renew as long as possible with Severalnines: great experience with three years without issues in production. It gives us the assurance of security and quality."

In addition to the significant downtime reduction, Can'l has also experienced an overall cost reduction in the management of their databases over the manual process they ran before the implementation. It has also improved team morale, allowing them to focus on more important tasks rather than maintenance.

"ClusterControl will make your team happy, and that's the most important thing!" said Alain "It's perfect for our business, don't change anything!"

Over the course of our relationship with Can'l, they have begun transitioning parts of their data from the MySQL Clusters to Galera clusters.

WHY SEVERALNINES

Severalnines was selected as Can'l's vendor of choice for database management for the following reasons:

Expertise - The Severalnines Team understood the technologies and how to make them work with the Can'l applications.

Complete Management Platform - ClusterControl had all the features required to operate their database clusters, from performance monitoring to automatic failure recovery and backup management.

Ease of Use - The web interface makes it easy to manage database clusters. As a result, the entire sysadmin team is now able to manage the database.

