



Database scalability for Africa's booming eCommerce market



AIA

Industry: eCommerce
Technologies: Galera, MySQL
Datacenters: 1
Products: ClusterControl

USE CASE

Scalability of eCommerce infrastructure

WHY SEVERALNINES

Real-time performance insight, high availability operations and competency in database clustering

BACKGROUND

AIA builds and operates South Africa's winning eCommerce companies.

AIA's hands-on approach coupled with the collective experience of the passionate team behind it makes for best practice implementation across all key business areas: Marketing, Supply Chain Management, Sourcing, UX/UI, CRM, Business Intelligence, Finance, Engineering, and product management.

AIA's individual team members have built some of the fastest-growing eCommerce companies in the world: lamoda.ru (Russia), zalora.com & lazada.com (SEA), theiconic.com (Australia), wimdu.com (Germany & China), zando.co.za (South Africa), jumia.com (Nigeria & Morocco), linio.com (LATAM), jabong.com (India), Groupon.co.za (Groupon South Africa).

CHALLENGE

The main challenge AIA was trying to solve was rapid growth while trying to do everything in-house. The company had moved from Master-Slave MySQL setups to Galera Cluster in order to scale. The team manually set up Galera, and it was running nicely until they hit some incidents.

These made the ops team realize the need for a management tool.

One incident the team ran into was a Split Brain scenario during a weekend. They had lost a MySQL node after a configuration change that was driven by a complex Puppet setup. The cluster was started with 1 node having an empty `wsrep_cluster_address = gcomm://` and a split-brain ensued.

The impact to the business when this Split Brain occurred was the loss of resources, loss of revenue, and delayed

business processes. The database cluster was a bit like a black box, and the team really lacked insight into what was happening under the hood. Also, since the database cluster was a mission-critical resource, the team also needed tools to assist them

There were too many animals in the zoo. We had a whole ecosystem of applications, all contending for database resources. We were outgrowing our Master-Slave database infrastructure and badly needed to scale.

Riaan Nolan, Senior Technology Manager for AIA

SOLUTION

The ops team investigated possible alternatives for the database and even looked at companies like Amazon and RightScale to help them guarantee consistency and uptime of the database layer.

During the evaluation, the main criteria were cost, stability, and functionality. Rapid deployment was also important as it was key to agility, and the existing infrastructure was already well automated with Puppet.

After researching different database technologies, the team concluded that Galera was still the right solution. It offered a multi-master setup, and architecturally, it was a good fit with the rest of the infrastructure. The missing piece was management and operational insight. Puppet could still be used to manage the database hosts, while automation of configuration changes, node recovery, and updates to Galera would now be done by ClusterControl.

OUTCOME

Having insight into the cluster also helped tremendously in managing the platform and increasing performance. The ops team is now able to manage bad queries in real-time. With the Health Reports, the team is also able to proactively work on their database schema and queries. As the application is constantly evolving, with new code potentially causing malfunctions, the team is able to react in a more targeted way than before.

We already knew that we liked Galera Clusters, but we needed a way to simplify the management and operational aspects. We also needed a tool that could provide us a deep level of insight into runtime operations and performance.

Riaan Nolan, Senior Technology Manager for AIA