

HIGH AVAILABILITY DATABASE

CLUSTERS BEHIND ITALY'S NEW

DIGITAL IDENTITY SPID PROVIDER, SIELTEID

SIELTE

- Industry: Telecommunications
- Location: Italy
- Data Center: (3) Sicily & Rome

USE CASE

Global ID application which requires high availability

WHY SEVERALNINES

Centralized database management with a solid backup management, data security, and an automatic recovery solution

INTRODUCTION

Founded in 1925, Sielte S.P.A. is an Italian Telecommunications company delivering integration services for telecom networks, systems for transport and other infrastructures, and ICT & cloud computing. Sielte also provides services for satellites systems and energy systems, especially for the oil & gas industry.

Over its 90 years of history, Sielte SpA has evolved from a pioneering telephone and electrical systems company in Italy to an international cloud-based information and communication technology service provider. The company has an annual turnover of 400 million euros, the company is headquartered in Italy and has operations in Spain, Romania and Nigeria. The company delivers cloud services through SielteCloud. Recent offerings include SielteID (an identity & access management IAM platform) and SielteCity (an urban smart framework).

CHALLENGE

In the telecommunications world, mission-critical OLTP databases are subject to stringent high availability requirements. As Sielte began

“A service like SielteID needs to be **telco-grade**, as without it, you won't be able to **access any** of the Italian public administration's **online services**”

to develop its' SielteID Identity Management Service (IAM), the team knew they needed a database solution that could operate 24x7. “When we first launched the system, we did not have high availability implemented at the database level,” said Salvatore Davide Rapisarda, IT Solutions Architect “and there were a couple of incidents when the database was affected, which took down the entire system.”

SielteID is a Digital Identification system that, through a single account, allows Italian citizens to access securely, easily and quickly online services of public administrations and private companies that are part of the SPID system (Public System for Digital Identity). The Digital Identity can be used on computers, tablets and smartphones. By its nature, the service contains sensitive and personally identifiable information. The infrastructure has to ensure total protection of the data, and guarantee privacy of the users. For an identification

service, uptime is a fundamental requirement. During the initial phases, the team experienced a few incidents which resulted in several hours of downtime - some related to their scheduled backups. These issues typically happened at night, which created significant work for on-call IT staff when they had to recover services.

The SielteID Team needed a database solution that offered automatic failover and recovery to minimize downtime, and ensure a stable service even in the event of a datacenter going down.

SOLUTION

The SielteID team initially approached the database high availability challenge with custom scripts to orchestrate failover for MySQL replication. After trying several different scripts and samples online, it was quickly becoming apparent that doing this manually would be too complex and not cost effective.

The team then decided to reach out to Oracle but that option was discarded. MySQL high availability via Group Replication was deemed inappropriate, and it was way too expensive (this is a free public service after all).

The team knew that an active-active database model would work well, so they wiped the board clean and set out on Google to find another option. Galera Cluster and ClusterControl was what they found.

The team had heard of Severalnines and ClusterControl before while working with a previous R&D project that used the system. Salvatore Rapisarda, the Solution Architect for the project, quickly installed the tool and in a short time had a MySQL Galera Cluster deployed. "Installation of ClusterControl and deployment of a 3-node cluster was a breeze," said Rapisarda "All the detailed information about the cluster helped us understand the solution and gain confidence."

ClusterControl also provided the Sielte Team with the backup management system they were looking

for, automatic failover and recovery, as well as reduced effort and downtime during routine maintenance.

"Without an instrument that controls the state of the MySQL stack, we had many problems," said Rapisarda. "We now feel we have total control of the infrastructure and we can do maintenance without downtime." He continued to say "Now ClusterControl help us identify any nodes that are having problems, and we are able to service it without downtime... the system is always up!"

WHY SEVERALNINES?

In the end ClusterControl provided Salvatore and his team with exactly what they needed for their application...

- **High Availability:** With an easy-to-deploy, multi-node, MySQL-based database cluster with automatic failover and recovery the SielteID Team can now sleep comfortably at night knowing their system won't go down.
- **Ease of Use:** The graphical interface, deployment widgets, configuration templates, and tools for ongoing upgrades and maintenance make setting up and maintaining the SielteID application easier than it has ever been before.
- **Backup Management:** ClusterControl allowed Sielte to define a very specific backup plan to conform with their datacenter operations procedures, with archiving to tape.

"I think that ClusterControl is the best product available today for the management of high availability MySQL," said Rapisarda.

"After the deployment of the new cluster with ClusterControl we have **total control** of the infrastructure and we can do maintenance **without downtime**"

Salvatore Davide Rapisarda, IT Solutions Architect

