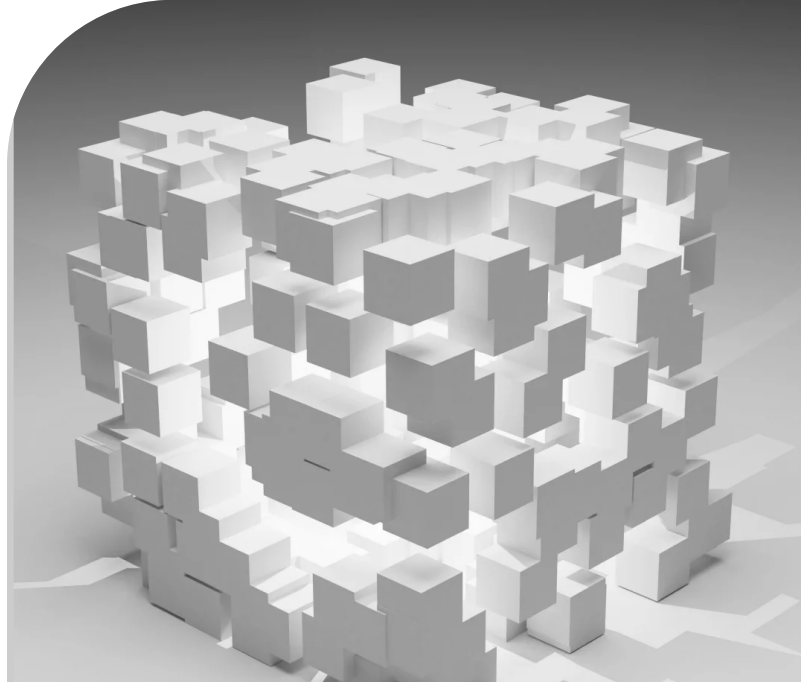




HA database clusters behind Italy's new digital identity SPID provider, SielteID



SIELTE

Industry: Telecommunications

Technologies: Galera, MySQL

Datacenters: 3

Products: ClusterControl

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

BACKGROUND

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 satellite 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 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 SieltelD 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 data center going down.

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

Salvatore Davide Rapisarda, IT Solutions Architect

SOLUTION

The SieltelD 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."

OUTCOME

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

ClusterControl 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 helps us identify any nodes that are having problems, and we are able to service it without downtime...the system is always up!"

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