

# How Alcatel-Lucent Enterprise was able to maintain the flexibility of its Data Lake while improving performance with Amazon Neptune



## Executive Summary

Atyos has been supporting the Alcatel-Lucent Enterprise team for many years. Among other things, this Data Lake aggregates contract and service data from different information sources in order to enhance them and help its customers access all the information they need. Those customers can be business partners or other internal ALE teams. The emergence of new usage patterns and growing data volumes required reinforcing the current solution's data storage and access. After analyzing the constraints of the current production solution, we worked with ALE to set up a more robust, flexible, and efficient system to meet these new requirements, while considering the ever-changing needs of ALE. We were able to meet these through a microservice architecture approach on Amazon Web Services anchored around Amazon Neptune.

## Customer Challenge

At the origin of the Data Lake, ALE choose a NoSQL data storage to promote operational flexibility and efficiency. Since then, as the needs and usage have grown exponentially, the Data Lake needed a new technology that would allow for performance improvement and continued data integrity. This evolution of the Data Lake architecture was vital, on the one hand, to significantly improve the response time and optimize the operational maintenance costs. Not making this leap would have led to a significant degradation of the services offered by the Data Lake.

## Why Amazon Web Services?

Atyos has been working with ALE teams for several years to support and advise them in their Cloud transformation, on best practices for development, deployments, operations and application support. Our previous projects were already showing a reduction of both operating and maintenance costs through our implementation of services provided by Amazon Web Services. This is especially important since the use of a new database engine generally requires a significant investment in training for the teams in charge of keeping operational.



Alcatel-Lucent Enterprise delivers the personalized "all connected" technology experiences businesses need. ALE solutions and services for network, communication and cloud infrastructures in the digital age are designed to ensure customer success through flexible business models; in the cloud, on-premises and hybrid. These solutions are secure and developed for limited environmental impact.

More than 100 years of innovation have made Alcatel-Lucent Enterprise a trusted partner to more than one million customers worldwide. Alcatel-Lucent Enterprise, headquartered in France, has 3400 business partners worldwide, allowing local proximity.



### **Atyos solution**

The solution implemented is based on a full serverless data pipeline, leveraging the power of AWS cloud services. Serverless services (AWS Lambda, AWS SQS, AWS API Gateway) enable a faster deployment by eliminating the common financial expenses linked to it. The implemented solution is able to adapt in a granular way, optimizing the costs of the data pipeline, according to the needs and usage.

A new data model has been designed to meet the business needs of highly connected datasets. The Amazon Neptune fully managed graph database system was used to facilitate the setup, operations, and scaling of the database service in the cloud. It provides cost-effective and resizable capacity while automating time-consuming administration tasks such as hardware provisioning, database setup, patches and backups.

### **Results and benefits**

We provided a solution that allows our customer to focus on their business and applications. As a NoSQL service, the graph database approach allows a significant flexibility for the data model. Amazon Neptune provides a level of availability, performance and security that is difficult to reach with other solutions, without making significant investments.

With an on-demand deployment model, ALE optimizes the performance of its services while optimizing its costs.

Now that this project has been quickly put into production, the client no longer needs to focus on application support and can instead move on to new features and evolving the business model.

The ALE team is convinced that this technical approach enables it to accelerate innovation and value creation to the full benefits of its customers' satisfaction.

Atyos is a company that helps its customers reinvent the way they manage their infrastructure and application in order to meet the flexibility and efficiency requirements that are necessary to improve their Time to Market. Driven by a DevOps mindset, our team uses the cloud technologies to provide our customers solutions that enable them to accelerate the innovation of their own business.

