

# Rapid Development of Cloud Native Account Intelligence Platform Using AWS

## Customer Overview

The customer builds solutions that deliver enhanced customer experiences to sustain commercial health in the digital economy. The solutions align with their philosophy that organizations need to nurture customer relationships and strategically coordinate commercial initiatives to provide digital experiences customers expect and to deliver outcomes they must achieve.

## The Context

In line with their mission, the customer envisioned a comprehensive enterprise platform to integrate transformation services, thought leadership, and cutting-edge technologies to empower B2B enterprises to systematically optimize growth of key accounts. They required a highly scalable, compliant, and cost-effective platform that could support a large number of global users.

## Type of Service Provided

Cloud Native Platform Engineering

## Technologies Used

AWS - API Gateway, Lambda, S3, Cognito, DynamoDB, Elasticsearch, Redshift, Quicksight, SQS, SNS, CodePipeline  
Python

## The Solution

The team of product engineering and cloud experts from GS Lab | GAVS rapidly designed and developed a high performing, cloud native enterprise account intelligence platform from the ground up. The team delivered the MVP in just 3 months, enabled by the AWS serverless stack that did not require any initial development setup; and AWS features like Lambda chaining that helped build things faster. The code and databases were deployed in different regions to comply with GDPR and data protection laws of the respective countries. The cost-effective platform supports on demand and pay per usage for multiple tenants (and users) across the globe. With AWS's serverless single tenant architecture, the platform delivers flexibility, scalability, security, compliance, and resource predictability.

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## Challenges

- Need for rapid delivery of enterprise platform with these key requirements:
  - Support for on demand and pay per usage for multiple global users
  - Compliance with GDPR and data protection laws of different countries
  - Cost-effectiveness to ensure long term success

## Solution Highlights

- Automatic server provisioning, scaling, maintenance, and dedicated tenant environment with AWS serverless, single tenant architecture
- Codeless configuration of stateful and stateless APIs using API Gateway
- Code execution without need for provisioning, through Lambda
- Secure storage of static frontend components and data with S3
- Flexible data models and high-performance throughput using DynamoDB
- Horizontal scaling and data isolation with distinct instances of Lambda and DynamoDB tables for each tenant
- Data assimilation from varied sources and structuring with Redshift
- Single point of user authentication, authorization and PII policy adherence with Cognito
- Fully managed message queuing for microservices, distributed systems, serverless applications with SQS; efficient execution of async jobs without data loss
- Messaging between distributed systems, microservices, serverless applications with SNS
- Quick access to frequently used data with Elasticsearch
- Fast and reliable application and infra updates through release pipeline automation with CodePipeline
- Insightful visualizations with Quicksight; integration within web portal

## Solution Impact

- Rapid development at low cost; development of 10+ MVPs and quick conversion of 70% of MVPs into real applications
- High platform flexibility, scalability, and cost savings due to dynamic, on-demand resource allocation
- Onboarding of 20+ enterprise customers without change in infrastructure
- Processing of 10k documents daily for two years; execution of 50k semantic searches on documents for a year
- Robust security, compliance, and resource predictability