CLOUD NATIVE APPLICATION BASED ON MICROSERVICE ARCHITECTURE AND AWS SERVERLESS

Case Study: Software engineering

Software architecture and implementation

Comprehend the Client
Profound understanding of clients' business environment and goals.

Problem ID
Identification of all the problems, cause and requirements.

Solution
Designed with innovative thinking and extensive experience in SW engineering.

Results
Optimize for success. More efficient and effective usage of resources.

Case Study: Software architecture

Comprehend Client
Profound understanding of clients' business environment and goals.

E-commerce
Multinational company specialized for online shopping

Our client is fast growing company with capacity and infrastructure to become the No.1 e-commerce platform provider for the entire European market share.

Has partnership with major retailers as well as numerous small to middle-size producers.

Clients' experts had great knowledge in business domain, but insufficient human resources and knowledge about modern software architecture and technology stack.

Case Study: Software architecture

Problem ID
Identification of all the problems,
cause and requirements.

Compatibility
Expertise in software architecture

Our client started with old legacy application which was hard to maintain, scale and develop new functionalities.

Core of the business functionalities was developed, but they realized application cannot grow easily with the current status.

Application needed migration to modern technology stack and new blueprint for software platform architecture.

Case Study: Software architecture

Solution

Designed with innovative thinking and extensive experience in SW engineering.

Investigation

Understand business domain and propose solution

The main task was to detect core functionalities and propose software architecture and technology stack.

Steps taken:

o determine core functionalities and organize them in groups by business domain;

o determine the dependencies between groups and investigate possible ways of communication;

o propose technology stack based on size application, communication between software components and available human resources and their expertise;

Case Study: Software architecture

Solution

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Implementation

Implement MVP for e-commerce platform

o define MVP as a set of loosely coupled microservices running in a cloud;

o determine technology stack based on architecture requirements: Java Spring Boot, MariaDB, Cassandra and AWS serverless technologies;

o determine how application will be hosted and build.

Case Study: SCM and CI support

Solution
Designed with innovative thinking and extensive experience in SW engineering.

Compatibility
Development of core services

We have **developed:**

- o Spring Boot based sets of microservices with databases to support business logic, API gateways and front-end applications;

- o Jenkins pipelines for building and deploying to test and production environment;

- o Applied tools for code inspection and various services metrics;

- o Maintenance of existing functionalities and implementing new functionalities based on the customer requests.

Case Study: Software engineering

Scalability

Feasibility study

Solution

Designed with innovative thinking and extensive experience in SW engineering.

We have **advised:**

Rely heavily on cloud services. Actually, the entire solution is redesigned to be cloud native. To use EC2 and RDS AWS instances for hosting applications and databases, and serverless technologies such as AWS SQS and SNS for microservices communication and AWS S3 to store static files.

Case Study: Software engineering

Results

Optimize for success. More efficient and effective usage of resources.

>13 mos

Months of successful collaboration

Started with a legacy code and monolith application architecture. Developed modern, scalable and maintainable architecture.

Software implemented and delivered on time on mutual satisfaction of our clients and their customers.

Transparent collaboration empowered with good communication, a thorough understanding of clients' processes as well as our team eager wish to upgrade the work environment raised our partnership to a whole new level.

ABOUT
Avisto Eastern Europe

Avisto Eastern Europe is a service company specialized in software engineering with extensive expertise in the area of Applicational Software, DevOps, Embedded Software and Quality Assurance & Automation. Established in 2008 as a fully owned subsidiary of Avisto, a French-based company and a member of Advans Group, Avisto Eastern Europe with its development centers in Belgrade and Novi Sad (Serbia) successfully delivers complex projects and provides support to top-notch international enterprises, highly specialized mid-size businesses, and startups.

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