LARGE CUSTOMER INFORMATION MANAGEMENT AND DATABASE MIGRATION TO CLOUD FOR A LEADING TELECOM PROVIDER IN EUROPE

ABOUT THE CUSTOMER

Telia is a new generation telco company with approximately 20,000 employees, serving millions of customers across the world, empowering people, companies and societies to stay in touch with everything that matters 24 hours in a day, 7 days in a week and 365 days in an year.

BUSINESS REQUIREMENTS & CHALLENGES

The customer had their Customer Information Management (CIM) platform consisting of monolithic applications hosted in a data center in Sweden. Telia collaborated with Tech Mahindra to come up with a futuristic solution due to their existing architecture reliability and performance issues. Some of the key challenges that were hindering the current environment:

- Legacy CIM platform that was difficult to scale with a growing user base
- Increased blast radius due to the tightly coupled architecture, where an issue in one component could take down the entire system
- Large, monolithic applications having reliability and performance issues
- Dependency on costly, third-party licensed applications
- Tedious manual deployments for new-feature releases
- More downtime due to the increase in maintenance cycles

TECHNICAL SOLUTION HIGHLIGHTS

- Tech Mahindra has re-architected CIM platform by decoupling the new architecture using microservices framework.
- Tech Mahindra used AWS DMS to migrate database from on-premises Oracle to cloud-native Amazon Aurora, which helped customer to save costs on licensing.
- Continuous integration and continuous deployment (CICD) pipeline has been setup to automate the deployment process by reducing application downtime.
- Automated deployment of microservices as a Docker container in AWS ECS (later moved to AWS Fargate serverless framework) with a single click from Jenkins.
- Route 53 was configured to provide CIM platform accessibility for customers and on-premises applications.
- AWS ALB was configured with Fargate for high availability and performance.
- Terraform was used to automate infrastructure deployment and the application deployment was orchestrated via Jenkins.
- High Availability(HA) was implemented by deploying the microservices across multiple availability zones in AWS Fargate and utilizing AWS ALB.
- Auto scaling has been setup for each microservices to scale based on memory utilization and AWS ALB to balance the load thus improving the performance of the system.

AWS SERVICES CONSUMED

- Amazon EC2
- Amazon ECS
- AWS Fargate
- Amazon ECR
- AWS ELB
- Amazon Route 53
- AWS VPC, VPN
- Amazon RDS
- AWS Database Migration Service
- AWS Cloud Trail
- AWS Config
- Amazon S3
- AWS IAM
- AWS Lambda
- AWS CloudWatch

THIRD PARTY SOLUTIONS

- Oracle’s Advanced Queuing
- Jenkins
- JFrog

VALUE DELIVERED TO TELIA DENMARK

- Re-architected CIM platform using microservices framework.
- Defined loosely coupled architecture with microservices to reduce the blast radius and provided the ability to scale each component independently.
- Greatly improved the availability and reliability of the application as the application is leveraging some of the core AWS Services such as AWS ALB, Auto Scaling and AWS Relational Database Service.
- Successfully migrated 70+ million records of data in a span of few hours from On-premise to AWS Cloud using AWS Database Migration Service(DMS).
- Automated deployment of microservices as a docker container in AWS Fargate in a single click with Jenkins.
- Business witnessed significant performance improvement as the application was designed to use load balancing and caching techniques.
- Compliance and risk measures are addressed at scale using the AWS best practices and recommendations incorporated with AWS IAM, AWS Config and AWS CloudTrail.
- With the features and services such as AWS Fargate, AWS ALB and autoscaling, TechM were able to greatly reduce the time to market with zero downtime.
- Architecture was designed following AWS best practices and recommendations thus providing enhanced security, improved performance and highly available solution.

❖ Independent microservices architecture

❖ Improved Performance

❖ Single click automated deployment

❖ Zero downtime

❖ Highly available (HA) & Cost effective solution

About Tech Mahindra

Tech Mahindra represents the connected world, offering innovative and customer-centric information technology experiences, enabling Enterprises, Associates and the Society to Rise™. We are a USD 4.9 billion company with 125,700+ professionals across 90 countries, helping over 941 global customers including Fortune 500 companies. Our convergent, digital, design experiences, innovation platforms and reusable assets connect across a number of technologies to deliver tangible business value and experiences to our stakeholders. Tech Mahindra is the highest ranked Non-U.S. company in the Forbes Global Digital 100 list (2018) and in the Forbes Fab 50 companies in Asia (2018).

We are part of the USD 21 billion Mahindra Group that employs more than 200,000 people in over 100 countries. The Group operates in the key industries that drive economic growth, enjoying a leadership position in tractors, utility vehicles, after-market, information technology and vacation ownership.

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