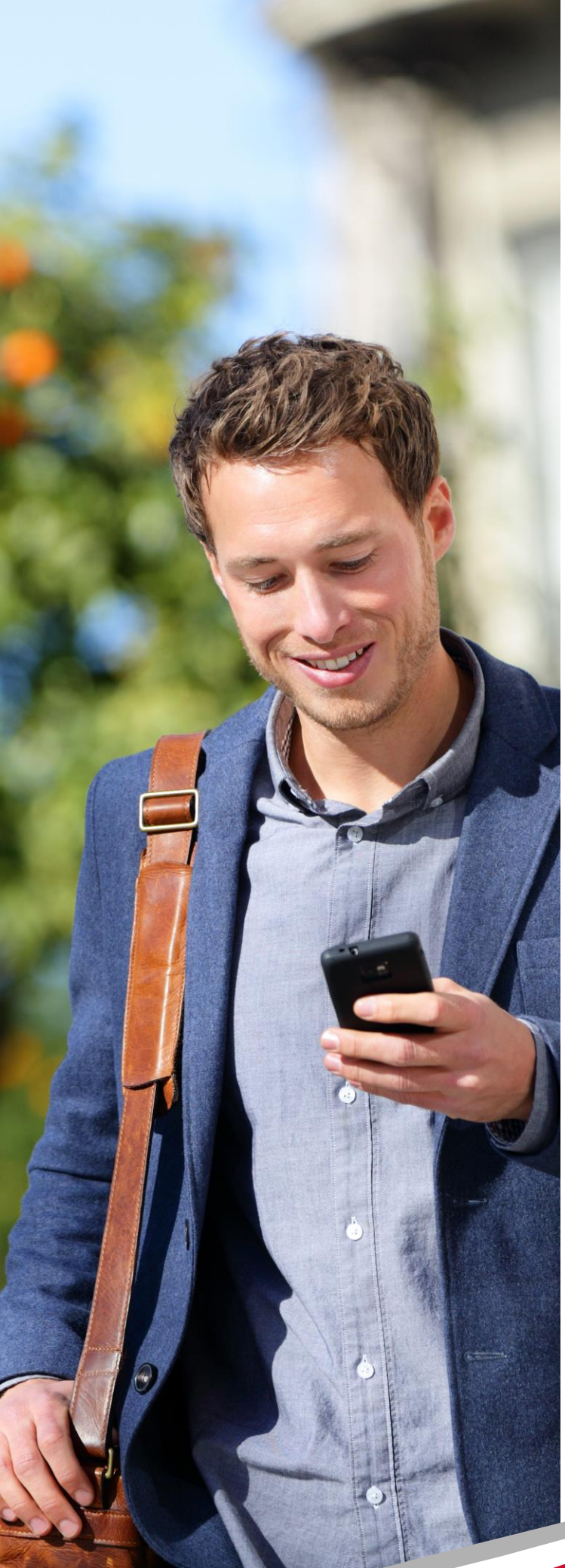


DevOps CICD Implementation using AWS native services for Microservices based Architecture

CASE STUDY.

Connected World.
Connected Experiences.

As cloud becomes all-pervasive across businesses around the world, a leading new generation telecommunications company wanted to leverage on the cloud-native capabilities to build a robust ecosystem to manage their applications. Tech Mahindra's PaaS cloud offerings helped the telecom company maintain high availability and reliability while reducing operational overhead and increasing time to work on delivering stellar products and services.

CLIENT BACKGROUND

Our customer is a new generation telecom company with approximately 20000 employees, serving millions of customers across the world, and empowering people, companies, and societies to always stay in touch with everything that matters.

Their customer information management (CIM) platform consisted of monolithic applications hosted in a data center in Sweden. The customer wanted to collaborate with Tech Mahindra to design a futuristic solution that would eradicate existing architecture reliability and performance issues.

CHALLENGE

The customer's legacy platform was difficult to scale based on their growing userbase.
This resulted in tedious manual deployment for new releases causing huge downtime for maintenance.

01

Tightly Coupled Architecture

Increased blast radius due to the tightly coupled architecture, where an issue in one component could take down the entire system

02

Manual Deployment for New Releases

More downtime due to the increase in maintenance cycles

03

Huge Third-Party License Costs

Dependency on costly, third-party licensed applications

04

Reliability and Performance Issues

Large monolithic applications having reliability and performance issues

SOLUTION PROVIDED

Tech Mahindra re-architected CIM platform using microservices framework and continuous integration and continuous deployment (CICD) process has been established for microservices oriented architecture.

We defined loosely coupled architecture with microservices to reduce the blast radius and provided the ability to scale each component independently. We greatly improved the availability and reliability of the application leveraging Amazon Web Services (AWS), which included AWS ALB, Auto Scaling, and AWS Relational Database Service.

AWS Code Pipeline - CICD Orchestration
AWS Code build - Maven and Docker build
Amazon S3 - Build Artifacts Repository
Amazon ECR - Private Docker Repository
AWS Fargate - Microservices Deployment
AWS IAM Roles - Secure service to service communication
GitHub - Source Code Repository
Terraform - Infrastructure Deployment

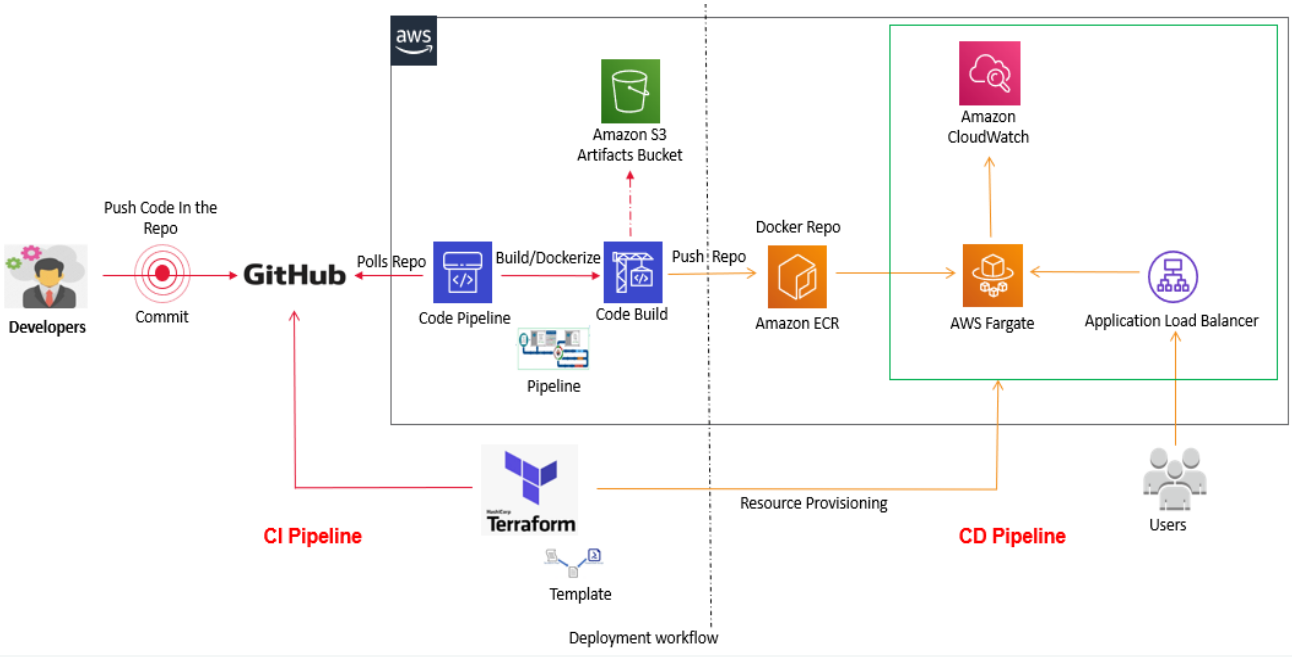
DevOps leveraging Cloud Native Services:

- Automated deployment of microservices as a docker container in AWS Fargate using webhooks.
- AWS Code Pipeline to orchestrate release and deployment process for the customer.
- GitHub used as the source code repository, AWS CodeBuild for building application files and to Dockerize the built-in application as Docker containers
- Amazon S3 used to store build artefacts and Amazon ECR for storing the Docker images.
- AWS Code Pipeline directly integrates with AWS Fargate thus making deployments simpler.
- Templates are defined to set up the infrastructure and build pipeline using Terraform and AWS CLI

Business Impact

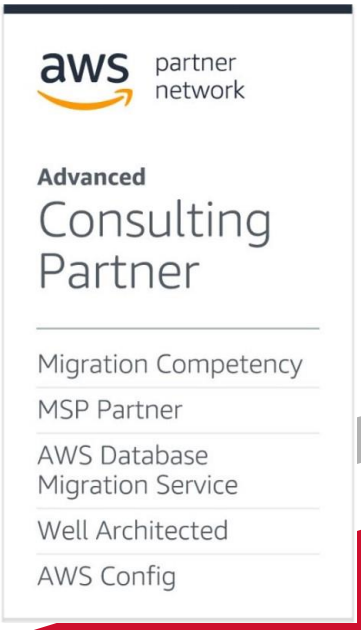
- Significant performance improvement as the application was designed to use load balancing and caching techniques.
- Compliance and risk measures are addressed at scale using AWS best practices.
- Fully automated release and deployment process providing faster time to market.
- Highly available solution with zero downtime deployment strategy.
- Independent microservices development, granular compute resource allocation and reusability.

High Level Deployment Model



ABOUT TECH MAHINDRA & AWS PARTNERSHIP

Tech Mahindra is an AWS Advanced Consulting Partner, AWS Managed Service Provider (MSP) Partner, and holds certified competencies like Migration Consulting, AWS Database Service Delivery, Well Architected Framework (WAF), and Service Delivery Partner on AWS Config. With over 5,500 cloud professionals, we help our customers become agile, lean and build reliable platforms and applications on AWS Cloud.



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