



CASE STUDY: TOKIO MARINE HCC

LEADING INTERNATIONAL SPECIALTY INSURANCE GROUP MODERNIZES INFRASTRUCTURE AND DATABASE

Infrastructure Platform Migration from Microsoft to AWS

OVERVIEW

Tokio Marine HCC is a Houston Texas based international specialty insurance group with offices spanning the United States, United Kingdom, Spain and Ireland.

Tokio Marine HCC underwrites more than 100 classes of Specialty Insurance within five segments:

1. U.S. Property & Casualty
2. Professional Liability
3. Accident & Health
4. U.S. Surety & Credit
5. International

THE CHALLENGE

The Tokio Marine HCC IT team challenge is twofold: they first had to reduce Microsoft licensing costs connected to their application and database infrastructure and modernize their platform to support future growth and provide instant elasticity.



THE SOLUTION

This is a high-level summation of the solution. After thorough consultation and evaluation with the customer, the Beyondsoft Big Data, Analytics and DevOps team engineered a complete three-part migration path.

The primary business focus of each migration path is to decrease licensing overhead connected to proprietary Microsoft platforms while simultaneously improving compute density with fewer and less costly compute resources to run workloads.

- **Application Migration**

- Migration from Microsoft Windows .NET Framework and C# code to a non-proprietary Linux based .NET Core Infrastructure.
- Migration from Microsoft ASP.NET 4.0 to ASP.NET 5.0 on Linux .NET Core
- AWS SecretsManager integration to improve and secure secrets and configuration management

- **Database Migration**

- Create AWS RDS PostgreSQL as target database
- Migrate Microsoft SQL Server Schema and Data to AWS RDS PostgreSQL.
- Migrate SQL Server T-SQL Stored Procedures to target PostgreSQL Stored Procs

- **Infrastructure**

- Develop migration path from bare metal infrastructure to AWS EKS Based Kubernetes Cluster
- Develop and implement CI/CD Pipelines to deploy Linux based docker images to EKS Based Kubernetes Cluster

THE SOLUTION SUMMATION

By implementing and migrating to the AWS Managed Services stack and associated architectural advancements, the Beyondsoft team successfully delivered a scalable, truly elastic, and high performant solution that also met the Tokio Marine HCC stringent criteria for success.

Additionally, the total cost of operation for the new solution realized a drastic cost reduction of 70% overall with a 200% improvement of application to value deployments with less human interaction.

BENEFITS

By migrating their existing Microsoft Infrastructure and associated SQL Server Database to an AWS serverless infrastructure immediately provided Tokio Marine a significant increase in overall performance with respect to application deployments and data processing.

A residual, but very important benefit, of migrating to AWS is that Tokio Marine HCC is now able to use this as a foundation for future modernization projects at lower costs.

TECHNOLOGY USED

Amazon Web Services

- AWS Database Migration Service • AWS Aurora • AWS PostgreSQL • AWS CodeCommit • AWS CodeBuild • AWS CodeDeploy • AWS CodePipeline
- AWS CodePlane • AWS CodeStar • AWS API Gateway • AWS Elastic Load Balancing • AWS IAM Secrets Manager • AWS Aurora
- AWS WAF • AWS Direct Connect

Beyondsoft Consulting Solutions

- ConvergeDB

ARCHITECTURE

