Customer Brief
Global Bank

Introduction

This Global Bank (GB)'s Commercial & Corporate Investment Banking group decided to take advantage of an Event-Driven Microservices approach to develop and modernize their "Keystone" Application. The application is a critical component to their Customer Lifecycle Management practice, which is responsible for following regulations & covering policies like:

- CDD (Customer Due Diligence)
- KYC (Know Your Customer)
- AML Tool (Anti-Money Laundering)

Keystone is the basis for better service and support for the various LOB's with their digital and agile transformation journey.

- Commercial & Corporate Investment Banking
- Payments Systems (Credit Cards)
- Insurance
- Investment

> " *Working with AxonIQ in supporting GB on Keystone was a wonderful experience. The Event-Driven expertise of the founders and AxonIQ team was pleasantly overwhelming. We were in great hands throughout the evaluation period all the way into Production rollout!"*
> - **Consultant & Solutions Architect @GB**

Challenges

GB defined the following criteria to modernize Keystone:

- Seamlessly moving towards Event-Driven Architectures (EDA) & Microservices
- Establish a purpose-built event store & message router to capture benefits of scalable Event Sourcing
- Publish events whenever state changes, natural sharding of data, plus independently scaling reads & writes (CQRS)
- Provide a data-centric approach for system modelling. 100% reliable audit log of changes made to a business entity (audit-driven apps)
- High Availability (Failover/Backup/Disaster Recovery) through clustering of multiple server nodes and multiple locations
- Encryption of Data at Rest as well as Data in Transit
- Access Controls must be in place for Authorization and/or Authentication
- Location Awareness (via tagging) for the geographically distributed teams
- Multi-Context Support for the bounded contexts

Solution

The new "Keystone" Application was built with Axon Framework with the plan to replace an incumbent third-party database and message broker combination so that they could more easily conduct Event Sourcing & confidently implement an Event-Driven Architecture with strong resilience. After evaluating several DBs / message broker solutions, GB decided to standardize on **Axon Server Enterprise Edition** in combination with **Axon Data Protection**.

Axon Framework (Open Source)

Based on architectural principles, such as Domain Driven Design (DDD) & Command-Query Responsibility Segregation (CQRS), Axon Framework provides the building blocks that CQRS requires & helps to create scalable + extensible applications while maintaining application consistency in distributed systems.

Axon Server Enterprise Edition (ASEE)

Axon Server is a zero-configuration message router & event store that made it significantly easier for users to set up & maintain environments. The enterprise edition contains all capabilities of the open source standard edition. Additionally, it contains features to make it suitable for use in enterprises with SLA-backed support by AxonIQ. GB decided to set up ASEE & cluster 5 server nodes for High Availability (failover/resiliency) within a Kubernetes (K8s) environment.

Axon Data Protection Module/Plugin (Axon DP)

Field-level encryption & cryptographic erasure for the JVM. It is an easy to use, standards-based library to erase personal data (GDPR / CCPA - "right to be forgotten") in an immutable event store.

AxonIQ Services and Support

GB used AxonIQ expertise for in-house guidance, training, code review and the support during their Proof of Concept (POC) phase of the "Keystone" project.

- Encryption
- Access Controls
- Crypto-shredding

Country	**Industry**
United States	Finance, Banking, Investment, Insurance
Use cases	**Company size**
Customer onboarding	Enterprise (250,000+ employees)

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