Applications Modernization – Decomposing Monolithic to Microservices based on Functionality for a Secondary Mortgage Company

CASE STUDY

Capital Markets

Customer Profile

A leading US-based secondary mortgage company providing mortgage-backed securities

Revenue **$120+ Billion**

7.5K+ Employees

Problem Statement

Due to an exponential growth in requests, the client aimed at a highly scalable solution to modernize its legacy monolithic application to a microservices based architecture. Also, as per the application's functionality, the user interfaces were logged in separately and the sessions were not maintained across screens to share information.

Technical Challenges

- The application's performance deteriorated as the application data grew.
- All the business logic was tightly coupled irrespective of different modules. This required the entire application to be deployed again every time any changes were made to any of the modules.
- As the application was business-critical and handled key financial processes, moving 2 web services to production without impacting business-as-usual was a major task.

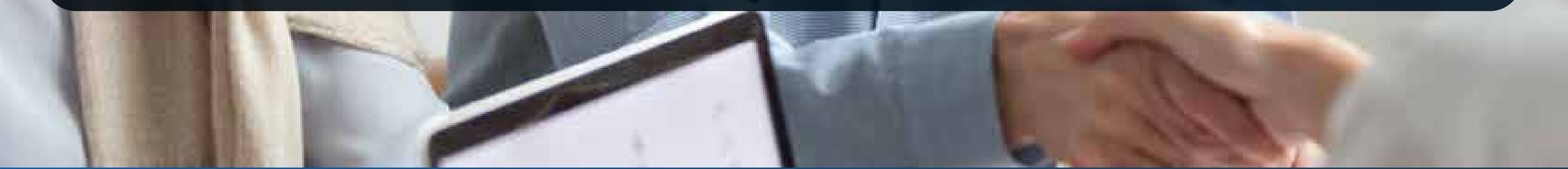
Business Challenges

- The application was not scalable based on business functionality.
- Time-to-market was delayed.
- The app became a bottleneck for the client's GTM initiatives due to unavoidable limitations on its agility and efficiency.

The Solution

We leveraged amaze®, our proprietary application cloud replatforming product suite, for improved scalability and business agility through its built-in automation features. We followed the below roadmap for cloud transformation by decomposition of the legacy monolithic application into smaller functional-based microservices:

- All the user interfaces were merged into a **single application** for easy navigation and to maintain a session.
- Decomposed monolithic application into **5 independent** self-sustained **microservices**. These microservices were created based on business functionality to make them independent.
- SOAP-based web services were converted to REST web services, replatformed to **Spring Boot**, and deployed in the **AWS ECS Fargate container.**
- Remediated the application's anti-patterns hindering **scalability** and **business agility.**
- Used cloud formation template, automated **CI/CD pipeline** for deployment.
- Implemented best practices and frameworks for **cloud native** development.
- **AWS**-agnostic cloud solution.



Tangible Benefits

70% faster time-to-market as the business features are replatformed and migrated to production in **6-8** weeks

60% faster development, deployment, and migration

TCO reduction by **50%**, mainly due to the elimination of WebLogic application server and FTP server synchrony licensing cost

50% reduction in manual effort

Intangible Benefits

- Function-driven microservices segregation
- Modernized UI by separating it from the monolithic architecture
- Modernized security architecture using OAuth
- Near-zero downtime during migration
- Increased development productivity
- Performance improvement

About Hexaware

Hexaware is a global IT services company empowering businesses to realize digital transformation at scale and speed. Our three-pronged strategy of Automate Everything®, Cloudify Everything® and Transform Customer Experiences® endeavors to drive human-machine collaboration for solving complex business problems. We believe technology is a magical thing, and our purpose is to create smiles through great people and technology. We create lasting business value by helping clients offer touchless immersive customer experiences through full-cloud enablement, digital product engineering and extreme automation. Headquartered in New Jersey for North America, London for Europe and Singapore for the Asia Pacific, Hexaware services customers in over two dozen languages from every major time and regulatory zone.

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