

HEXAWARE

Mortgage Legacy Application Modernization with AWS

Case study



Client

| Client

- Challenge
- Solution
- Benefits
- Summary

Empowering Affordable Homes

Our client, a top government-backed organization, works to make housing more stable and affordable. They are quick adopters of new technology and use strong partnerships to create better opportunities for people to own homes, supporting the housing market and helping more people access affordable housing.



Challenge

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Housing Finance Legacy Application Modernization

Our client, a leading government-sponsored enterprise in housing finance, needed to modernize outdated systems to improve efficiency and reduce risk. Their old app infrastructure made it hard to scale, expensive to maintain, and risky to operate.

Moving their 20-year-old codebase to the cloud was challenging. The development team was cautious about changes, which slowed innovation and led business users to create their own workarounds like Excel sheets. Without automated testing, launching updates took longer.

Key tasks included updating legacy code, separating backend systems, making batch processes more flexible, addressing security issues, and ensuring compliance. Old scheduling tools also limited agility, though backend updates were started to prepare for future improvements like Control-M.

Upgrading messaging systems to Spring JMS and Active MQ needed careful planning to avoid business disruption. Testing and deployment environments were limited, so better automation and support were essential.

By partnering with Hexaware, the client set out to modernize its technology, improve scalability, and meet industry standards.



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Legacy Modernization with AWS

We strategized and updated the legacy systems by leveraging the benefits of our AWS partnership, with systematic cloud application modernization approach to build cloud-native application, which is faster to develop and deploy, more scalable, and easier to manage.

Microservices Architecture and Database Modernization

Applications got decomposed into smaller components for relevant domains as independent microservices, making the system modern, scalable, and efficient. Further, we optimized the databases for better speed and reliability.

Using AWS services, ensured the cloud-native application platform can grow easily, stay available, and run smoothly.

By using our **iterative development approach**, we delivered the application in modules. This approach allowed us to test and demonstrate iteratively, reducing risks and ensuring quicker feedback from stakeholders.

What We Covered

Step 1: Modernization with the Amaze® Platform

We re-platformed the client’s legacy applications using our [intelligent cloud journey automation platform Amaze®](#), converting old Java code and EJBs into modern Spring Boot REST services.

This created a modular, scalable architecture hosted with AWS Lambda for serverless tasks and AWS Elastic Load Balancer for high availability.

We also replaced the Torque framework with Spring Data JPA to reduce technical debt and improve data management.

Step 2: UI Redevelopment with LEGO UX Framework

The user interface was rebuilt using the LEGO UX framework and Angular, with AWS CloudFront and Amazon S3 ensuring fast, secure, and scalable delivery of the new screens. These were tightly integrated with the new REST services for a seamless user experience.

Step 3: Strong Testing Framework

We implemented strong automated testing, achieving 80% JUnit coverage for backend services and using Jasmine and Karma for UI testing.

AWS CodePipeline automated integration and delivery, while AWS CloudWatch and X-Ray monitored performance.

Over 140+ business test cases were automated with Selenium, and System Integration Testing ensured everything worked together cohesively.

Step 4: Cloud Migration Workload Automation

Backend changes prepared the client for future migration to modern scheduling systems like Control-M. AWS Batch and Step Functions were proposed for efficient batch processing and workflow orchestration, improving operational agility.

Step 5: Collaborative and Continuous Development Support

We worked closely with the client throughout, supporting CI/CD, code reviews, and UAT. The application was split into microservices, managed with AWS EKS for dynamic scaling.

AWS CodeBuild and CodeDeploy automated builds and deployments, and an iterative approach allowed for faster feedback and reduced risk.

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A Cloud-native, Scalable Application with AWS

Our client now enjoys better scalability, improves operational efficiency, and meets industry standards with a cloud-native microservices architecture for their application.

16 Microservices with AWS EKS for Scalability
Improved agility and scalability by splitting the monolithic app into 16 microservices, enabling faster development and deployment using AWS Elastic Kubernetes Service (EKS).

Modernized 1.3M+ Lines of Code Using AWS Lambda
Achieved maintainability and future readiness by transforming over 1.3 million lines of legacy code and leveraging AWS Lambda for efficient serverless processing.

1,500+ APIs Managed via Amazon API Gateway
Built seamless, secure, and scalable integration across services and external systems through 1,500+ APIs hosted on Amazon API Gateway.

340+ Database Tables Optimized with Amazon RDS
Boosted data reliability and performance by modernizing 340+ database tables and utilizing Amazon RDS for automated backups, patching, and high availability.

350+ UI Pages Delivered Fast with Amazon S3 & CloudFront
Delivered a responsive, user-friendly experience by redeveloping 350+ UI pages, hosted on Amazon S3 and delivered globally with Amazon CloudFront.

150+ Automated Tests Powered by AWS CodePipeline & CodeBuild

Reduced release times and improved quality with 150+ automated test scripts, supported by AWS CodePipeline and CodeBuild for continuous integration and delivery.

Dynamic Scaling with AWS Auto Scaling & Elastic Load Balancing

Ensured the system handles workload changes smoothly using AWS Auto Scaling and Elastic Load Balancing, supporting growth and operational efficiency.

Security Using AWS IAM & CloudTrail Compliance

Strengthened security and compliance by enforcing strict access controls and audit logging with AWS IAM and CloudTrail, minimizing operational risks.



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Moving Faster with AWS Cloud Application Strategy

Client’s experience of faster release cycle with the new modernized application shows the value of moving to a cloud-native, scalable platform on AWS. Moreover, our phased legacy application modernization reduced risk, greater operational efficiency, and ensured they meet timelines—avoiding any business disruption in their cloud app modernization journey.

Further, AWS as a cloud partner helps reduce costs, improve performance, and build a resilient, scalable platform that supports long-term goals, with the right services in place for cloud security in high-compliance environments.



Modernize Your Applications with AWS

Move faster with Hexaware's AWS Cloud Application Strategy. Contact marketing@hexaware.com to unlock scalability, efficiency, and security for your enterprise.

About Hexaware

Hexaware is a global technology and business process services company. Every day, Hexawarians wake up with a singular purpose: to create smiles through great people and technology. With this purpose gaining momentum, we are well on our way to realizing our vision of being the most loved digital transformation partner in the world. We also seek to protect the planet and build a better tomorrow for our customers, employees, partners, investors, and the communities in which we operate.

With offices across the world, we empower enterprises to realize digital transformation at scale and speed by partnering with them to build, transform, run, and optimize their technology and business processes.

Learn more about Hexaware at <https://www.hexaware.com>.

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