

Sonata accelerates .NET 8 modernization to deliver 35% faster migration for a mortgage platform

Leveraging Amazon Q Developer and Amazon Transform to automate legacy application modernization



The Modernization
Engineering Company



About the client

A leading US-based mortgage lender and servicer operates an enterprise-grade platform serving millions of customers nationwide. With a comprehensive suite of more than 30 interconnected .NET Framework applications deployed on-premises, the client has built a robust servicing platform that handles critical mortgage operations at scale.

Customer overview

The platform's architecture evolved organically over more than a decade to meet growing business demands and regulatory requirements. However, as technology advanced and customer expectations shifted, the client recognized that their legacy infrastructure needed transformation. The company has consistently prioritized technology innovation, understanding its crucial role in maintaining competitive advantage in the highly regulated mortgage industry. They viewed application modernization as essential to their digital strategy, aiming to enhance delivery speed, meet evolving customer expectations and position the platform for future growth.

Key challenges

Like many enterprises with long-standing technology investments, the client faced mounting pressure from technical debt accumulated over years of rapid development. While the legacy .NET Framework applications were logically well-structured with distinct Web, API and data access layers, the underlying implementation presented significant obstacles to modernization and agility.

Monolithic architecture and tight coupling: Shared private NuGet dependencies created complex interdependencies, slowing development and deployment cycles.

Manual code maintenance: Refactoring, regression testing and dependency updates were highly manual, increasing effort and risk.

Legacy authentication: NTLM-based security mechanisms limited integration with modern identity systems and Linux-based containers.

Developer productivity constraints: Modernizing 30+ apps made manual rewriting infeasible; developers needed intelligent assistance for .NET 8 compliance.

The solution stack

To help the client achieve its modernization goal, Sonata Software partnered with the client and AWS to leverage Amazon Q Developer and Amazon Transform, two AI-powered services designed to accelerate software modernization and enhance developer efficiency.

Automated code modernization (Amazon Transform)

- Converted .NET Framework projects to .NET 8
- Handled syntax updates, library replacements and configuration transformations
- Replaced deprecated APIs, updated project files to SDK-style format and generated migration reports for manual fixes

Developer acceleration (Amazon Q)

- Delivered context-aware assistance during modernization
- Supported refactoring recommendations, dependency impact analysis and best practices directly in IDE
- Enforced consistent design patterns (e.g., dependency injection, configuration management, policy-based authorization)

Modern security and API layer refactoring

- Redesigned auth using ASP.NET Core policy-based model, integrated Auth0 for token-based authentication
- Refactored common NuGet dependencies into shared, versioned micro-libraries with semantic versioning

Incremental deployment and validation strategy

- Phased approach: start with core APIs, then migrate dependent apps
- Automated CI/CD pipelines on AWS for build, test, deploy, rollback and validation

Results and benefits

By combining AI-powered automation with strategic architectural improvements, the client achieved measurable gains in efficiency, security and platform capability – positioning the organization for sustained competitive advantage.

35% reduction in migration effort
Automated code transformation and dependency updates minimized manual refactoring

Reduced technical debt
Eliminated security defects; standardized API contracts and dependency management simplified maintenance

Future-ready platform
Modular design, cloud readiness and seamless CI/CD integration

40% improvement in developer productivity
AI-driven insights accelerated issue resolution and ensured consistency across applications

Enhanced security posture
Token-based authentication and .NET 8 middleware improved compliance

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AWS Transform for .NET and Amazon Q Developer have been instrumental in a leading U.S. mortgage lender's journey to modernize 30+ interconnected .NET Framework applications to cross-platform .NET 8. The client's servicing platform had evolved organically over more than a decade with tight coupling, legacy dependencies, and outdated security models - creating significant complexity for any modernization effort. Despite these challenges, AWS Transform's unmatched analysis capabilities delivered a 35% reduction in migration effort and 40% improvement in developer productivity during the modernization planning of these complex applications. Combined with rapid, iterative codebase transformation that automated syntax updates, library replacements, and configuration transformations, the modernization significantly accelerated progress in a way that was previously impossible with such a complex legacy environment.

- Rajsekhar Datta Roy, CTO, Sonata Software