

Case Study - CI:CD Implementation



First Guaranty Mortgage Corporation (FGMC) First Guaranty Mortgage Corporation (FGMC) is a full-service national lender offering mortgage solutions to clients across diverse income brackets and credit classes. Founded on the belief that people are more than just numbers, FGMC emphasizes the importance of education and customer service to make a distinction. The company provides clients with the services, education, and programs necessary to help them take control of their finances.

CHALLENGE:

FGMC identified the need for a smart application to facilitate secure loan estimations and processing between loan applicants (clients), brokers, and lenders. The ability to quickly share data across the organization would significantly reduce the time required for loan processing. Moreover, the FGMC system had to be developed within a year, deployed in a secure public cloud, and fit within an operating budget of \$25,000 per month.

Key application requirements included:

- ▶ A leadership-sponsored project to bring the application to the web with a modern, responsive design
- ▶ An originator portal supporting both loan originators and loan administrators
- ▶ Generation of full loan estimate documents that could be shared with loan applicants
- ▶ Secure procedures for transferring loan applications to the enterprise servicing system
- ▶ Reducing each loan officer's manual workload while increasing the number of loans processed daily
- ▶ Significantly decreasing the additional labor hours required for loan processing

Technical challenges included:

- ▶ Integration with existing enterprise systems for loan and content management
- ▶ Maximizing overall system performance, while minimizing network latency issues
- ▶ Meeting relevant security and FFIEC compliance requirements
- ▶ Automatically transferring completed loan estimates to the loan servicing system
- ▶ Securely migrating legacy data to the new cloud-based application
- ▶ Defining high-level architecture best practices that were secure, scalable, resilient, and performant



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SOLUTION:

The Idexcel team collaborated with FGMC to review the existing systems and integration points, identifying several critical systems: Encompass, Compliance360, and Allstate Digital Integration Platform (ADIP). To ensure performance, security, compliance, and resilience, Idexcel deployed the application within Amazon Web Services (AWS), incorporating the following:

- ▶ **AWS CloudFormation** and **Terraform** for reporting and provisioning all infrastructure resources in the cloud environment
- ▶ **Amazon Virtual Private Cloud (Amazon VPC)** for securely isolating cloud resources
- ▶ **Amazon Elastic Compute Cloud (Amazon EC2)** for on-demand computing instances
- ▶ **Amazon S3** for storing and retrieving any amount of data
- ▶ **Amazon Route 53** for a highly available and scalable Domain Name System (DNS)
- ▶ **AWS Lambda** as an event-driven serverless computing platform
- ▶ **Amazon API Gateway** for creating, publishing, maintaining, monitoring, and securing APIs at any scale
- ▶ **Amazon DynamoDB** for consistent single-digit millisecond latency at any scale
- ▶ **Amazon CloudFront** for a highly reliable global content delivery network (CDN)
- ▶ **Amazon EC2 Container Services (ECS)** for running highly scalable high-performance container orchestration
- ▶ **AWS CodeDeploy** for automated application deployments to AWS EC2 and on-premises instances
- ▶ **Microservices** for continuous delivery and deployment of loosely coupled applications
- ▶ **CloudBees Jenkins** for continuous integration and delivery
- ▶ **HashiCorp Terraform** for deploying infrastructure as code
- ▶ **Chef** for IT automation and configuration management

By teaming with Idexcel, FGMC was able to deploy a comprehensive AWS infrastructure while implementing a continuous integration and delivery pipeline utilizing Chef, Jenkins, and AWS CodeDeploy. These practices enabled constant integration, transparency, and accountability across teams, allowing them to deliver high-quality software faster than before the transition.

BENEFITS:

The Idexcel team successfully completed and deployed the application in nine months, with an operating cost of \$20,000 per month. Information now flows seamlessly between loan applicants, brokers, loan originators, and lenders. FGMC was able to reduce the time from application submission to approval by a factor of 50%. The successful migration of legacy data reduced the company's storage costs by 85%, achieved by replacing expensive SAN-based storage with AWS S3. The new portal and its integration also reduced manual processes by 25%.

Continuous integration and delivery solution results:

- ▶ Delivered modular, less complicated code for releases at any time
- ▶ Reduced integration obstacles, allowing FGMC to deliver software at a rapidly increased pace
- ▶ Provide Immediate feedback on the system-wide impact of local changes
- ▶ Automated deployment and quality assurance solutions
- ▶ Achieved higher levels of security and isolation with fewer internal constraints

OUR AWS COMPETENCIES



- DevOps Services Competency
- Financial Services Competency
- Migration and Modernization Services Competency

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