

Case Study - CI:CD Implementation



First Guaranty Mortgage Corporation (FGMC) is a full-service national lender offering mortgage solutions to clients of diverse income brackets and credit classes. FGMC founded on the idea that people are more than numbers; education and customer service make the distinction. Supplied to the clients of FGMC are the service, education, and programs necessary to help them take command of their finances.

CHALLENGE:

FGMC concluded that they required a smart application that would facilitate loan estimations and processing to flow securely between loan applicants (clients), brokers, and lenders. The capability to quickly share data throughout the organization would significantly decrease the amount of time required for loan processing. Furthermore, the FGMC system would need to be built within a year, implemented in a secure public cloud, and satisfy the requirements of a \$25,000 per month operating budget.

Key application requirements included:

- ▶ Leadership sponsored project to bring the application to the web with a modern responsive design
- ▶ An originator portal that would support both loan originators and loan administrators
- ▶ Generation of full loan estimate documents that would be shareable with loan applicants
- ▶ Secure procedures to move the loan application to an enterprise servicing system
- ▶ Decreasing each loan officers' manual workload, while increasing the number of processed loans each day
- ▶ Significantly reducing the extra labor hours required to process loans

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 the completed loan estimation 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:

Idexcel team worked with FGMC to review the current existing systems and integration points to identify several vital 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) and included 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 massive AWS infrastructure, while implementing a continuous integration and delivery pipeline utilizing Chef, Jenkins, and AWS CodeDeploy. These practices allowed for constant integration, transparency, and accountability across teams who were then able to deliver high-quality software faster than before the transition.

BENEFITS:

The Idexcel team was able to complete and deploy the aforementioned 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 cut the previous time it took, from application submission to approval, by a factor of 50%. Successful migration of the older legacy data reduced the company's storage cost by 85%; this solution was achieved by eliminating expensive SAN-based storage with AWS S3. The new portal and its integration 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
- ▶ Immediate feedback on the system-wide impact of local changes
- ▶ Automated deployment and quality assurance solutions
- ▶ Higher levels of security and isolation with less internal constraints

OUR AWS COMPETENCIES



- Public Sector
- Solution Provider
- DevOps Services Competency

- Financial Services Competency
- Migration Services Competency

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