VividCloud Migrates Large Insurance Platform to AWS

Executive Summary

Homesite Insurance developed a direct-to-consumer business model that bypassed the traditional insurance agent. Their platform was based on the Microsoft technology stack and offered consumers a choice of insurance products according to their criteria, all while negotiating the underwriting, co-insuring, brand management, white label products, account management, claims management, and more.

Homesite's great success led to a strategic decision to migrate their legacy platform to a cloud-based architecture with AWS as the chosen platform. They developed a simple proof of concept internally, and once successful, Homesite reached out to select an AWS-experienced partner. VividCloud was engaged to help complete the architecture and implement the new AWS based platform. During the migration, Homesite's parent company, realized the strategic opportunities of such a platform, and assumed control of the project with a broadened scope across all their operating companies.

Key Challenges

The primary challenges to be addressed:

1. The legacy platform had become difficult and expensive to update.

2. The legacy platform had many monolithic applications instead of a service and microservice architecture.

3. The legacy platform was developed by Homesite for its business alone. The parent company, American Family Insurance, wanted a single, consistent platform to support all 14 operating companies with broader requirements.

4. The legacy platform faced some SLA challenges to be resolved in the cloud based platform.

5. There were data governance challenges, including that the legacy platform was non compliant with the California Data Privacy Act (CDPA).

6. Asset branding of each partner company was required to be attached to every quotation and policy. It was a very large burden to achieve the customization and branding of key external clients, but was considered mission-critical.

7. Monitoring and traceability of end-to-end transactions through the system were absent or inadequate.

8. Security lagged far behind the modern standard.

Industry: Insurance

Location: Madison, WI
Boston, MA

Website: https://homesite.com

About AmFam and Homesite

American Family Insurance (AmFam) is a Fortune 200 company based in Madison, WI with 14 subsidiary operating companies.

Homesite, based in Boston, MA, and The General Auto Insurance are two of the operating companies under AmFam.

Both subsidiary companies pioneered a direct-to-consumer business model to sell and support insurance products for Property & Casualty and Auto.

Proposed Solution

VividCloud reviewed the client's deep discovery of the components of the legacy platform, and the intricate interdependencies between components and individual applications. The preference of the key client stakeholder was to approach the entire design within the bounds of an AWS migration strategy, and the break apart task descriptions accordingly.

Together we identified those critical components that required a new architecture to achieve the goals for dramatically expanded capabilities and ability to scale. These components were critical to the success of the migration and were prioritized for Rearchitecting and Refactoring.

The solution would use a broad swath of AWS services to provide the core infrastructure of the platform, including transaction processing, containers with ECS, EKS, Fargate, serverless, data storage, data service, analytics service, customer account portal, custom APIs, encryption, security, and Chatbot.

In successive waves of assessment, the other components of the legacy system were identified to be address via the other six "R's" of the AWS migration strategy, and a plan was developed.

1. **Re-architecting/Refactoring**
   These critical core functions of the legacy platform were completely rearchitected or refactored by VividCloud as cloud native applications and services:

   - Comp Rater
   - Rating Engine
   - SAPI V3
   - Branding Service
   - Property Domain Services
   - Auto Domain Service
   - Common Domain Services
   - Insurance Operations

2. **Replatforming**

   Choice Platform – The legacy software consisted of three tightly-coupled, monolithic applications (Choice, DIG, Customer Servicing) which together were designed to service a primary client.

   Originally replatformed to AWS using EC2 and OpsWorks, but then further replatformed using Fargate and EKS.

   Choice was replatformed instead of re-architected because the code internals were proven and dependable but needed replatforming to decouple the components of Choice and to enable scaling required from growth.

   The Choice functionality became available on the AWS platform faster and at lower cost by replatforming as opposed to re-architecting.

3. **Repurchasing**
   AmFam users of the AWS-based E1P platform switched from Datadog & Splunk to Dynatrace.

   The platform moved from Memcached to Redis for functionality improvements.

4. **Rehosting**

The Excess and Surplus component of the legacy system was rehosted to AWS. The QAPI functionality of the legacy platform was containerized on-prem and initially rehosted to EKS, as were early follow-ons such as CAPI and others.

5. **Relocating**

Relocating was not applicable in this client's migration.

6. **Retain**

Homesite Branding components were retained in the legacy environment.

The DataBroker application was retained, as it was deemed to be too heavy an investment to move from on-premise Docker containers into Fargate/EKS/ECS.

An IQuote application was also retained. Jenkins retained in phases 1 and 2, after assessing a move to GitLab as a higher-priority resource demand in order to achieve the increased value for product deployments, tooling, and observability.

7. **Retire**

AmFam Branding, which was another legacy product of the parent company, was scheduled to retire upon launch of the new E1P Branding. The central set of services called SAPI v2 were scheduled for retirement upon builds of VividCloud's new SAPI v3 and E1P CompRater. Amongst the notable tooling considerations, Splunk was retired in favor of a Datadog and CloudWatch combination.

AWS Services

- AWS **Route 53**
- AWS **VPC Security Groups**, **NATs, subnets**, and **route tables**
- AWS **VPC Private Link**
- AWS **IAM roles** and **policies**
- AWS **SSO**
- AWS **Certificate Manager**
- AWS **Auto Scaling**
- AWS **API Gateway**
- AWS **CloudFormation**
- AWS **CloudTrail**
- AWS **CloudWatch Logs, Metrics,** and **Alarms**
- AWS **CodeBuild**
- AWS **CodeCommit**
- AWS **CodeDeploy**
- AWS **CodePipeline**
- AWS **Cognito**
- AWS **Direct Connect**
- AWS **DynamoDB**
- AWS **EC2**
- AWS **ECS**
- AWS **ECR**
- AWS **EKS**
- AWS **Elastic Beanstalk**
- AWS **ElastiCache**

AWS Services (more)

- AWS **Fargate**
- AWS **Glue**
- AWS **Key Management Service**
- AWS **Kinesis**
- AWS **Lambda**
- AWS **Lightsail**
- AWS **QuickSight**
- AWS **OpsWorks**
- AWS **RDS**
- AWS **Service Catalog**
- AWS **SES**
- AWS **CloudTrail**
- AWS **S3**
- AWS **SQS**
- AWS **SNS**
- AWS **KMS**
- AWS **SSM Parameter Store**
- AWS **Step Functions**
- AWS **VPC**
- AWS **X-Ray**

Results

The initial release of the Enterprise One Platform "E1P" was successful, though later than planned due to additional scope, and launched to commercial success. The deployment plan has been carefully executed with staged rollouts across business lines, and more importantly, across states. The insurance market is highly regulated and has differing regulations and requirements across all 50 states; this has led to a multi-year rollout in batches of states.

The R1.0 release provided service to 4 states, and the second and third releases added several states each. A monthly release cadence is now being maintained to add states and additional insurance products at a steady pace, until the entire country is brought online. In the meantime, all Service Level Agreements between AmFam and the partnering companies governing transaction times and other performance requirements have been executed without issue – a notable achievement in a very complex, and intertwined, industry. Most important of all, the steady rollout has been achieved without significant outages or interruptions of service as a decades-old set of monoliths have been replaced.

About VividCloud

VividCloud is a software development company focused on cloud and IoT. AWS is our cloud platform of choice, and we are an Advanced Tier APN Consulting Partner. We bring fully managed teams that free our clients from day-to-day oversight responsibilities. VividCloud is based in Brunswick Maine, with 100% of our people onshore in the US.