

Migration in the AWS Cloud fueled by FX Innovation



Executive Summary

Traditionally, Expertus service bureau offered its customer a SWIFT network connectivity and messaging standards solutions in a corporate data center with dedicated hardware for each customer. Financial Services market have high standards of security and compliance requirements, resulting in major efforts for new customers integration and establishing long term connectivity to last several months.

Expertus management has reached out to FX Innovation to decrease its time to market for new customer setups while maintaining high security standards. An upgrade of the existing infrastructure for higher performance and higher availability were key decision factors considered for the acceptance of the migration project. However new customer acquisition and retention was time consuming and limited resulting in additional operating costs.

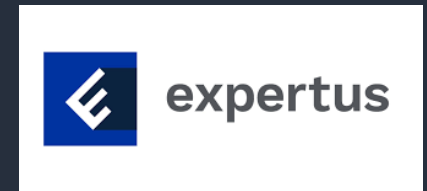
FX Solution

The first use case came from one of their customers requesting Expertus to migrate their international payment platform to the cloud to act as the disaster recovery solution. However, Expertus had no experience working with cloud infrastructure and reached out to FX Innovation to guide them through their application migration journey. During the migration strategy workshops it was quickly established that the AWS cloud would provide higher availability, resiliency and scalability than what was deployed in their existing data center. Several architecture workshops were conducted which resulted in a cloud migration strategy, establishment of a landing zone, application migration planning and executions.


The SWIFT Platform being a critical business workload for their customers, filtering payment based on business rules, both the recovery time objective (RTO) and the recovery point objective (RPO) are set to 15 minutes. Automation was key to achieve such objectives by moving from an immutable infrastructure in a data center to an Infrastructure-as-Code architecture.

The SWIFT application was containerized using Amazon Elastic Container Services (ECS). As a result, new images containing the application can be rebuilt and deployed on-demand for faster deployment. A continuous integration and continuous delivery (CI/CD) have been implemented via Jenkins allowing the developers to continuously release new features and bug fixes while assuring the quality of the new code and interaction with the existing one. The RTO can reach higher standard and in case of failure the SWIFT application can be re-deployed faster than ever.

About Expertus



Expertus is a Canadian Fintech company specialized in payments and cash management digital solutions. Expertus provides services to financial institutions, fund managers and market funds since 2001. The company's vision is to be the world leader in payments and cash management solution. These solutions mainly include real-time cross-border payment processing and a digital portal for account centralization. With more than 50 financial institutions worldwide leveraging payment solutions, Expertus is now targeting global markets. With SWIFT connectivity solution, customers can connect the SWIFT global exchange community of over 11 000 banks in order to securely exchange financial information such as payments and securities.



The account structure is composed of different Virtual Private Cloud (VPC) for both Frontend, Production, Backend, Non-Production and Core Services. Connectivity between VPC's are established through a Transit Gateway (TGW). Both Production and Non-production accounts are designed for high availability segregating via multiple subnets for the interface stack, application stack and DMZ and replicated between two different availability zones in Canada central region (ca-central-1). Traffic is load balanced via an internet gateway (IGW) to the front end app using an elastics load balancers (ELB). Interface and application stacks are supported by EC2-EBS based with auto-scaling group configured to scale up or scale down based on traffic volume.

Elastic File Service (EFS) is the file sharing solution used between application stacks. The file storage for Swift application stack is completed with Elastic File System Service. Document Lifecycle policy based on business rules is set up to transfer files to S3 buckets leveraging Lambda functions. Files are first stored in S3 buckets then gradually archived to S3 Glacier using two dedicated lifecycle policies, one for backup and one for legal Archives. This strategy allows Expertus to greatly reduce the storage costs while keeping a recovery environment that meets customers' objectives.

Results and Benefits

Expertus cloud journey began with great success, SWIFT application reaching production level in time and on budget. The project overcame several challenges to be production ready; the main one was due to a mandatory Elastic File System (EFS) capability not available in ca-central-1 and with limited availability from the development team.

With the use of the new CI/CD pipeline environment, the deployment has been reduced to a single day compared to several weeks of deployment prior to the migration. The application is now containerized and can be rapidly and automatically deployed in new images. The multi availability zone deployment and multi-tiered architecture guarantee availability and resiliency to the SWIFT application.



About FX Innovation

For 18 years, FX Innovation guided our clients in Canada, US and Europe in the adoption of new technologies to surpass their business objectives and to stand out from the competition. As an AWS advanced consulting partner, our delivery team meets the customer where they are in their cloud adoption journey: assessment, roadmap, migration/implementation, Managed Services (MSP) and optimization. We tailor our technological solutions to business reality and processes through our human-centric approach.