Improvement of the Load Product Catalog Process to the FBB E-commerce Platform on AWS

Retail AWS Case Study

Executive Summary

FullBeauty Brands has some workloads running on the MuleSoft cloud, Anypoint Platform. These workloads mainly synchronize data between different on-prem and SaaS data sources. The client realized they were overpaying for an enterprise license of MuleSoft products. **IO Connect Services** assessed the migration effort, laid a roadmap for all the needed activities, and led the implementation, from re-design to development, testing, and production rollout. The new re-designs accounted for all the lessons learned at **FullBeauty Brands** and implemented more robust and resilient mechanisms to support these business flows. All the new workloads were designed following a serverless, cloud-native approach to take advantage of PaaS services available in AWS.

The Challenge

FullBeauty Brands spent almost $300,000.00 a year for an under-utilized MuleSoft license. Moreover, the renewal cycles of the MuleSoft licensing were hard due to the number of legal activities involved in reviewing all documentation and agreements.

Loading a new product in the conglomerate of **FullBeauty Brands** was very long because it didn't take advantage of the cloud-native and serverless approach AWS offers. So, these improvements would optimize the loading of products of each brand that **FullBeauty Brands** manages.

On the other hand, **FullBeauty Brands** has a limited number of employees who can support these workloads. This is a tremendous risk from the executive leadership point of view.

Why AWS

FullBeauty Brands tested AWS services and determined that AWS has all the necessary components to create robust, highly available, scalable, and secure Serverless solutions.

About Costumer

FULLBEAUTY BRANDS®

At FULLBEAUTY Brands, we believe that size is just a number and every number counts. We believe in embracing who you are, just the way you are. And we believe that women and men of every shape and size deserve the total package: fashion, fit, style and comfort. Proprietary brands under the FULLBEAUTY Brands umbrella include:
- Woman Within®
- Roaman's®
- Jessica London®
- Ellos®
- Swimsuits For All®
- KingSize®
- Brylane Home®

and fullbeauty.com®, an online marketplace offering a curated collection of styles from renowned brands – the premier fashion and lifestyle destination for men and women sizes 12+.

The Solution

All the new **FullBeauty Brands** workloads were designed following a serverless, cloud-native approach to take advantage of PaaS services available in AWS.
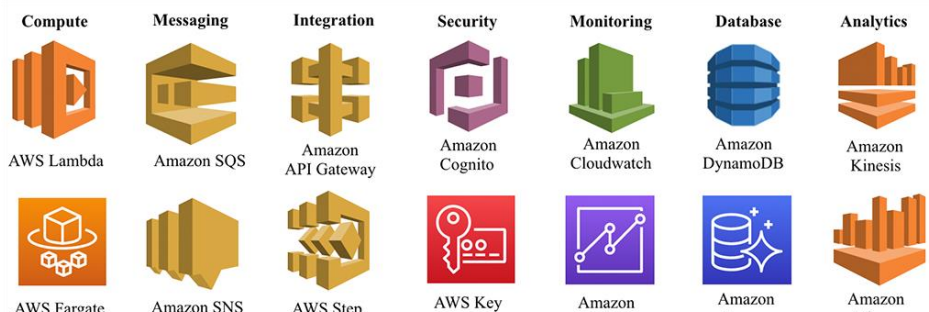
Thanks to the serverless services that were implemented, the processes involved in loading the products of each brand managed by **FullBeauty Brands** were considerably improved. Initially, it took hours and even days for the launch processes. Now, when a new product is loaded, it only takes a few minutes. This helps to detect faults much faster and to be able to correct them in time.

FullBeauty Brands requires that all IT assets be deployed in a secured, private VPC that establishes a point-to-point connection to the on-prem data center via a VPN. All the deployed API endpoints must be private too; therefore, the deployed API Gateway has a VPC endpoint that is accessible through VPN only.

Two data access patterns were identified: 1) read requests, which delegate the execution to a proxy Lambda that has read access to the target system of record to query for information, and 2) write requests, which acquire the request data persistently and queue it for further processing ensuring no data is lost. This pattern followed an event-driven architecture to ensure the business flows' reliability, resiliency, and fault tolerance. Because of the usage of SNS topics, the solutions are now prepared to accept more business flows using the pub-sub mechanism built into them, allowing flexibility to grow in other areas not accounted for initially.

Amazon Cognito is used to federate the existing authentication mechanism to an Azure Active Directory instance, extending the existing access controls.

All events going through the different pipelines can be traced thanks to the joint usage of AWS CloudWatch Logs and AWS X-Ray, whereas all the deployed services are audited with CloudTrail.

Compute	Messaging	Integration	Security	Monitoring	Database	Analytics
AWS Lambda	Amazon SQS	Amazon API Gateway	Amazon Cognito	Amazon Cloudwatch	Amazon DynamoDB	Amazon Kinesis
AWS Fargate	Amazon SNS	AWS Step	AWS Key	Amazon	Amazon	Amazon

Features of the AWS Serverless Solution

- Reduced Cost

- Elastic scalability

- Faster Releases

- Multi-Language Support

Results and Benefits

Because the workloads were designed following a serverless approach, the code generated focuses solely on business needs rather than infrastructure or other non-business-related functions. Also, thanks to PaaS-based services, all workloads have the inherent capability of scaling at an almost unlimited rate whenever needed without compromising any agility to produce more solutions. The core aspects of the **FullBeauty Brands** Serverless solution are listed below:

Reduced Cost — Serverless computing pricing model is pay-as-you-go. It costs for resources one consumes and nothing when application doesn't run. Also, AWS take care of infrastructure maintenance and updates so developers can spend more time on software development.

Elastic scalability — A serverless architecture in AWS has the potential to scale up and down according to application workload.

Faster releases — Developers don't need to worry about resource distribution, scaling, application deployment and workload intensity. AWS handles these issues for serverless architecture. Developers should only compile their code, zip it, and upload it to the new serverless platform to deploy new functions.

Multi-language support — AWS serverless platforms support multiple programming languages like Node, Java, Python, C#, Ruby, Go etc., so developers can choose the most convenient option for themselves.

FBB Serverless Solution Diagram
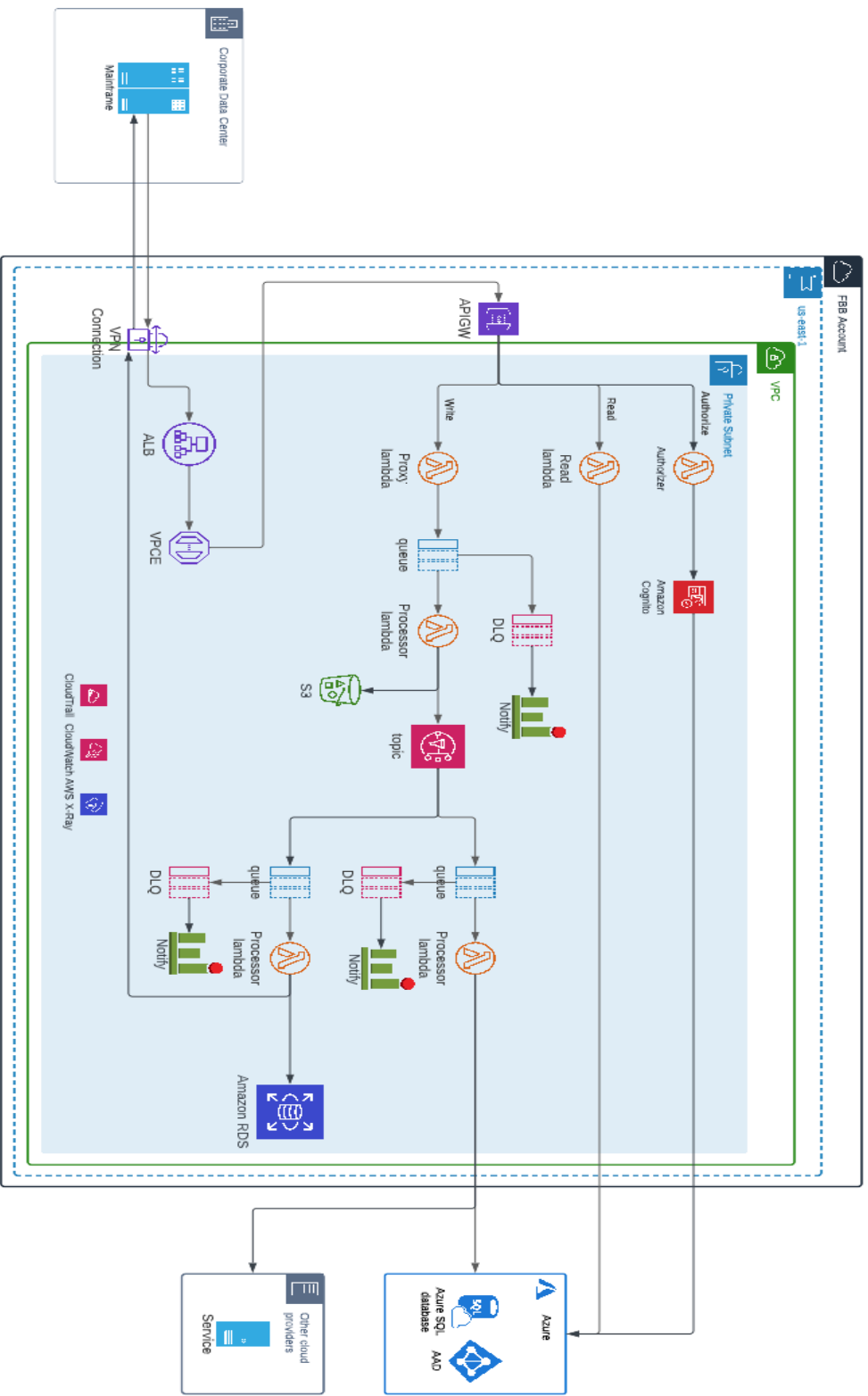
Next Steps

Due to the success at migrating these workloads, **FullBeauty Brands** now considers migrating onto AWS from other platforms, such as Microsoft Azure, and take advantage of the mature services AWS provides as well as simplified billing in a single account.

Superior Performance

This Serverless approach provides a fast, resilient, and high availability environment for the application.

LOW TCO

Save money by replacing physical hardware with expensive license fees, with AWS you only pay for what you use.

Fully Managed

With fully managed resource provisioning, maintenance, and backup, deployments are more efficient.

IOCONNECT SERVICES

About IO Connect Services

IO Connect Services is a nearshore Cloud Solutions Consultancy specializing in Digital Transformation, Migration and Modernization, Cloud-Native Development, DevOps, and Security. Our headquarters are located in the NYC metropolitan area, and we also have offices in Guadalajara, Mexico and Madrid, Spain. We provide services in North America, LATAM and Europe.