Enabling Cloud-Based Digital Transformation for a Leading American Retail Chain to Provide Seamless Shopping Experience to their Customers

Overview

One of the largest American retail chains wanted to reinvent their business for higher delivery efficiency and faster release to market, which would help them in their mission of enabling seamless shopping experience for their customers. They were keen on leveraging cloud technologies to drive their digital transformation journey. Tech Mahindra worked with the client and helped them adopt a multi-cloud architecture allowing for a more efficient business approach such as a 75% improvement in the speed of delivery and more.

Client Background and Challenge

The client is one of the largest chains of freestanding supermarkets in the United States with a presence in over 35 states. Their mission was to provide their customers with a seamless shopping experience. The client wanted to undergo a huge cloud-based transformation to bring efficiency into the speed of delivery of goods, better rate of disaster recovery, and take advantage of other features and functionalities provided by cloud-based solutions.

They were keen on leveraging cloud technologies to reinvent their legacy business infrastructure and drive their digital transformation journey.

Tech Mahindra worked with the client and helped with their cloud adoption, allowing for a more efficient business approach for an enhanced customer experience with a multi-cloud architecture.

Our Approach and Solution

Tech Mahindra worked with the client to provide a lighter and simpler architecture for digital applications. We helped them modernize their applications and provided suitable cloud-agnostic solutions to reduce onboarding time on multiple cloud platforms.

Built lightweight architecture: We built microservices-driven architecture patterns for digital applications. This allowed the encapsulation of small business units into services, which in turn are easier to test, maintain, deploy, and monitor. With this architecture, many replicas of the same micro-service can be procured to fulfill high demand in traffic and can also be claimed when not needed to save resources.

Built Infrastructure-as-Code (IaC): We created reusable components intellectual property (IP) to accelerate the build on the cloud. This ensures computing resources and tooling are made available to the development team faster, therefore reducing the go-to-market time for new functionality; this reusability also permits the integration of different platforms into the ecosystem.

Expanded existing DevOps / SRE (Site Reliability Engineering) Teams: We onboarded different teams within the client's organization into the infrastructure built for them. To remain technically relevant, the client needed to incorporate newer and better technology into the ecosystem, and their teams had to adopt those technologies as

fast as possible, having the capacity for fast onboarding was paramount.

Quality Engineering: Improved the overall quality and reliability of the release by creating test scripts for services using Service based tools; created test strategy, test plan and execute automated and visual tests & integrate to release engineering pipeline.

Introduced Cloud Platform Agnostic Solutions: Cloud platform agnostic solutions provided consistent and repeatable workflows that reduced the onboarding time on multiple platforms. Having the capacity to switch or even integrate different platforms, either cloud or on-prem, has enabled the client to save costs, be present in different geographical zones, and increase their services' high availability for resilient disaster recovery.

Built Observability: We used third party tools to extend the monitoring stack. Reducing the probability of a service's suspension or downtime was achieved through a thorough monitoring and alerting system of the operations.

Collaborated with Analytics Manager: We worked alongside other development teams to enable data collection, and later use the data to maintain metrics. Data recollection of the user's behavior on the applications, both web and mobile, provide invaluable information for the client's data scientist, providing insight into what content has been seen more, clicked more, or even ignored; these resulted in the applications becoming more relevant to the customers with every new release.

Business and Community Impact

We helped the client with a holistic application modernization to cloud, helping them leverage the efficiencies and agility of the new stack. The client was able to let go of its complicated legacy infrastructure and move to a smarter and more flexible digital solution catering to the dynamic needs of their customers.

75% improvement in their speed of delivery.

Successfully reduced MTTR by 50%, achieved 85% test automation, 30% faster release time-to-market, and near zero defect slippage to production.

Microservices-driven application architecture reduced the lead time to release the code faster, improved quality, and brought operational visibility and elasticity overall.

Enabled speedy replication of onboarding applications and gave a provision for disaster recovery to the client.

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