

Case Study

Suite of Professional Services Assist an HCP Advertising Firm to Improve the Quality of Data Analysis and Decisions



Customer Overview

Customer

An industry-leading Healthcare Professionals (HCP) Digital Engagement Solutions provider

Profile

The advertising firm's data and solutions enable the most accurate identification, targeting, and measurement of HCP advertising campaigns

Industry

Advertising Services

Services

Professional IT Services

Business Need

The advertising firm accesses multiple public and private data sources as a firm focusing on HCPs and delivering data to fuel its omnichannel HCP marketing programs. At the same time, it relies on a legacy healthcare Data Management System that fuels HCP targeting and insights. The data is imported into the system through various campaigns and data sources, deduplication, and licensing updates. Email hygiene services are also run to validate emails and segregate business usability.

The system was built on proprietary ASP.NET MVC and SQL and focused on enabling users to search for hospital and clinical data with dynamic multiple permutations and combinations. As this data mushroomed daily, system performance deteriorated, and the advertising firm found it challenging to sync data from different apps and data sources.

Although the internal IT team began reviving the application by adding new features concerning user ease and experience, the SQL data warehouse could not handle substantial data inputs. Therefore, the advertising firm was looking to modernize the application and develop it as a cloud-native application. It also wanted to enhance data management, establish a robust application architecture, and make the app user-friendly.

Solution and Approach

Synoptek provided a suite of Professional IT Services to help the advertising firm cater to its customers' needs and deliver data to fuel its omnichannel HCP marketing programs. We enabled them with robust technology solutions and have provided cutting-edge Application Development, BI, and Data Engineering Services using advanced Agile methodologies, Project Management tools like Jira, and the latest frameworks such as NET5, React, FastAPI, and Snowflake.

App Modernization

Synoptek curated cross-platform deployment strategies and implemented a microservices-based architecture to modernize the legacy application using .NET 5 core, Apache NiFi, Snowflake, FastAPI, Microservice Architecture, React, Docker, SQL, and many AWS services like EKS, S3, SQS, SES, Lambda, and Secret Manager.

- Segregation of Web API and Data API and enabled a brand-new UI with mobile compatibility.
- Dynamic SQL Stored Procedures to import and generate HCP data with approximately 7.5 billion entries.
- Dynamic Search feature for admins and guided search for subscribers.
- 3rd-party integrations for email hygiene services and social media data distribution using Live Ramp/RTA.
- Automated testing for faster verification and improved tester confidence.
- Snowflake data cloud to increase storage capability, enhance performance, and improve SQL Query execution time.
- Cross-platform deployment strategies to enable a portable and scalable deployment.

Reporting

Synoptek provided Physician Level Data (PLD) reporting that involves collection, analysis, and reporting of data specific to individual physicians' performance, outcomes, and practice patterns. Synoptek utilized AWS and Python to create the reporting and cohort process. Using emerging technologies such as AWS Glue, Airflow, and Pyspark, the team demonstrated an ongoing ability to adapt to evolving technological landscapes. We also automated processes and custom templates, including QC checks.

BI and Data Engineering Services

To enable seamless data enrichment, file processing, and reporting of customer campaigns in real-time, Synoptek:

- Data-engineered campaign logs and appended them with physicians' data for retargeting leads/opportunities.
- Configured automated real-time reporting and enhanced and migrated current manual processes using AWS Services.
- Synced real-time logs and statistics from multiple systems and set up AWS QuickSight reports.
- Set up Data API backend architecture using Amazon Kubernetes and Docker for dynamic query building and improved scalability and availability

Business Benefits

Synoptek's suite of Professional Services has helped the advertising firm enjoy better application usability, security, and performance—eventually improving customer satisfaction and retention—while allowing the firm to focus on the business.

The completely cloud-native application now uses AWS Serverless technology and enables the firm to:

- Bring down delivery turnaround time from 1 day to 5-15 minutes.
- Reduce the error percentage from 60% to 1%.
- Boost revenue from \$50k to \$900k over a period of 6 years.
- Increase workforce productivity due to fast and accurate access to necessary data.
- Improve satisfaction, productivity, and overall experience for all stakeholders.
- Enjoy enhancements in performance and security and cross-platform support using Microservices.
- Increase backend development speed using the FastAPI framework.
- Increased overall confidence by implementing automation testing using Selenium, improving the effectiveness of identifying regression bugs.



Revenue increase of
1700%



Error percentage
reduced from
60% to 1%



Workforce
productivity
increase of **50%**



Query execution
performance
increased by **90%**



The team has been stalwart in helping us design the Kubernetes and back-end data engineering architectures and has continued contributing to what we need to support our self-service audience analysis platform. It's incredible to see the team adapting to the development cycles and integrating into the POD structure.

- Head of Technology, Digital Media Solutions

About Synoptek

Synoptek delivers accelerated business results through advisory-led, transformative full-life-cycle systems integration and managed services. We partner with organizations worldwide to help them navigate the ever-changing business and technology landscape, build solid foundations for their business, and achieve their business goals.