Microservices Architecture adoption reduces time to market from “3 months to 28 days”

The success story of how a leading US-based Health and Human Services provider leveraged Microservices Architecture (MSA) to save time and effort.

Client

The client is a leading US-headquartered provider of business process services for government health and human service agencies across the globe. The client focuses on providing services to manage and administer government-sponsored programs efficiently and effectively.

Challenges

The client was looking to increase their business agility and wanted to move away from the existing legacy monolith products. Some of the challenges encountered in existing products are:

- It was challenging to keep up with the ever-changing health care business landscape due to constant policy and federal changes.
- The legacy application required dedicated hardware, software, and multiple environments for the program to run. Additionally, there was a need for a dedicated pool of analysts, operations professionals, and application support teams to implement and maintain the architecture.
- Every new contract required more than three months of startup time.
- Customization in silos resulted in an outdated baseline products.
- The monolith architecture posed enormous challenges during regression testing.

Solution

Opteamix deployed a team of experts with high-level domain knowledge and experience in implementing technology solutions across the health and human services sector. The team worked closely with the client to ideate a solution that suited their need for application modernization and Cloud adoption.

After an extensive analysis of the processes and design of the existing monolith architecture (which had more than 10 different versions), Opteamix decided to go for a greenfield microservices development as the monolith versions were giving rise to a lot of issues.

Using the Microservices Architecture (MSA), the client's application was developed with microservices using Domain-Driven Design (DDD) to ensure that the reliability of the product is increased significantly (i.e., if one of the modules stopped working suddenly, the other modules would continue to work).

The client aligned teams by services with the responsibility to develop, deploy and manage respective services. Some of the unique features of the solution implemented are listed below:

- Spring boot Microservices has been hosted in PaaS with containerization technology to provide seamless deployment without the developer worrying about the underlying complexities.
- Several Microservices chassis and accelerators provided by Spring boot and Netflix stack have been leveraged to support the Microservices architecture.
- API Management tool is being used to provide seamless API-centric features without having to code for features such as Spike Arrest, Security, Token Verification, Monitoring, ACL and Monetizing.
- Message broker has been used to bring the Event-driven elements into the architecture.
- The complete deployment process has been automated using Jenkins with quality gates defined for SonarQube, Xray and Code coverage.

Value Delivered

The client is reaping the following benefits with the switch to MSA:

- Time-to-market has been **reduced from 3 months to 28 days.**
- The ability to scale up and down the APIs based on traffic has s**ignificantly reduced costs.**
- Regular updates to the baseline product have **made code maintenance more manageable.**
- For every new update, policy changes are now **implemented within days.**
- **Regression testing is easier and more efficient**, thereby eliminating integration issues.
- Additionally, a team aligned to microservices could manage multiple projects (tenants), thereby **reducing operational costs.**

About Opteamix

Opteamix is a digital automation technology consulting firm with deep expertise in Application Development, Robotic Process Automation, Artificial Intelligence, DevOps, Enterprise Mobility, and Test Automation Services. We are headquartered in Denver, Colorado with a wholly-owned delivery center in Bangalore, India.