Application Modernization implemented for a multinational computer technology company

Client background

Client: A multinational computer technology company

Industry: Computer hardware and software

Services: Personal computers, servers, peripherals and electronics

Geography: Global

Total annual revenue: More than $90 Billion

Challenges

Aligned with the vision of being future ready, the client wanted to modernize the application landscape and move the essential applications to cloud native and microservices-based architecture. There was a need to build a modern DevOps environment, implement continuous integration and development pipeline, and host all applications in the pivotal cloud foundry (PCF), which is a multi-cloud platform to run the enterprise apps at scale.

Solution

- Initial discovery phase to understand current applications and its technological details

- Domain-driven approach was followed to break the application into major domains/functionalities to identify microservices that the application can be broken down into.

- Decision tree was considered if applications need to be re-platformed based on whether the existing is not in ASP.NET 4.5 and in MVC

- The following PCF services were identified to be a part of the solution

Modernization of initial critical applications to cloud native was undertaken. Refactoring to microservices-based architecture and implementation of CI/CD pipeline caused 10% improvement in application performance.

 Registry Service

 Circuit Breaker

 Config server

 Redis Cache

- Microservices identified were developed in ASP.NET Core 2.1

- Gitlab was used as the code repository

- Gitlab was also used for CI/CD

- Selenium was used for automated test scripts

- XUnit was used for unit testing

- For authentication, client's identity server was used for token-based authentication.

- All four applications were developed within a short span of 2 months.

Business impact

The transformed applications are now scalable as the application is broken down into microservices and each service can be scaled up based on usage

Improved availability of these applications with resilient design pattern implementation with circuit breaker and discovery service

As all applications are now cloud-native, they align to 15 factor app with all its advantages

CI/CD pipeline implemented provides all DevOps benefits

The main critical applications were modernized in a very short span of time and are now future ready

The success of this migration has brought more than a 10% increase in performance. With the foundation/infrastructure as well as processes in place, the client is now looking at migrating more applications using PCF, per their vision.

"Wipro engaged with the client toward their vision of being future ready, by modernizing the application landscape and moving the essential applications to cloud-native and microservices-based architecture. Wipro helped build a modern DevOps environment for the client, implementing continuous integration and deployment pipeline. All the applications were hosted in the pivotal cloud foundry (PCF), which is a multi-cloud platform to run the enterprise apps at scale."

Venkata Guru Prasad Kandarpi,
Global Head for Microsoft
Application Services, Wipro

Wipro Limited

Doddakannelli, Sarjapur Road,
Bangalore-560 035, India

Tel: +91 (80) 2844 0011
Fax: +91 (80) 2844 0256
wipro.com

Wipro Limited (NYSE: WIT, BSE: 507685, NSE: WIPRO) is a leading global information technology, consulting and business process services company. We harness the power of cognitive computing, hyper-automation, robotics, cloud, analytics and emerging technologies to help our clients adapt to the digital world and make them successful. A company recognized globally for its comprehensive portfolio of services, strong commitment to sustainability and good corporate citizenship, we have over 175,000 dedicated employees serving clients across six continents. Together, we discover ideas and connect the dots to build a better and a bold new future.

For more information, please write to us at **info@wipro.com**