



**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
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