OPUS

CASE STUDY

Migration from Monolithic Architecture to Microservices Stack for Masterpass

Client Overview

The client is a leading global payments network that offers digital payment solutions, enabling its customers to develop and implement credit, debit, prepaid and related payment programs.

The client also serves as an economic link among financial institutions, businesses, merchants, cardholders and govern- ments worldwide, enabling them to use electronic forms of payment instead of cash and checks.

The Challenge

The client's Digital Wallet was a heavy monolithic application; which was built using legacy technologies like EJBs, Java 6 for back-end and Ajax, JQuery for front-end. This older platform was difficult to update, slow to meet the rapidly developing needs of the marketplace and costly to update and maintain.

The client decided on several things:

- *To meet consumer market demands, the client decided to modernize its platform from a monolithic design to a simpler, more flexible and easy to maintain solution.*
- *The client also wanted a solution which extends easily to merchants, providers and partners.*
- *In its migration plan, to remain competitive in the marketplace, the client was determined to leverage the latest technologies associated with Digital wallet modern solutions, and realize the associated benefits.*

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The Solution

Opus was the chosen implementation partner for one of the client's big retail wallet programs MasterPass. The Master Pass allows consumers to pay with any payment card, stored in any wallet, and on any device.

The Master Pass suite of services includes:

- ***In-store checkout*** *– supports NFC, QR codes, tags and mobile devices used at points of sale.*
- ***Master Pass-connected wallets*** *– enable banks, merchants and partners to offer their own wallets.*

- ***In-store checkout*** *– supports NFC, QR codes, tags and mobile devices used at points of sale.*

Opus solved the challenges with a new architectural approach emphasizing the decomposition of applications into a single-purpose, loosely coupled suite of services. The development was managed by cross-functional teams, thereby delivering and maintaining complex software systems and improving velocity and quality required by today's digital business.

Opus leveraged the latest technologies including Spring boot, Java 8 for back-end development and Angular JS for front-end programing. Ansible and Jenkins tools were used for Automation. Archaius was used for configuration externalization. Maven was incorporated as a build tool.

For Continuous Integration (CI) and Continuous Deployment (CD) methodologies of Agile, both Manual and Automa- tion testing were executed. Manual and Automated testing which works well with Continuous Integration (CI) and Continuous Deployment (CD) methodologies of Agile.

Benefits Delivered

- Reduced Latency by utilizing newer optimal technologies in the developed solution.
- **Independent Scaling** – each micro service now scales independently based on load parameters.
- **Independent Upgrades** - each service can be deployed independent of other services.
- **Smooth user** - friendly web/app experience for end users by utilizing the updated Digital wallet during checkouts.