OCS on public cloud transforms Truphone's business inside and out

Who?

TRUPHONE

Optiva

What?

Cloud native online charging system (OCS) on the public cloud gives Truphone the flexibility, scalability and savings needed to grow its business whilst simultaneously transforming all development processes

How?

Implemented Optiva's cloud native OCS (based on TM Forum's ODA and Open APIs) in the public cloud. Total time from kickoff to production: five months (one fourth the industry standard)

Results

More dynamic capabilities and flexible monetization models

Automated CI/CD pipeline replaces over 5,000 manual tests with automated refactored test cases to achieve better coverage and fast execution time

Eliminated CapEx almost completely

TCO reduced by **approximately 60%**

From its inception in 2006, London-based Truphone has never been your average telco, or even your average mobile virtual network operator (MVNO). The company — essentially a global network of MVNOs united via a dedicated IP mobile core network to create a single international roaming "zone" — was an early adopter in OTT software to compete against traditional mobile operators.

As the mobile market keeps evolving with digital transformation and the Internet of Things (IoT), Truphone has big plans to ride those waves and exponentially grow its embedded SIM (eSIM) business globally over the next few years, while putting customer experience at the forefront.

Just one problem: thriving in the digital era requires agile and dynamic capabilities that can scale to respond to market demand quickly. Truphone recognized its business support system (BSS) needed to move closer to the digital world. Thus, it had to undergo a transformation with its applications, as well as its internal and external processes, to help realize its ambitions.

Installing Optiva's cloud native, online, real-time charging system on the public cloud was an important step in this direction.

Charging: the heart of the business

In pursuit of its growth strategy, Truphone identified several business challenges it needed to tackle. It needed a real-time BSS that supports flexible multi-play commercial models for existing and new business lines; agile rollout of new functionalities and features derived from a complete end-to-end continuous integration/continuous delivery (CI/CD) pipeline from vendor to operator to react quickly to market needs; and auto-scale capabilities. It also needed to ensure a robust and resilient "always-on" environment, as well as a dynamic commercial model with minimal upfront investment and a "pay as you grow" method, ultimately offering the lowest total cost of ownership (TCO).

Truphone found that a solution to these demands was to implement Optiva Charging Engine on the public cloud with cloud native, open architecture for its business support ecosystem. Ralph Steffens, CEO of Truphone, says the **Optiva Charging Engine** presented an attractive option.

"The OCS is the central application that manages all services provided to consumers and businesses, and it is where all products, services and pricing definitions are maintained along with all customers' information and hierarchies," Steffens explains.

"This is where all services are defined and charged. The ability to deliver and increase the diversity and range of our offerings has contributed significantly toward achieving our objectives."

Optiva's delivery method for the project leverages the capabilities provided by an automated CI/CD **Kubernetes**-based pipeline.

Steffens continues: "CI/CD is a new approach in the traditional telecom industry, so it was important that Truphone gain trust in the new technology, adopt these tools and approach and complete it on their side to ensure a fully automated acceptance process."

The teams of Truphone and Optiva agreed on an approach in which Optiva first exposed its internal CI/CD pipeline early in the delivery phase, after which the complete Truphone + Optiva CI/CD pipeline was established.

Public cloud benefits

The public cloud aspect of the project is not to be underemphasized. Optiva Charging Engine is a cloud native application running on Google Cloud Platform (GCP) that uses **Cloud Spanner**, Google's globally distributed NewSQL database service and storage solution.

This is key because it allows the OCS to address challenges that could not be addressed on-prem. Using Cloud Spanner, the charging engine handles the fluctuating exponential traffic growth Truphone is expecting in the foreseeable future and maintains consistency while scaling horizontally. It also reduces the cost of the database solution compared to traditional database software.

These capabilities positively impact the customer experience, Steffens adds.

"In a traditional database environment, when you have an increase in the number of user queries, it starts to scale vertically, which works up to a certain level. After that, the customer experience starts to suffer unless the database can scale horizontally," Steffens explains.

"With new opportunities ahead, Truphone needed a database that can scale while maintaining the customer experience and responding to each user request. Cloud Spanner provides strongly consistent transactions and scales horizontally to thousands of nodes across regions — this is a challenge no other database to date has been able to solve. This will enable Truphone to dramatically expand its business across its geographical presence and ensure high-level SLAs and an 'always on' customer experience."

In pursuit of achieving Truphone's goals, Optiva provided a cloud native application on the public cloud, while in parallel leveraging a number of assets from TM Forum.

For example, Optiva used elements of TM Forum's **Open Digital Architecture**, an industry-agreed blueprint for zero-touch, software-defined operations, to provide easy interoperability with third parties, and standard TM Forum **Open APIs** such as the **Product Catalog Management API**, which is essential to the long-term goal of zero-touch automation for product and price plan configuration of enterprise's product catalog. Also, the **Prepay Balance Management API** provides a multi-channel payment facility with cost control to allow any service to use the subscriber's balance with full, flexible "anyplay" support.

Results

With its new OCS firmly in place, Truphone says it has more dynamic capabilities to launch new digital services quicker, cheaper and with lower risk. Truphone's new automated CI/CD pipeline has enabled a more rapid time to market by reducing the number of tests from over 5,000 to around 190 automated and end to end.

How Optiva Charging Engine has transformed Truphone's business

Business challenges and requirements:

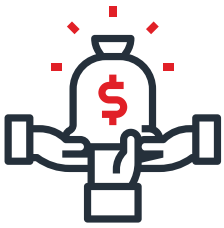
1. An online BSS to support **real time massive IoT performance**
2. **Agile rollout** of new functionalities and features to react quickly to market needs
3. Auto-scale and elastic cloud resources
4. Robust and **resilient 'always-on' environment**
5. **Dynamic commercial model** with minimal upfront investment and a 'pay as you grow' method

Results in just 5 months:

World-first cloud-native charging engine running on the **public cloud**

Automated CI/CD pipeline replaces over

with automated and productized testing for better coverage and faster execution time



Eliminated CapEx almost completely

TCO reduced by

Optiva's cloud-native OCS is based on **TM Forum's Open Digital Architecture** and **Open APIs**.

TM Forum, 2020 (source: Optiva)

Meanwhile, using cloud native architecture on the public cloud instead of an on-prem solution has not only resulted in elimination of capital expenditure (CapEx) almost completely, but it has also decreased TCO by close to 60% by reducing costs such as data center operating expenditure (OpEx), hardware, personnel and third-party software fees. This number has been estimated before the project kicked off and then validated after going live.

One striking aspect of the rollout is that Optiva's CI/CD capabilities accelerated delivery of the project itself. The generally available solution was deployed four weeks from kickoff, followed by continuous bi-weekly delivery cycles introducing new functionalities. Truphone had full visibility of the project's progress, which went live in just five months.

This is impressive for a BSS transformation project, says Steffens:

"Traditional BSS transformation projects typically range from 18 to 24 months — in some cases, it can take up to five years to complete. Apart from the excessive amount of customization that has to be done, the hardware procurement process for an on-prem private cloud infrastructure alone adds six months to the project, while end-to-end acceptance testing for a monolith application typically takes another six months on average."