



Enabling One of North America's Largest Banks to Easily Orchestrate Applications on OpenStack in Production at Web Scale

Company Overview

The client is one of the largest banks in North America, and the world (based market capitalization), with about 90 billion USD in assets. The bank and its subsidiaries have over 85,000 employees and over 25 million clients worldwide, with more than 2,300 branches across North America, and providing hundreds of services under three main business lines, two retail and one wholesale banking. Their services include digital banking, lending, investing, asset management, insurance, and more.

Business Challenge

The organization was facing challenges with accumulating too much technology, in business siloes, that was not standardized and was fragmented across business units. The need to create a **single source** for their diversity of technology, along with a deployment model that was easily consumable yet scalable, by developers and operations alike, was critical. Leveraging the agility cloud provides, all while controlling the process was a real challenge - especially across hybrid infrastructure, and stacks.

The organization was looking to provide their power users alongside end users, with an integrated solution for creating development and production environments, on demand, on public and private clouds - while maintaining control of the stack and the "approved" technologies, while making the introduction of new technologies possible, and preventing future fragmentation. The main challenges were to provide environment templates and a web-based catalog for the developers that would allow them to easily test new applications and deploy them in production, all without requiring them to have intimate knowledge of the specific technologies selected that comprise the stack and environment.

Technical Use Case

Building a Web Catalog of Services

Understanding the client need, the Cloudify team set out to help the bank's team build a standardized selection of "certified" blueprints, that the client would be able to provide their 10+ lines of business (LOBs), in a simple web-based catalog for one-click consumption. This catalog gave the bank's developers a simple method to configure and provision environments on demand to test their hundreds of applications and rollout new services, without the former time-consuming procurement cycles, or bottleneck of IT provisioning. Since the blueprints are written in simple YAML, developers were also able to modify and customize the blueprints to match the configuration needed for each particular environment, enabling level of flexibility a human operator would be able to provide.

Powerful Orchestration

Behind the scenes, Cloudify provisions and configures the VMs across hybrid environments and stacks (virtualized, non-virtualized, containerized, and non-containerized environments), and orchestrates each environment to the user's specification in order to enable deployment times to be cut down to hours rather than weeks of manual work - and the management and monitoring of the environments, providing scaling and healing on demand, as well as easy automatic patches and upgrades. In essence, Cloudify replaces most of the manual labor and costs of having the IT team responding to each developer request for new resources.

The work of the Cloudify team enabled technology standardization across the entire business and all LOBs, in a multinational corporation, ultimately lowering the bank's costs by 40%, enabling them to deploy over 5000 nodes on OpenStack in production, helped them introduce over 50 new digital services and technologies to their internal end-users and clientele, and seven new platforms, all in under one year.



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Why Cloudify

Cloudify, built from the bottom up for integration and interoperability was able to accommodate their next-gen stack - Jenkins, Nexus, and Saltstack, alongside legacy technologies such as JBoss, WebSphere, Oracle, and IIS - providing one-click provisioning, configuration, deployment, and ultimately **day 2 operations** of management and monitoring - all through a single pane of glass. In addition, the cloud portability Cloudify provides made it possible for the bank to have the flexibility to start the journey with Cloudify using OpenStack, and now support VMware as well, and are now in the process of considering the integration of Microsoft Azure for public cloud, as well.

Cloudify being an early-adopter of TOSCA, the leading cloud standard templating language, is another significant driver that brought the bank to Cloudify. TOSCA brings open standards to blueprint topology, minimizing learning curve through the human-readable YAML, providing technology agnosticism, enabling the support of existing technologies, and providing hooks for any future technologies that will be adopted. The power of Cloudify's open source, API-driven orchestration engine, quickly demonstrated not only how to save costly developers time, but also reduce OPEX/CAPEX in a short time.

Future Work

Looking ahead Cloudify will continue to powering the innovation and growth behind the constantly evolving business needs, as well as provide finer-grained security and access control through multi-tenancy, enabling better segregation of roles and responsibilities, and lines of business.