CASE STUDY

Building a Data Ingestion model on Azure platform for **Duck Creek Technologies**, an Enterprise SaaS Customer in P&C Space

Gleecus TECHLABS
Forward Thinking Digital Innovation

Duck Creek Technologies

Overview

Duck Creek Technologies (DCT) is a cloud-first enterprise platform that enables P&C businesses to sell and service insurance products, and handle end-to-end claim processing effortlessly. Founded by Insurance experts, the platform helps Insurance carriers be faster, and nimbler and to re-imagine, innovate and continuously deliver game-changing results.

The customer wants its platform to enable its end customers to take business-critical decisions in time based on the unified data from all their core systems. To enable this, the platform is expected to support the transactional data of its end customers that are generated by internal systems, third-party sources, or legacy systems along with the data that is natively generated on the platform.

Challenge

- The business-critical data for the end customer is across different platforms.
- This leaves a fragmented ecosystem where the end customer has to hop on to different platforms to curate the information necessary for them to make informed decisions on their business.
- DCT's suite of multi-tenant SaaS platform caters to different business functions within an Insurance Carrier such as Policy Management, Ratings, Claims, and Billing Management.
- The transactional data that is generated across these products are going to be varied and context-dependent.
- The data that is generated in the end-customer environment should work in tandem with the rich data that is generated on the platform for the proposed data unification.
- The rich data has to be indexed and searchable across a multitude of configuration options defined by the customer.
- The implementation has to be performant, resilient, and yet cost-effective.

Solution

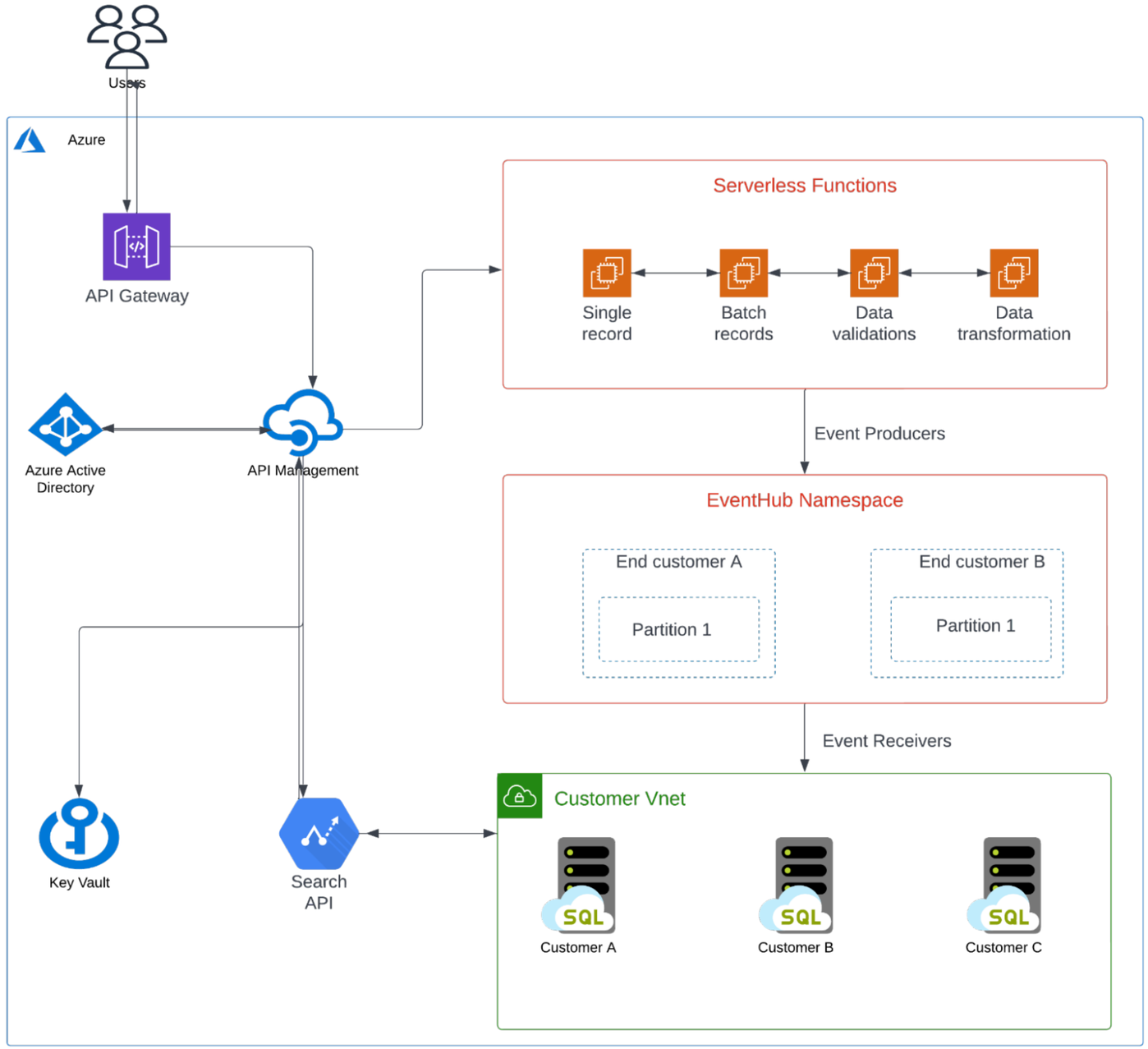
- Came up with a high-level proposed solution architecture to implement the data ingestion, transformation, and search across the product suite based on the initial understanding of the business problems.
- A business analysis exercise was done with the involved stakeholders across the Enterprise Architecture team of the platform and with a few Insurance carriers interested in early adoption to understand the current landscape and business needs.
- Updated the solution document as we discovered limitations during the course of the business analysis exercise and made it fairly comprehensive.
- Had a plan put in place with the project sprints and their targeted deliverables which covers the development, deployment of the platform and onboarding of the Insurance carriers.
- Started with implementing data ingestion and transformation workflows using Serverless Functions. Based on the end customer preferences, the data ingestion can happen on demand or periodically and supports both single record or a batch of records.
- The incoming data is validated against configurable business rules and is fed to the data ingestion service over AMQP protocol. Leveraging on its partitioned consumer model, the ingestion service is configured with multiple partitions to manage the data from a specific end customer.

- The data transformation as configured happens at the ingestion layer and the receivers would persist the transformed data to the hosted customer databases on SQL server.

- The data ingested data would be readily available to power the business intelligence dashboards. The Search APIs retrieve the data from the customer databases using document information queries.

- Released the data ingestion and search feature to all the Insurance carriers based on their geographical regions and subscription plans.

High Level Solution Architecture



Tech Stack

Programming language	Python
Functions development	Python Flask
API development	Python Flask
Cloud environment	Azure
Data Ingestion	Event Hub
Compute	Azure App Service
Secrets management	Azure Key vault
Data persistence	Azure SQL

DevOps	Azure DevOps
Identity management	Azure AD

Impact

- The feature is branded as **BYOD (Bring Your Own Data)** and is launched for the premium customers as part of the major year-end update.
- Data ingestion feature helped the key stakeholders of the end customer to have access to the unified data and the intelligence generated out of it.
- This has driven the end customer to spend more time on the platform and is aligned with the long-term business objective of making the platform a go-to place for the data and insights for the end customer.
- With better access to unified data and key analytics, BYOD feature has helped the customer to increase its sales pipeline.
- With unified data across the customer products, customer Partners can deliver flawless implementations to their end customers more quickly than before.

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