Case Study

One of the largest financial technology providers for banks in the U.S



Data monetization with a scalable and configurable platform for financial institutions unlocks new revenue streams

Business challenge

The customer is a leading enterprise provider of FinTech services and products to more than 15,000 banks and credit unions worldwide. They leverage vast volumes of first, second, and third party data to enhance operational efficiency, customer experiences, and decision-making. They wanted to build data products that are readily available to their clients and deliver data-driven insights for growth and innovation. A scalable and configurable data platform for their Digital Banking division aimed to aggregate select data sources, including their proprietary data, and provide an efficient platform for modeling and visualization. They required a solution that could onboard new clients quickly and create a new line of service and revenue stream by effective data monetization.

The key challenges addressed were:

- Building a framework to configure new data pipelines and seamless integration of external data sources
- Developing a lean, config-driven approach for financial data vendor analysis, data pipelining, warehousing, modeling, and dashboarding in Looker.
- Creating a separate, multi-tenant, PCI DSS (Payment Card Industry Data Security Standard) compliant zone to identify sensitive data such as Social Security Numbers (SSN)

Overview

Sigmoid developed a scalable data mesh architecture on GCP to consolidate data from multiple sources and develop data products that would help identify new revenue opportunities. A lean, config-driven approach was employed to implement a framework that drives, swift integration of new external data sources, data pipelining, warehousing, modeling, and dashboarding. The new architecture helped our client monetize their data effectively and reduced the time required to commission new customers by 90% while adhering to regulatory compliance requirements.

Sigmoid's solution

Sigmoid implemented a digital banking data platform that combined data engineering, DataOps, and advanced analytics. A framework was developed to seamlessly integrate external data sources by building a mechanism to configure new data pipelines using existing methods such as SFTP pull or GCS extract. The solution streamlined data consumption by developing the capability to configure vendor endpoints per Financial Institution (FI), define extracted files, and establish data pipeline cadence.

Tech Stack

Terraform

Google BigQuery

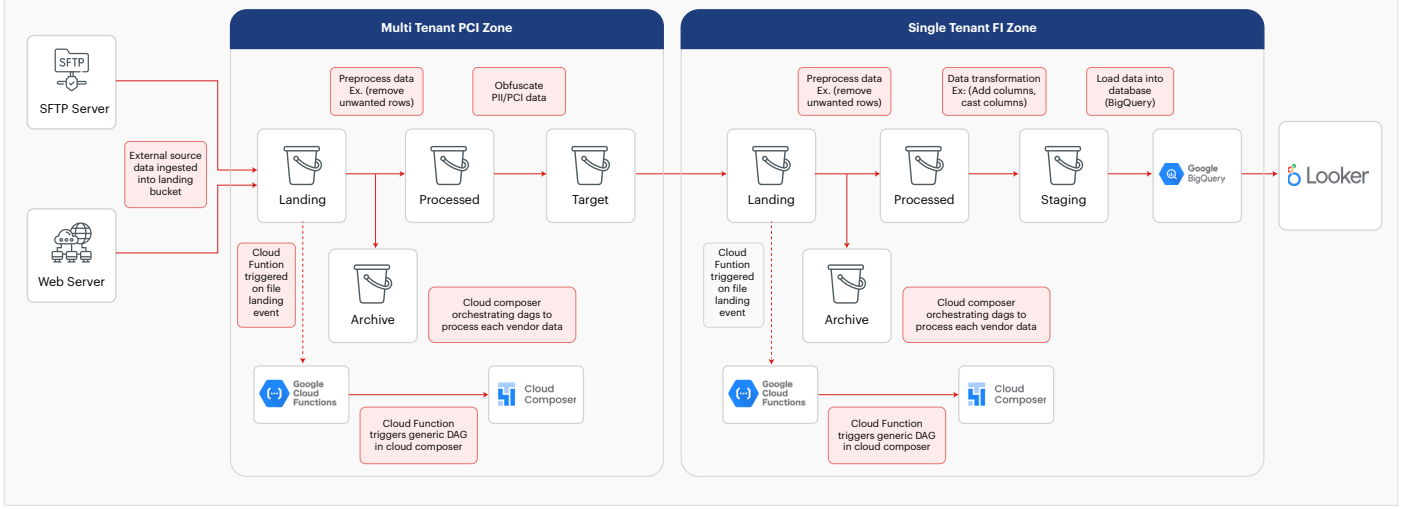
Looker

python

A single tenant Financial Institution Data Lake was created to ensure efficient data storage and access. The single tenant Financial Institution Data Lake infrastructure is templatized using terraform and can be easily spawned by adding a few configurations. A separate, multi-tenant, PCI compliant zone was created to consume vendor files, with sensitive data like Social Security Numbers (SSN) being hashed before delivery to single-tenant zones.

We provided comprehensive support for vendor analysis, data pipelining, warehousing, modeling in Looker, and dashboarding. This included handling requests for new vendors, building data pipelines, performing data analysis, and setting up warehouses. Each vendor added to the framework was seamlessly integrated by configuring unique endpoints, allowing for efficient scalability across all customers. We managed Looker for a well-organized and maintainable model, ensuring automated onboarding processes for new customers. Code quality and coding standards were diligently maintained with 80% code coverage. The solution also included overall governance for Continuous Integration and Continuous Deployment (CICD), covering aspects like lineage, taxonomy, and versioning. Our analysts helped in data modeling, data governance cataloging, retention and archive processes, and visualization of models, ultimately supporting the dashboarding efforts for various personas or purposes.

Architecture diagram



Business impact

90% faster new client onboarding

Enabled effective data monetization

60% faster dashboard load time

The digital banking platform helped our customer effectively monetize their proprietary data, offering it as a valuable service to their clients and creating new revenue streams. The configurable framework and streamlined processes significantly reduced the time required to onboard new clients, resulting in faster revenue generation. The customized dashboards helped them deliver enriched data insights to their clients, empowering them to make data-driven decisions, improve products, services, and optimize customer experiences.

About Sigmoid

Sigmoid enables business transformation using data and analytics, leveraging real-time decisions through insights, by building modern data architectures using cloud and open source. Some of the world's largest data producers engage with Sigmoid to solve complex business problems. Sigmoid brings deep expertise in data engineering, MLOps, and deep learning.

Visit www.sigmoid.com to know more.

Let's Get Started!

Reach out to us at marketing@sigmoid.com to create data-driven digital banking platforms.