Case Study: HomeServe Delivers Watertight Service to Homeowners using Streaming Data Integration

Streaming Operational Data to Google BigQuery Enables Business Dashboards and Improves Machine Learning Model

Summary

HomeServe's smart water leak solution, LeakBot device, detects hidden leaks before they cause significant damage. HomeServe uses Striim's streaming data integration platform to deliver rich operational data to the Google BigQuery analytics environment. Using business dashboards, HomeServe provides valuable operational reports to employees and insurance partners that clearly demonstrates the ROI of early leak detection. Data scientists use granular, streaming data to analyze how the device performs in the field, enabling them to optimize the service to homeowners and insurance partners.

Business Needs

Between 20 and 40% of claims paid out by an insurance company is to rectify water damage. Typically, by the time a water leak is discovered the damage has been done and a claim is made. LeakBot helps insurance companies manage their risk and mitigate claims by ensuring that small leaks are fixed before they become serious. The device monitors the property's plumbing system and issues real-time alerts to enable timely repair service.

LeakCentral is the central repository for data from and relating to the LeakBot device. Running on a MySQL database, it contains transactional data about the devices, customers, insurers, service operations, and the status of leaks and repairs. Continuously updated, it ensures that any leaks found trigger the necessary communication to ensure a timely repair.

> ***"We chose Striim as it provides continuous access to the data in our MySQL database without impacting its performance, and without taking the data out of the Google Cloud environment."***
>
> — Paolo Giangiacomo,
> Systems Integration Manager, HomeServe

HomeServe wanted to gain better operational intelligence and provide its insurer partners detailed reports on leaks that have been detected and repaired, along with cost savings. The company decided to improve its reporting and analytics capabilities by adopting Google BigQuery. They also needed a solution to move the operational data without any impact from LeakCentral on MySQL database, to BigQuery.

HomeServe

Industry:
High-Tech

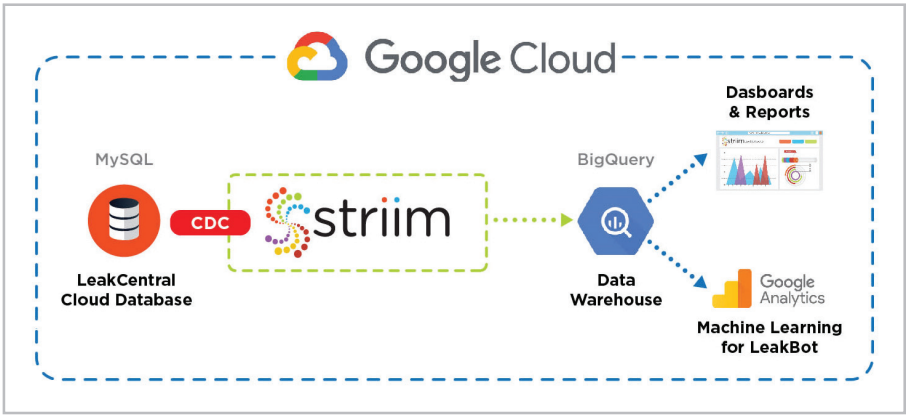
Region:
Europe and North America

About HomeServe:
HomeServe is a leading home assistance provider, with over 25 years' experience in looking after UK homes. HomeServe Labs is the innovation arm of HomeServe, and a smart home provider that develops connected home products and services, such as LeakBot, to solve real problems to make life that little bit easier.

Case Study: HomeServe Delivers Watertight Service to Homeowners using Streaming Data Integration

Technical Solution

HomeServe selected Striim to continuously ingest, move, and deliver operational data to Google BigQuery. Striim uses low-impact change data capture (CDC) from binary logs and JSON columns, to move every change made in the transactional database with no overhead on the source system and no degradation of performance. Striim captures every insert, update, and delete operations in the LeakBot system and streams to BigQuery. Because with Striim the data is masked in-flight and does not leave the LeakCentral's environment in the Google Cloud Platform, HomeServe can easily comply with security requirements of its insurance partners too.



Business Transformation

Leak detection can trigger a series of operational events and changes in the LeakCentral system. Visibility to each data change in the sequence of events is essential to understanding how a leak event unfolded. If batch ETL-based data snapshots were being used to ingest data, the all-important detail of what happened between snapshots would be missed.

Enabling Rich Business Intelligence for HomeServe and Insurance Partners

With Striim continuously moving the operational data to BigQuery, it can be analyzed for operational intelligence and to provide insurance companies with a compelling business case for their service. HomeServe can perform post-operational analysis by delving into individual leaks, aggregating the flow rate of the leak, the engineer's home visit and report. The data can be used to create reports that illustrate the value of HomeServe to insurance partners, in clear performance and cost savings terms. Insurance companies can use these reports to accurately price escape of water risk at renewal.

Performance Analysis using Machine Learning for Service Optimization

HomeServe's data scientists use the Google BigQuery environment to analyze device performance and to continuously optimize the machine learning model used in the LeakBot solution. Striim provides the analytics environment with the continuous data updates it needs to develop and improve the machine learning model. Because BigQuery uses granular data via Striim, it provides a better understanding of how the LeakBot product operates in real-life situations, which results in a more accurate algorithm for the device. Having access to both deep and comprehensive operational data allows HomeServe to have a full picture of their operations and the value they deliver to the customers.

575 Middlefield Road, Palo Alto, CA 94301 • (650) 241-0680