luxoft
A DXC Technology Company

Real-time clickstream stock validation solution for one of the biggest high-end retailers in the US

Case study

Client:
One of the biggest high-end retailers in the US

Technologies and tools:

Flink   Kafka   Spark

Teradata   AWS S3

Java

Luxoft were invited to offer their expertise

Our Luxoft team is a trusted partner

Challenge

When your company operates in 350 locations, has numerous brands, and income close to $15 billion; with 55% of sales online, knowing exactly who is clicking on your products, what they are clicking on, when they are doing it and where, becomes critical information to provide any competitive business with the data it needs to drive business efficiency and increase sales. Being able to understand and exploit this data in real-time in terms of; demand, stock levels, location of stock as well as helping to understand shifts in customers tastes and buying trends, can be used as a valuable resource across a whole business. Having a proven record in other areas of the client's business, Luxoft were invited to offer their expertise.

Solution

The Luxoft team began work mid-2020, they started by doing a deep dive into the client's complex and rather large ecosystem environment (Analytical Platform) which is linked to almost all their clients' systems (thousands of them). By successfully competing with other vendors in this particular area and by providing high-quality results, the Luxoft team grew from just 12 engineers to 40+ engineers over a couple of years. Because the results of the Luxoft team have always exceeded the client's expectations, the team is transferred to another team after successfully completing these projects. One of the latest projects in this area is a project where we were asked to provide an overview of the Traffic Weighted In-Stock Tracker (TWIST) In-Stock rate for the client's products in real-time.

Luxoft developed the architecture, accepted by the client's senior management through their Architectural Committee, and implemented a solution which provides an analytical Teradata table for the data science team by joining clickstream data with the stock keeping unit availability stream data. This is an in-stock rate for the products in real-time and provides an overview of the supply and demand situation, essential for retail business.

The stream Kafka topic is saved to a data lake based on AWS S3 in real-time mode using the Flink application. After that, the Spark application is triggered by airflow on a once per day schedule. This spark application joins clickstream and SKU data and puts them in another S3 data lake, creating a historical back-up. The same airflow process triggers the TPT loader which loads data from S3 to the target Teradata table.
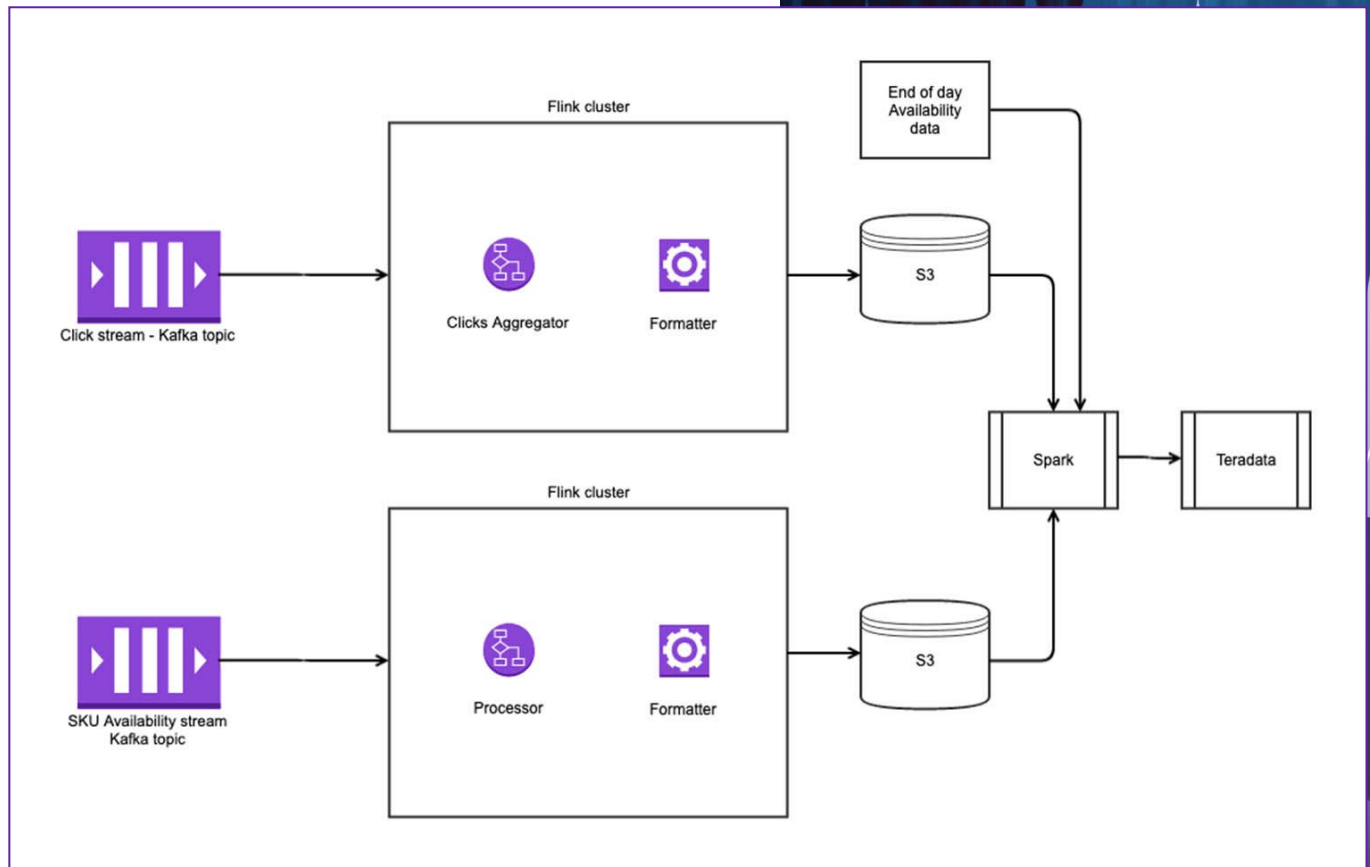
This can be used by a myriad of departments across the client's business to provide vital insights.

Results

Provides real-time analytical data

Increased client company's revenue

Upgradeable, scalable, expandable solution

Consistent, good quality communication with the client

Solution already successfully went on PROD and is being supported by Luxoft

Luxoft team acted as a trusted partner and received great feedback

Technologies

Flink, Kafka, Spark, Teradata, AWS S3, Java

About Luxoft

Luxoft is the design, data and development arm of DXC Technology, providing bespoke, end-to-end technology solutions for mission critical systems, products and services. We help create data-fueled organizations, solving complex operational, technological and strategic challenges. Our passion is building resilient businesses, while generating new business channels and revenue streams, exceptional user experiences and modernized operations at scale.

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