Real-Time Event Streaming and Data Transformation
for Financial Services

The Financial Services industry is facing a number of challenges when it comes to powering real-time applications. These real-time applications often require data transformation for cleaning and structuring data before it is consumed by the application. Legacy event streaming platforms do not provide the ability to transform data in real-time. They are also hard to scale, expensive to operate and are not memory safe. In order to transform data, ETL or Extract Transform and Load tools need to be configured. This adds latency and complexity to the architecture as shown in the diagram below.
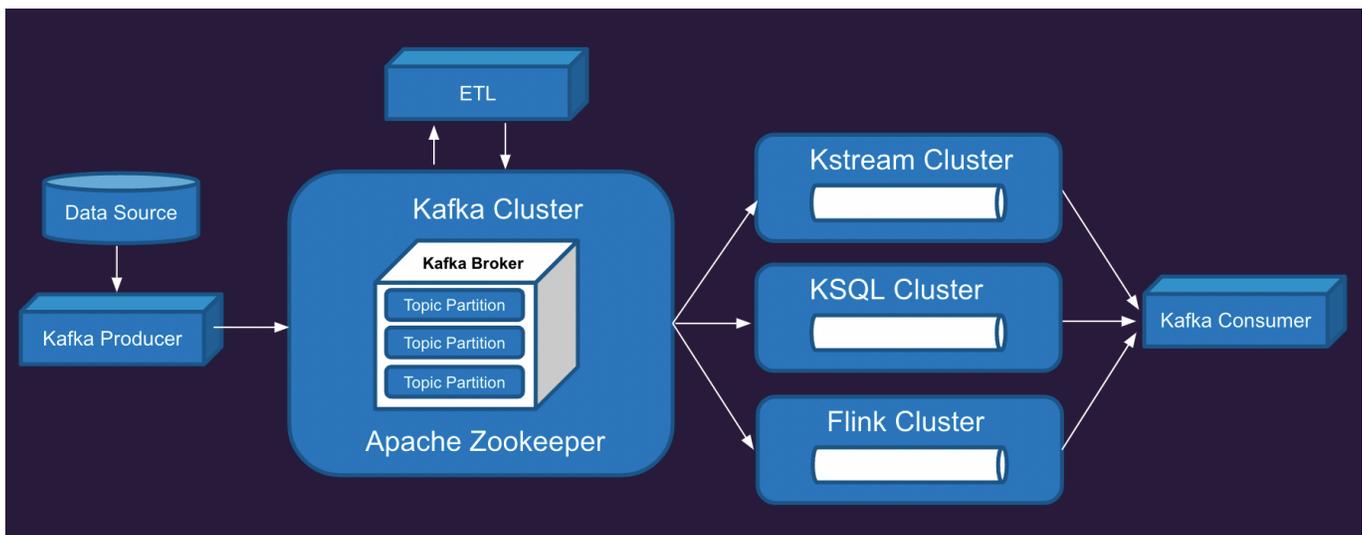
Typical Kafka Architecture with ETL

Diagram #1: *Kafka, ETL, Flink, Kstreams, and KSQL reference diagram.*

InfinyOn Cloud is a continuous intelligence platform that provides real-time event streaming and data transformation to solve these problems. The platform is built on top of Fluvio open-source software. It features single digit millisecond latency, a low memory footprint and is highly scalable for processing and transforming millions of events per second. Data Architects and Engineers can quickly build high performance data pipelines and leverage programmable stream processing to clean and transform data in real-time. This simplifies the data architecture and eliminates the need for ETL tools as shown in the next diagram.

InfinyOn Cloud Architecture

Diagram #1: *InfinyOn Cloud reference diagram with real-time events stream processing and ETL.*

High Performance Data Pipelines

InfinyOn Cloud is built using the Rust programming language with higher performance that Java and better code safety than C or C++. The multi-threaded asynchronous engine and no garbage collection makes this solution ideal for low network latency and high throughput financial networks.

Real-Time Extract, Transform and Load (ETL)

SmartModules are a premier feature of InfinyOn Cloud that allows data engineers to have direct control over their streaming data by providing a programmable API for inline data transformation. These user-defined functions and business logic are extremely flexible for being integrated at any point in a streaming pipelined. This means that SmartModules can be used on source and sink connectors, producers and consumers or within the stream processing unit (SPU).

Simplified Architecture with Significant Cost Savings

The InfinyOn Cloud architecture is simplified by removing apache zookeeper, *ETL, Flink, Kstreams, and KSQL*. The ease of use, scalability, security and flexibility meet the requirements of most financial services companies to run their business in real time. Significant cost savings can be achieved with InfinyOn cloud compared to Kafka. Each Kafka partition needs 1Gb of RAM compared to InfinyOn cloud which only needs 50Mb of RAM. Infrastructure costs can be reduced by more than 80% which creates a day one return on investment.

About InfinyOn

InfinyOn, a real-time data streaming company, has architected a programmable platform for data in motion that is built on Rust and enables continuous intelligence for connected apps. SmartModules enable enterprises to intelligently program their data pipelines as the data flows between producers and consumers in real-time. With Fluvio OSS or InfinyOn Cloud, enterprises can quickly correlate events, apply business intelligence, and derive value as they occur. Our mission is to accelerate the world's transition to the real-time economy.

To learn more, please visit infinyon.com.