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Accelerating the Real-time Economy

InfinyOn is powering the real-time economy with intelligent data streaming.

Continuous Intelligence Platform

In 2021, mobile-generated traffic reached 54% of all internet traffic, changing the way users interact with businesses and brands. This transition means that all the elements of business transactions, including accounting, business reporting, customer analytics, inventory management, invoicing, logistics and payments must be processed as it happens in real time.

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Supply chain management in the real-time economy means there are insights into inventory, orders, vehicles, people and equipment using real-time information. This visibility into real-time data is an advantage for both logistics providers and their customers. Data is being fed into machine learning models that are creating smarter AI based on the data.

Logistics

Supply chains of the retail and wholesale distribution, e-commerce, grocery, food and beverage, manufacturing and transport industries are transforming their businesses with real-time logistics solutions. This enables an immediate response to external events and provides visibility that is essential for these businesses to compete in a connected real-time economy. It specifies logistic activities that track and trace, in real-time, the movement of goods and packages from the manufacturers, suppliers, warehouses and hubs to the end customer.

When supply chains are operating with an infrastructure that gives them instant access to vital information, it helps to identify risks and figure out corrective action before the risk leads to major losses. Mitigating risks early leads to enhanced reliability, higher productivity, more transparency, and high profits.

Real-time visibility in the supply chain leverages GPS-tracking to allow businesses to plan, schedule, and monitor their logistics process at all points. It provides supply officers with access to trackable information such as order receipts, the status of raw materials, shipping details, regulatory information, and the exact location of the order. Better management of this complex process helps enterprises to gain a competitive edge, enhance productivity, increase customer satisfaction, and also reduce transportation costs.

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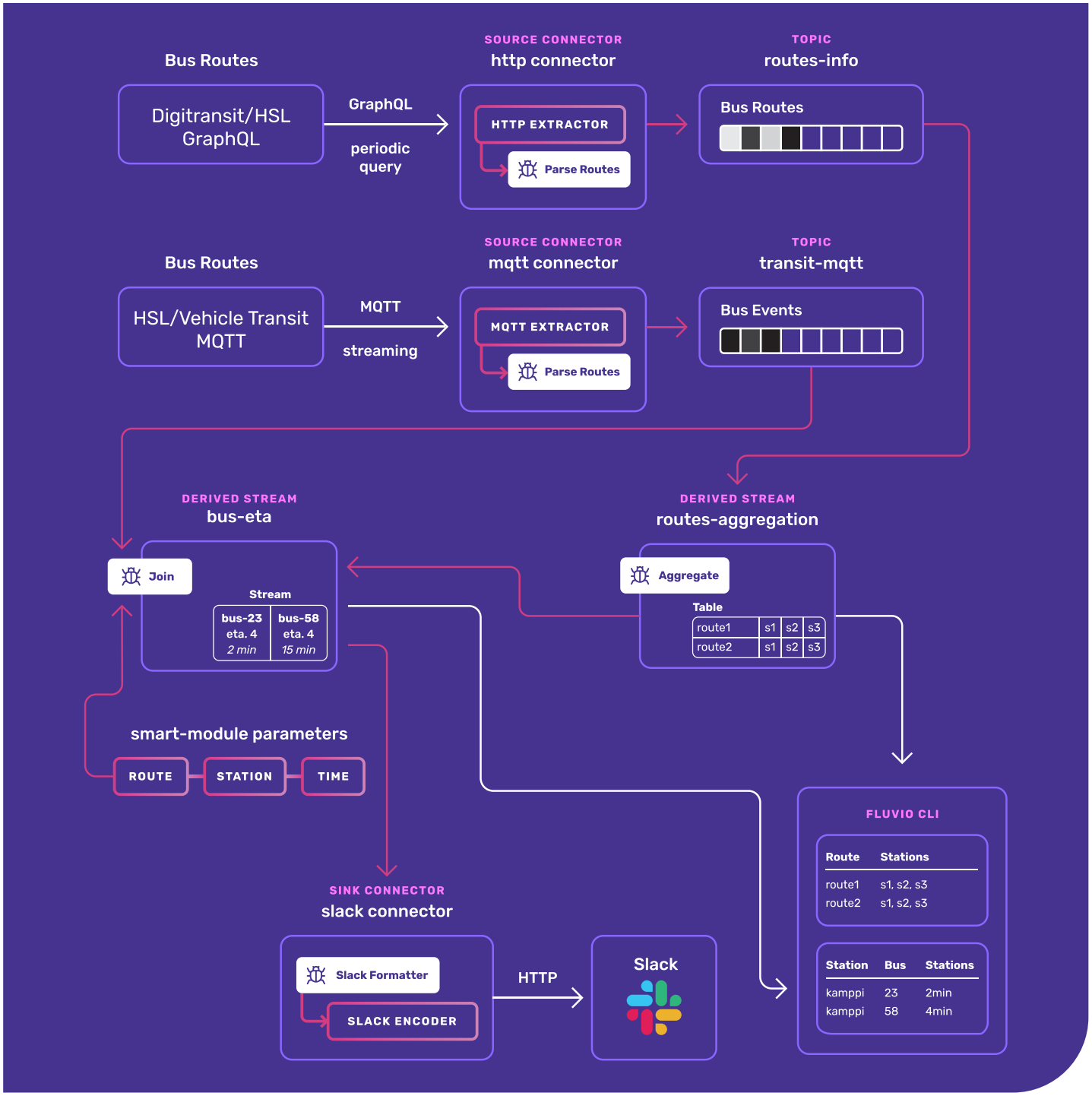

Diagram 1. Helsinki Bus Demo

Smart Cities Example

This Smart City, end to end use case, that tracks the Helsinki public transit system shows how to reduce complexity and time to market for continuous intelligence. The diagram below of the Helsinki Bus architecture shows the power of InfinyOn Cloud for data streaming. We combine 2 real-time data sources from the Helsinki public transit system and predict arrival times for buses. In this example we are ingesting over 3k events per second. The business logic was completed in just a few hours and the parsing of events, aggregate and join on an inline data stream is unique to InfinyOn.

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Real-time Payments (RTP)

According to Statistica, there were over 800 billion cashless transactions in 2021 with that number expected to grow to over 1 trillion transactions in 2022. Real-time payments (RTP) are payments that are initiated and settled nearly instantaneously and are replacing ACA, cash and check payments. Leaders in the real-time payment space have networks that provide always-on access, which means they are always online to process money transfers. Robust messaging is used to send and receive information about payments. Payment on demand when products or services are delivered is another common use-case for RTP.

There is considerable opportunity for both real-time payment solutions providers and financial institutions to work together to offer consumers quicker transactions. The value of real-time payments is instant access to funds. For consumers or companies that need the funds as soon as possible, instant access can bring a delightful customer experience.

Real-time Inventory Management

Real-time inventory management is a critical component of the real-time economy and running a successful business. Efficient inventory management can make or break your business for both supply and demand purposes. Real-time inventory management is the ability to automate the process of collecting transactional data on sales, shipments and movement of goods in order to optimize and proactively restock inventory.

Benefits include the ability to predict inventory stocking, visibility into current stock at any time and ensure accurate financial planning for cost of goods sold. With InfinyOn, companies can convert data into a common inventory, and stream event data to business intelligence tools, databases or data lakes for analytics and storage.

Enhancing Machine Learning Models

Machine learning and AI are emerging technologies that are revolutionizing businesses, brands, and even entire industries. Machine learning models are oftentimes based on real-time calculations for the use cases they serve. Companies have a brief window of opportunity to make predictions that can have an immediate business impact. Real-time data pipelines can be used to enhance machine learning models.

According to the Wikipedia definition, "**Machine learning** (ML) is the study of computer algorithms that can improve automatically through experience and by the use of data. It is seen as a part of artificial intelligence. Machine learning algorithms build a model based on sample data, known as training data, in order to make predictions or decisions without being explicitly programmed to do so." Essentially the model is only as good as the data that it's fed.

Streaming data is an excellent way to feed machine learning models in order to make more accurate predictions. The machine learning model provides logic that assists the streaming data pipeline to uncover elements within the stream and potentially within historical data. Real-time scores based on the elements are generated and delivered to BI tools and applications so they can make their predictions or recommendations.

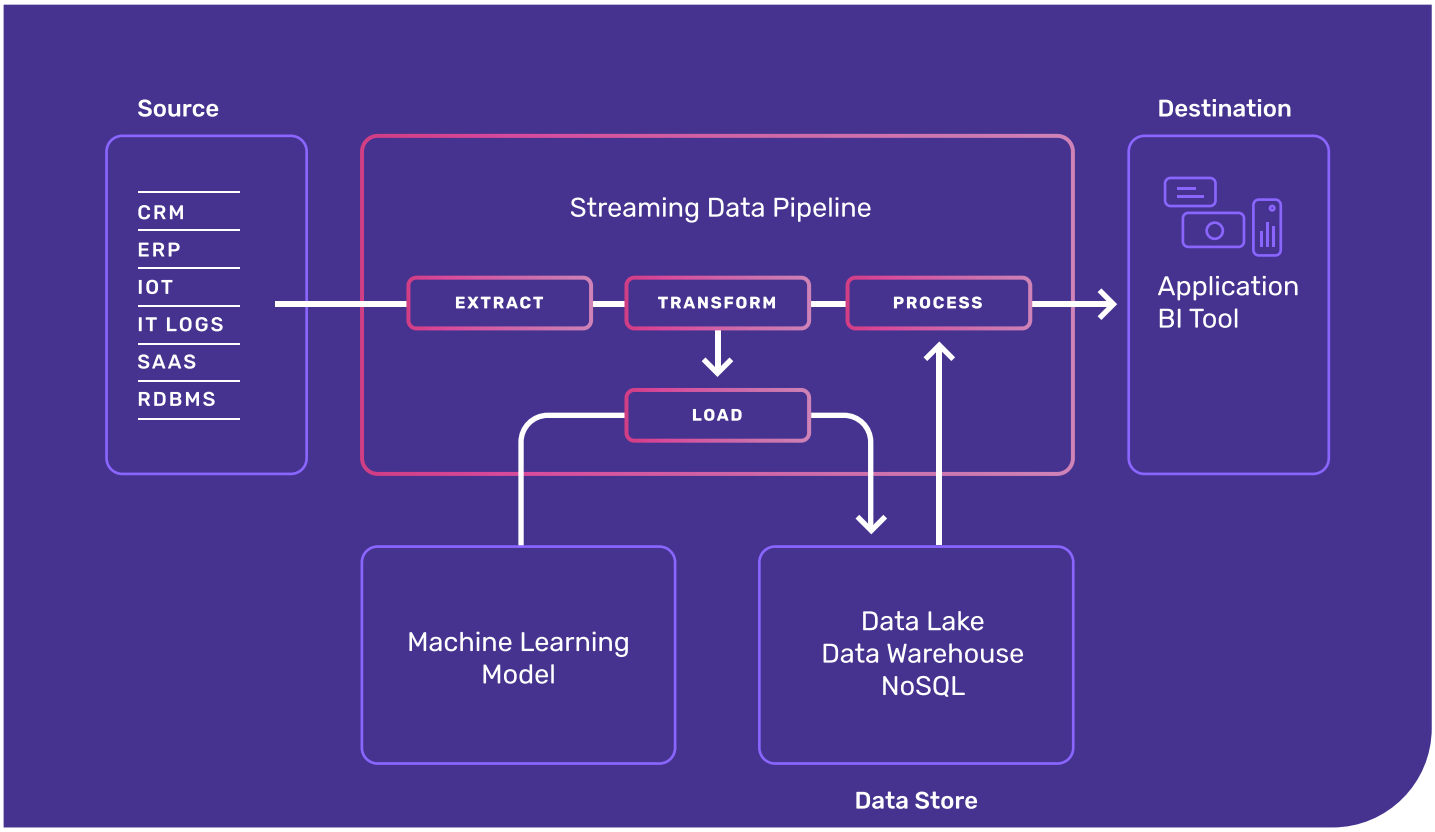

Diagram 2. Streaming ML Architecture

Customer Analytics and Customer 360

Customer analytics is one of the most common use-cases for the real-time economy. According to Harvard Business Review, 70% of enterprises have increased their spending on real-time customer analytics solutions over the past year. 60% use real-time customer analytics to improve customer experience across touchpoints and devices. 58% of enterprises are seeing a significant increase in customer retention and loyalty as a result of using real-time customer analytics.

The companies they surveyed were asked, "What's the best way for businesses to differentiate themselves today? By delivering a unique, real-time customer experience across all touch points and one that is based on a solid, connected business strategy driven by data and analytics insights."

Placing a continuous intelligence platform at the heart of a business enables the discovery of new business opportunities. By both centralizing data across the company, and simultaneously distributing it to every application or system, new insights can reveal unexpected ways to build new revenue sources. Improved customer experiences, streamlined operations, faster decision making, better collaboration, increased innovation, and better ability to compete are all benefits derived from operating in real-time.

Continuous Intelligence

Continuous intelligence is a design pattern in which real-time analytics are integrated into business operations, processing current and historical data to prescribe actions in response to business moments and other events. The InfinyOn **continuous intelligence** platform contains a modern event stream processing engine that performs real-time calculations for data-in-motion.

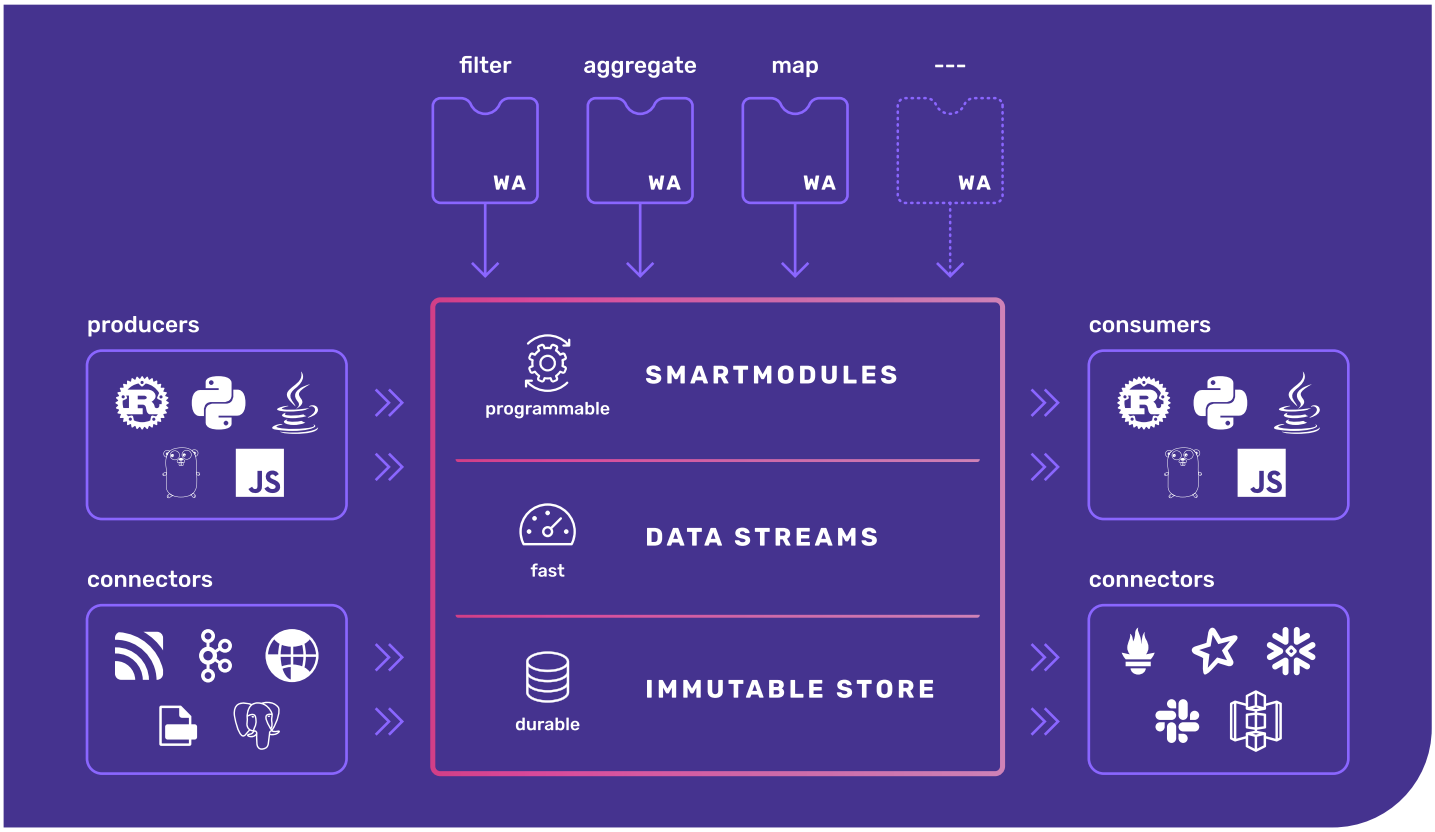

Diagram 3. Real-time Data Streaming Architecture

Conclusion

Our mission is to accelerate the world's transition to the real-time economy. Real-time data can give businesses valuable insight into product performance, customer behavior, supply chain management, business planning and more. Companies can no longer afford to spend months or years and millions of dollars on building out a real-time data infrastructure. To learn more about InfinyOn please visit **www.infinyon.com** or if you are interested in our open source Fluvio software go to **www.fluvio.io**.

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About InfinyOn

InfinyOn, a real-time data streaming company, has architected a programmable platform for data in motion built on Rust and enables continuous intelligence for connected apps. SmartModules enable enterprises to intelligently program their data pipelines as they flow between producers and consumers for real-time services. With InfinyOn Cloud, enterprises can quickly correlate events, apply business intelligence, and derive value from their data. To learn more, please visit infinyon.com.