INDUSTRY BRIEF

Resilient Supply Chains Need Real-time Data

In uncertain times, where demand is volatile, supply uncertain, and capacity short, having visibility across your supply chain to make the right decisions is vital.

Real-time data is revolutionizing the supply chain industry, enabling companies to track shipments, optimize routes, and forecast demand like never before.

Supply chain visibility is essential for logistics companies, as it allows them to make informed decisions about their business operations and anticipate supply chain disruptions. In today's data-driven world, an ever-growing number of data points can be used to improve supply chain visibility. From real-time tracking of goods, sensor data from transportation assets, and online customer interactions, logistics companies have access to an unprecedented amount of information about the movement of goods. However, with this abundance of data comes the challenge of effectively collecting, storing, processing, and analyzing it.

By prioritizing streaming data capabilities manufacturers can harness the power of streaming data, IoT and AI/ML to optimize their supply chain.

Key Technologies Transforming Global Supply Chains

Data streaming optimizes the global supply chain. Innovative IoT technologies transform the global supply chain. End-to-end visibility in real-time cost reduction and better customer experiences are the consequence.

Volt Active Data: Powering Real-time Data Processing in Supply Chain

Data Stream processing plays a vital role in the logistics industry's ability to process and analyze real-time information. This allows companies to continuously collect, process, and analyze data as it is generated, rather than waiting for all the data to be collected before processing it (an approach based on batch processing). This enables logistics professionals to make timely, informed decisions derived from the most up-to-date information.

Smart Supply Chain applications will not operate smoothly unless IoT-based strategies for developing supply chains have a data platform as their foundation. Modern data platforms can automate the delivery of insights from a huge number of fast-changing data points and work in tandem with real-time data platforms that can analyze large volumes of supply chain-wide data collected through IoT systems. All the data is ingested and processed in real-time, from gigabyte to petabyte scale and delivered to ensure vital decisions can be made on the spot.

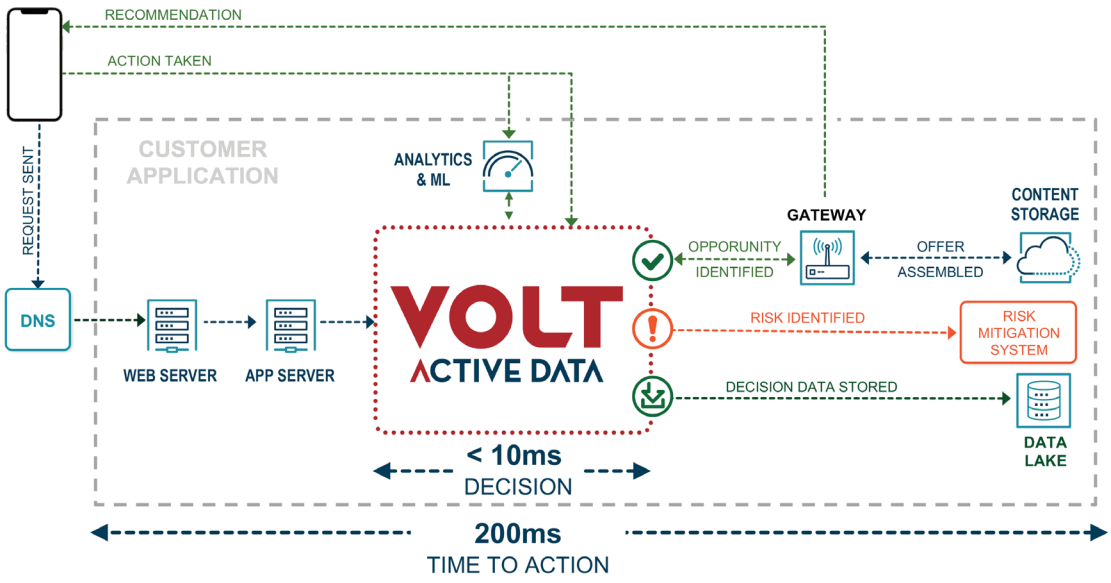
Data is processed in milliseconds, and what is more, it is processed without errors. This allows supply chains to be optimized through intelligent data flow, and this is already having an impact in the following areas:

- **Predictive transport management systems**
- **Smart sensors**
- **Autonomous warehouses**
- **AI powered demand forecasting**
- **Dynamic pricing solutions in Supply Chain operations**
- **Real time freight analytics**

Digital twins are virtual representations of physical objects or systems that can be used to simulate and analyze their behavior. In the logistics industry, digital twins can be used to improve the efficiency of supply chain operations by providing real-time data on the movement of goods and the performance of transportation resources.

Digital twins are dependent on this technology as much as anything else and are of limited value if they are falling behind reality.

Volt Architecture – Built for Real-time:



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