DATA IN MOTION

Unleashing Data to Advance the National Defense Strategy

Information dominance depends on getting relevant data to the point of impact immediately. This must be done with battles and wars being fought in multiple domains simultaneously—land, sea, air, space, and cyberspace. Meeting this need requires a Joint All Domain Operations (JADO) strategy. Moving to this level of coordinated operations is hard—requiring working around 50+ years of siloed systems that hold the data needed for a JADO approach to give our warfighters and peacekeepers real time data to make decisions in the field.

Traditional data-at-rest technologies like databases, even those modernized with data lakes and cloud scale data storage, cannot operate at the speed of the mission. Data needs to be set in motion. Data mesh architectures help bridge the gap between the systems we have and the decisions we need to support.

The battlefield is dynamic and is never at rest. The same should be true of our data. We've reached the limits of what we can do with data at rest.

Introducing Data in Motion

Data in motion enables missions to tap into event streams that are continually evolving and disseminate them across warfighting functions. It also helps serve the diverse sets of data consumers geographies across military operations from HQ to the mission edge. When applied to Joint All Domain Command and Control (JADC2) warfare components, a Data in Motion approach is nothing short of transformational.

"Data in motion is really about inverting the longstanding dynamic of data at rest. Rather than storing the data away in silos where it's static and bringing retroactive questions to the data, what you want to do is publish your data as a constant stream and deliver it to the questions for real-time analysis."

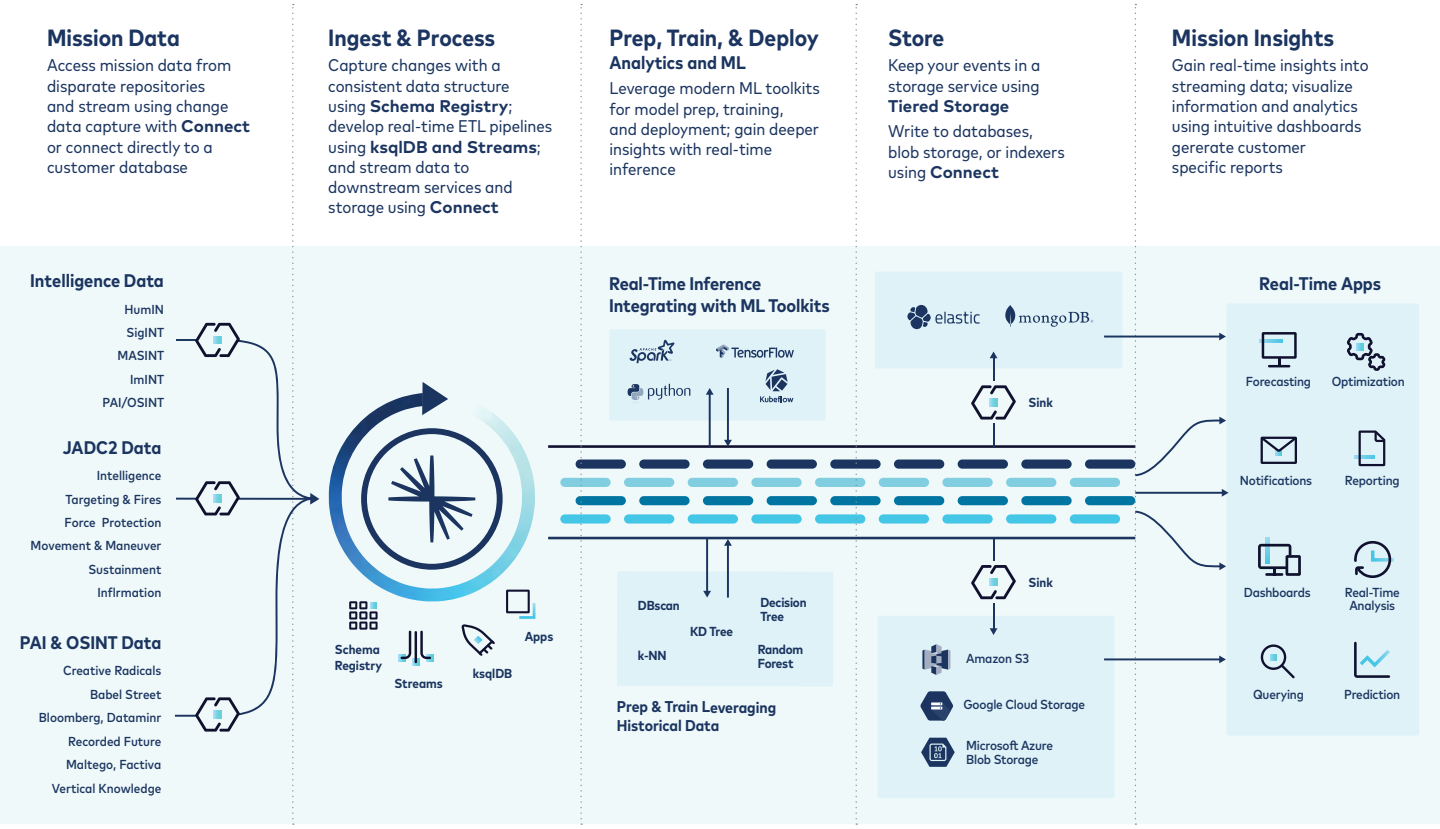
— WILL LAFOREST, CONFLUENT PUBLIC SECTOR CTO

The Role of Data Mesh

Data mesh is an architecture that embraces the ubiquity of data in connecting processes. It decouples all the different actors within an organization, so they can all produce and consume independently. It views data as a product, a shift from the traditional monolithic data infrastructures that focus on the consumption, transformation, and storage into numerous data stores of different types. Instead, data mesh allows each domain to handle their own pipelines and independently produce data for downstream consumers. Data mesh is the tissue connecting these domains and their associated data assets to create a universal interoperability layer.

A data mesh architecture helps address all eight guiding principles in the DoD Data Strategy from viewing data as a strategic asset to collective stewardship and enterprise access to being designed for compliance. It is the realization of enterprise data as a service.

Real-Time Mission Insights with Confluent



Data in Motion in Practice

A DoD program has the goal of invigorating innovation through data modernization using an event streaming architecture and integrated solutions for easier data analysis.

The organization wants to ease data visibility with an enterprise data architecture prototype that allows users to access previously siloed data, platforms, or producers by changing users' interaction with data. A tactical data mesh will become a global "source-of-truth" that will make it easier to integrate disparate applications by unlocking mission silos and sharing data in real-time between analytics and mission systems.

Confluent has extended Apache Kafka® — an open source distributed event streaming platform capable of handling trillions of events a day—with the capabilities needed to implement a data mesh. These enhancements include enterprise security to meet Federal requirements as well as key aspects for data mesh such as data governance, discovery, powerful real-time data processing, and geographic data distribution. Confluent also provides significant enhancements for developers, operations, and administrators along 24/7 support.

Get Your Data Moving

A Data in Motion approach will allow DoD and intelligence organizations to:

- Reduce data latency
- Receive timely data
- Work with continually fresh data
- Place situations in temporal context
- Deliver data in contested and disrupted environments

Getting your data in motion requires careful planning and the right partner. Confluent powers an event streaming platform with the needed flexibility, durability, and security required for complex, large scale mission operations. Confluent is a high-speed, cloud-native, and complete platform for data in motion and event streaming.

Contact an expert today to learn more.

publicsector@confluent.io
https://www.confluent.io/industry-solutions/government/