

# Apply Data in Motion

**GOVERNMENT TODAY** understands that data is central to everything it does, helping ensure the success of missions and citizen services. But delivering these types of experiences that constituents and decision-makers expect requires a new way of thinking, along with a new set of requirements for data infrastructure. It's not just a matter of bolting on an application or automating existing business processes. Instead, it requires an end-to-end transformation that creates a real-time flow of data across projects, lines of business programs and missions. It requires moving from batch processing to real-time stream processing, and from sprawling silos to highly connected data systems.

So how is all of this connected to the concept of data in motion? Essentially, the idea is that data can move from one location to another. The foundational assumption of every database is data at rest, but that is the antithesis of a continuous real-time flow of data. Databases were designed as the destination for data, allowing users to answer questions or run analytics against the data at a given snapshot of time.

"What ends up happening is countless point-to-point connections, usually handled in periodic batches to ship data around from one silo to another," explained Will LaForest, Field CTO for the Americas and Public Sector at Confluent. "It's too brittle, too costly, and it doesn't scale effectively to enable the sort of transformation we're seeing."

The solution is better data-in-motion architectures that focus on harnessing the flow of data across applications, databases, Software as a Service (SaaS), layers and cloud systems.

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**WILL LAFOREST**

Field CTO for the Americas  
and Public Sector, Confluent

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The core of a data in motion architecture is data streaming, where data isn't static. With data streaming, organizations must reorient their way of thinking into "streams of events."

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As this approach matures and is more widely adopted, it becomes an essential nervous system, much like the central nervous system ties together all independent parts of the human body into a coherent whole. In other words, it connects every part of the organization.

“It’s having a profound impact. It’s enabling people to independently tap into live streams of data and then use it to accomplish their goals in a decentralized fashion,” LaForest said.

Beyond data streaming, it’s also helpful to leverage Apache Kafka, especially with added capabilities around data compatibility, data governance and security that make it easier to reach that central nervous system.

“If a stream of data is published, consumers can discover it. They can understand it, handle schema evolution if they have permission, and even perform simple tasks like getting data out of Oracle or traditional queues. Having it flow to more modern tools can be done with off-the-shelf connectors rather than having write a bunch of code,” LaForest explained.

“The biggest use case for government adoption of data in motion, though, is probably cyber defense and zero trust. That’s because these requirements have amplified the need to collect and analyze observability data. While tools will change over time along with the data agencies need, a flexible framework is the best option to employ,” LaForest said. ■



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# Applying Data In Motion to Government

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