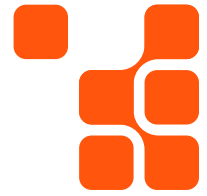PUBLIC SECTOR

Data in Motion to Accelerate Your Mission

The future of public sector missions depends directly on a cohesive data management platform and strategy. Government agencies at all levels – federal, state, and local – face challenges with data collection, integrating new data sources, and leveraging data to gain insights. According to a report quoted by Nextgov, 72 percent of agency respondents say they don't have "full knowledge of where their data is stored." There's a massive data opportunity for governments, but governments today struggle with scattered, siloed, and inaccessible data.

72%
of government agencies don't have full knowledge of where their data is stored.

33%
say they can fully classify their data.

Data Lifecycle: Impacts and Opportunities

Data in motion is the foundation of effective data management and an end-to-end data lifecycle that empowers the most ambitious public sector missions. Agencies across federal, state, and local governments must be able to collect, ingest, and move data to where it can be best analyzed, reported, and used to deliver new insights and predict future ones.

Harnessing data in motion, government IT leaders can turn yesterday's data challenges into tomorrow's agency-defining opportunities. Data in motion enables better, faster decision-making, increased transparency, reduced waste, and a wealth of other benefits. To get there, you must be able to take data from where it is and move it to where it can best be used – for anything, by anyone.

This is the guiding principle of Cloudera DataFlow, a data-in-motion platform that supports the entire streaming data journey, from collection and flow management at the edge to stream processing and analytics – and everything in between. And embedded low-code technology empowers users no matter their individual role: Users focus on business logic, while the platform abstracts away much of the backend complexity.

Zero Trust Takes Center Stage for Cyber

Security and governance are critical requirements for any government agency. There's now a growing need to apply strong cyber security and governance in data streaming, including the implementation of a zero trust strategy in accordance with the January 26, 2022 Office of Management and Budget (OMB) mandate "requiring agencies to meet specific cybersecurity standards and objectives by the end of Fiscal Year (FY) 2024 in order to reinforce the Government's defenses against increasingly sophisticated and persistent threat campaigns."

These challenges create added complexity for IT leaders and teams, especially as the scope and scale of their data grow. Few agencies can throw unlimited resources at the challenge, underscoring the necessity of a low-code-enabled data platform that scales seamlessly and securely across private cloud and on-premises environments. Yet, they still have to tackle the challenge.

Delivering Data Security and Governance

Cloudera's end-to-end approach to data in motion supports a robust data governance model, which must include the entire lifecycle, from data architecture to quality assurance. One data governance framework, shared via CIO.com, covers 10 distinct areas where agencies should establish systematic and formal control.

With Cloudera DataFlow and Shared Data Experience (SDX), Cloudera's data in motion philosophy supports the entire streaming data journey from data capture and flow management at the edge to provisioning that data directly to or from your Kafka messaging backbone. SDX provides a common set of integrated services, including unified security and governance across data centers and cloud environments– increasing consistency while decreasing the existing operational overhead.

Real-World Public Sector Use Cases

Enhancing SIEM and Cyber

As computing environments and data become more distributed, so too do the security risks. As organizations are turning toward tools such as Security Information Event Management (SIEM) software to identify risks and breaches. SIEM alone isn't enough.

A federal civilian agency was hit with a zero-day exploit, for example, but it was unable to determine the origins of the attack – or detect current or future attacks in a timely manner – using their existing SIEM. As a result, the agency turned to Cloudera DataFlow to strengthen its cyber posture with another significant layer beyond its SIEM, generating significant improvements:

- The agency now has continuous queries to alert for attacks
- It enabled continuous monitoring of critical systems to help prevent future attacks
- It completed this high-impact, low-cost solution in approximately one month with Cloudera Professional Services

With Cloudera, agencies can bolster their SIEM software and overall cyber readiness by ensuring they have the appropriate visibility and analytics into all of their data – which can be a challenge with SIEM alone.

Combatting and Preventing Fraud

The Internal Revenue Service now leverages its vast troves of tax data – which measures in petabytes – to fight fraud, reduce risks such as identity theft, and save taxpayer dollars. Through a collaboration between Cloudera and NVIDIA, the IRS is bringing the power of AI and machine learning to bear on its historical data, creating multiple benefits for the agency and its taxpayer constituents.

Unwieldy big data sets can now be processed in a manner of days, hours, or even minutes – instead of months, if at all. And performance testing on the project indicated 10x improvement to engineering and data science workflows, and 50% reduction in infrastructure costs.

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