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Centralizing Mission-Critical Data With Cloudera

Supporting workloads across financial management, warfighting and procurement starts with trust.

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Advancing Analytics (ADVANA) is the Department of Defense's (DoD) dedicated enterprise data management platform, designed to unify disparate data streams into one source of truth. Streamlining data can help mission owners make impactful decisions, but before this can occur, users must find mission-relevant data.

"One challenge is just locating the data relevant to your decision," said Rob Carey, president of Cloudera Government Solutions Inc.

In the DoD, information exists on-premises, in the public and private cloud, as well as in physical copies — for the warfighter, translating this data into actionable insight is challenging. ADVANA looks to remedy this challenge by connecting disparate data sources to emerging technologies like artificial intelligence and machine learning (AI/ML).

Securing and integrating these disparate datasets and systems will require a high degree of flexibility will require a high degree of flexibility to ensure ADVANA is able to meet the nuanced demands of different workloads. Cloudera's Data Platform (CDP) can help establish provenance within ADVANA and provide scaled support as more workloads deploy AI/ML for national security.

"We're the experts in locating, moving and putting the data into warehouses or lakes," said Carey. "What we've done with SDx is use a security platform that enables the identity of the accessor to reach around and only they can touch the data that's being accessed by our CDP."

With SDx tracing provenance is simplified. Mission owners can trust in their data as they transform data into insight.

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Trust and Scale

In 2023, the DoD's 'Data, Analytics and Artificial Intelligence Adoption Strategy,' set the stage for how emerging technologies could accelerate all domain command and control. For mission owners, the stakes are high: distinguishing between authentic and false data points could mean the difference between peace and conflict. This is where provenance plays a critical role, enabling leaders to confidently confirm actions.

"There's a lot of promise and hope around AI," said Carey. "But at the same time, that requires going back to the beginning of the data. You have to have implicit trust in the data that's being used to train models."

Turning data into a strategic asset, as outlined by DoD 7000.14–R, requires scalable platforms. Since ADVANA will be home to data, analytics and tools, industry offerings must be able to support an ever-increasing volume of data. For Cloudera, promoting accessible data starts with interoperability across on-prem and cloud — wherever the data resides, CDP supports over 26 exabytes of data globally.

"All data relevant to certain decision-making is never going to be in a public cloud, in a private cloud either on-prem, in Azure or under a desk. It's going to be a mixture and once you recognize that you're recognizing the reality of the data environment that the DoD has, and if you're ADVANA, you need to be able to manage that data wherever it is," said Carey.

Future Forward

Accelerating the use of AI starts with a search for solutions that minimize complexity and maximize value. More often than not, this is easier said than done, as projects stall in the dreaded "Valley of Death." At Cloudera, the Government Solutions team is well versed in navigating this Valley. As an In-Q-Tel company, Cloudera has experience fielding DoD-ready solutions.

While ADVANA's use case primarily concerns centralizing core data, it has the potential to shape outcomes at the mission's edge as well. For example, insights generated from centralized data regarding an individual unit's health, could empower decision-makers to better apply personnel to active conflict zones. While these insights could be generated at a higher level, scalable data platforms could help push this information down to individual mission owners.

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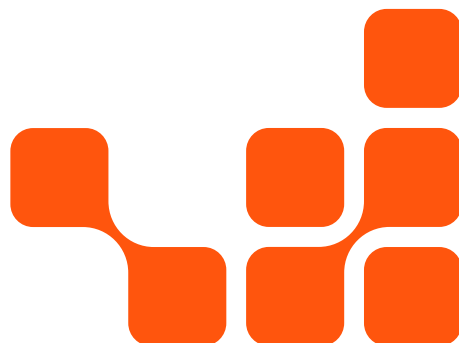
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With near real-time insight, Edge AI could help our Armed Forces effectively deter and defend against threats as they evolve, but this requires secure solutions, which is why Cloudera is proud to be DoD IL5 compliant and working toward a FedRAMP High authorization.

Security isn't optional, it's mission-critical — which is why Cloudera is dedicated to the creation of secure, scalable platforms that empower the warfighter to make informed decisions with confidence.
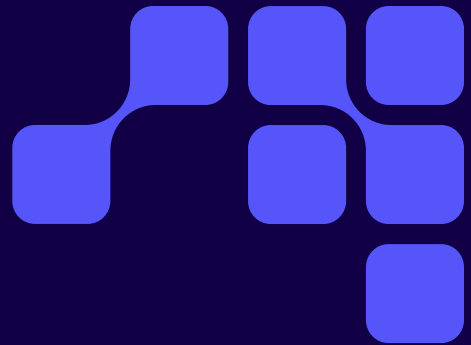
Click to learn more about Cloudera's public sector offerings.

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About Cloudera

Cloudera is the only true hybrid platform for data, analytics, and AI. With 100× more data under management than other cloud-only vendors, Cloudera empowers global enterprises to transform data of all types, on any public or private cloud, into valuable, trusted insights. Our open data lakehouse delivers scalable and secure data management with portable cloud-native analytics, enabling customers to bring GenAI models to their data while maintaining privacy and ensuring responsible, reliable AI deployments. The world's largest brands in financial services, insurance, media, manufacturing, and government rely on Cloudera to be able to use their data to solve the impossible—today and in the future.

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