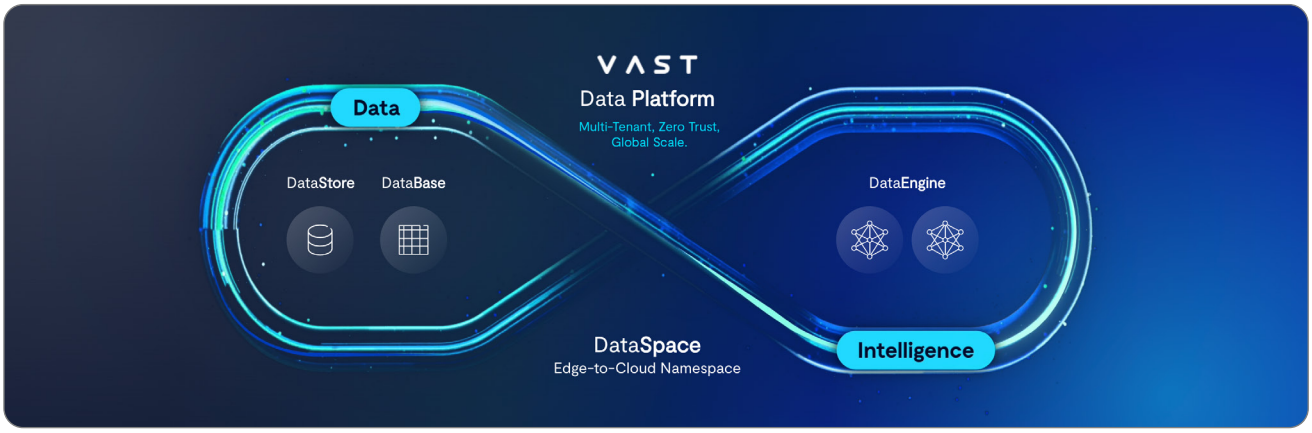
Solution Brief

VAST Federal Operating System for AI

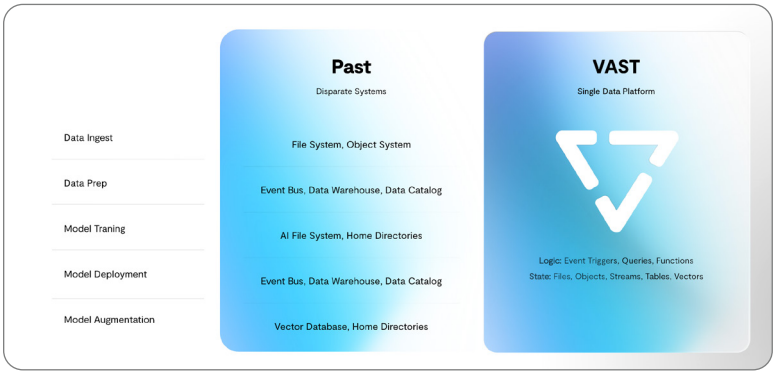
VAST FEDERAL

The U.S. government is prioritizing AI leadership and innovation across federal teams to enhance operational efficiency, accelerate research, and strengthen national security. From DoD and IC agencies seeking mission-critical decision support to civilian organizations optimizing service delivery, every federal entity must future-proof its data infrastructure to remain productive, effective, and secure. However, before AI initiatives can be fully realized, organizations must establish a scalable, secure, and high-performance data foundation.



Traditional data storage and management solutions are inadequate for modern AI and machine learning workloads, where speed and resilience are crucial. Traditional architectures create bottlenecks with east-to-west traffic and data silos that hinder organizations from rapidly ingesting, tagging, classifying, and analyzing mission-critical data. To address this, agencies are moving beyond traditional storage and database solutions to adopt the VAST Data Platform – a new parallel architecture that combines unmatched storage, database and a new world-class DataEngine to automate end-to-end data pipeline operations.

The Only Data Platform for End-to-End Pipelines



Why VAST Data AI OS? The Differentiators

- **End-to-End AI Operating System:** A complete, tightly integrated software stack for data storage, management, and processing, replacing a patchwork of fragmented solutions.
- **Extreme Performance at Scale:** Co-designed with hardware innovators for massive throughput and parallelism, embedding services directly on GPUs/DPUs to feed data at the rate models demand, scaling linearly.
- **Radical Simplicity & Unified Experience:** Obliterates the complexity of separate storage tiers, databases, and ETL pipelines with a unified namespace and API. One system to install, monitor, and scale deployable on your choice of hardware or cloud.
- **Federal Security & Manageability:** Mature, built-in features including data protection, encryption, snapshots, multi-tenant isolation, and policy-based automation - AI-ready and Federal-built without compromise.
- **Agentic Computing Enablement:** Explicitly designed for emerging AI agents and autonomous processes with an event-driven Data Engine, supporting the next wave of AI applications out-of-the-box.



Trusted by the US Government

VAST Federal is trusted by leading agencies and organizations to leverage an all-flash innovative platform

Inside the AI Operating System

InsightEngine | AgentEngine: Orchestrate the AI Ecosystem

Leverage VAST infrastructure services to build understanding from experiences, connecting AI agents for collaborative learning and action across your entire data landscape.

VAST DataStore: AI's Infinite Memory Vault

Holds every raw data point—images, video, text, events—forming the AI's foundational experiences. Exabytes of all-flash storage, instantly fueling AI learning and insight.

VAST DataBase: AI's Knowledge Base

This global database indexes all data and AI metadata. Search trillions of vectors and other tabular data in milliseconds. It enables your AI to reason over everything it knows.

VAST DataEngine: Real-Time Actions

A containerized compute engine that acts as the AI's central nervous system, instantly processing signals (new data/events) and dispatching instructions for immediate action.

VAST DataSpace: Unified & Global

Unifies components into a global AI brain, spanning edge to cloud. All data and compute share one namespace, security, and APIs. It's one secure cohesive AI OS, tying everything together.

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