Solution Brief

VAST for Enterprise AI

A Unified Platform for Real-Time AI Pipelines



Enterprises are struggling to operationalize AI at scale. Fragmented data, complex tools, and legacy architectures create brittle, slow, and risky AI pipelines. The VAST AI Operating System (AI OS) is a single, unified platform that simplifies and accelerates every stage of operational AI for the enterprise, moving from raw data to real-time action with the performance, scale, and governance required for production.



Simplify, Scale, and Secure the AI Journey

- **Simplify with a Unified AI Operating System:**
  Enterprise data is scattered across databases, object stores, and point solutions, creating silos that limit AI accuracy and reliability. The VAST AI OS unifies all data types, including unstructured, structured, and vector, into a single platform. This eliminates the complexity of fragmented systems and enables teams to focus on building accurate, timely AI applications rather than managing infrastructure.

- **Accelerate Real-Time AI Workflows:**
  Traditional architectures were built for batch analytics, not real-time AI inferencing. This mismatch leads to slow and stale responses that use incomplete data. VAST's flash-native, single-tier Disaggregated Shared Everything (DASE) architecture eliminates performance bottlenecks and provides near-zero latency at exabyte scale. The result: real-time performance and throughput for the most demanding AI pipelines, from RAG to inference to multi-agent automation.

- **Ensure End-to-End Governance:**
  Fragmented governance models across multiple systems create compliance gaps and prevent enterprises from operationalizing AI securely. The VAST AI OS provides a unified governance framework that spans raw data, vectors, and AI responses. Every query respects user identity and entitlements, and every interaction is observable, ensuring consistent, fine-grained security and compliance across the entire pipeline.

- **Eliminate AI Tool Sprawl:**
  Building AI pipelines today requires stitching together separate tools for storage, ingest, transformation,embedding, vector search, orchestration, and inferencing, creating operational overhead and fragility. The VAST AI OS replaces this patchwork with an all-in-one framework: native object storage in the VAST DataStore, structured data and vectors in the VAST DataBase, and real-time triggers and serverless functions that enable integrated orchestration with VAST DataEngine. VAST InsightEngine - a framework built on the VAST DataEngine - makes it easy to build automated AI pipelines for ingest, vectorization, retrieval, and inference entirely on a single system.

Why VAST

Unified Data Management

Consolidates structured, unstructured, and vector data—and all workloads—for seamless access and faster insights.

Exabyte-Scale, Flash-Native Architecture

DASE delivers low-latency access to massive datasets and scales linearly to exabytes.

Enterprise-Grade Availability

The unified architecture, with no single point of failure, ensures continuous uptime and high reliability for mission-critical AI workloads.

Unified AI Governance Model

End-to-end compliance and security across ingest, search, and response.

Built-In Vector Store and Retrieval

Native vector store and search in the VAST DataBase scales to trillions of embeddings, removing the need for a separate vector database.

Event-Driven Architecture for AI Automation

Serverless event triggers and functions enable real-time pipelines that act on data as it arrives.

About VAST Data

VAST Data, the AI operating system company, is paving the way for the next era of artificial intelligence. The VAST AI Operating System provides a unified system for a simple, scalable, and accelerated path from raw data to deep insights. By integrating storage, database, and compute functions, VAST eliminates infrastructure complexity, allowing data scientists and AI developers to focus on innovation. Since its launch in 2019, VAST has become the fastest-growing data infrastructure company in history.

Looking to simplify your data center and unlock insights from all of your data?

Contact us at www.vastdata.com

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