Solution Brief

VAST Event Broker

Real-Time Streaming Reinvented for AI and Analytics

In a world where real-time action defines success, the VAST Event Broker reimagines event streaming for the AI era. Built directly into the VAST Data Platform—which unifies analytical, transactional, real-time, and vector workloads—it eliminates complexity. This unified design merges streaming, analytics, and AI in one system, empowering businesses to move faster, simplify operations, and unlock insights the moment data is created.

Event Streaming for the AI Era

The VAST Event Broker is the world's fastest Kafka-compatible streaming engine—capable of ingesting up to one million events per second per VAST compute node. Built directly into the VAST Data Platform, it eliminates the need for separate Kafka clusters, external brokers, and orchestration layers. Topics are streamed natively into the VAST DataBase, where they become instantly queryable as columnar SQL tables—enabling real-time analytics, automation, and AI pipelines. No ETL. No delays. No staging. Just actionable insights the moment events are created.

Kafka Compatible Without Kafka Complexity

Running Apache Kafka at scale is notoriously complex. Traditional deployments require managing ZooKeeper, tuning partitions, and configuring replication—just to keep the system stable. Making data usable adds even more overhead, often involving Kafka Connect for integration and external engines like Trino or Flink for analytics and stream processing. The result is a fragile, high-latency stack that slows down real-time insight and increases operational burden.

The VAST Event Broker eliminates all that complexity. It natively implements Kafka APIs as a protocol, allowing existing applications to stream data without modification. Under the hood, there are no brokers, no ZooKeeper, and no need for external query layers. Each topic is stored as a native table in the VAST DataBase and is immediately queryable—no connectors, delays, or ETL required. Messages flow directly into analytics and AI pipelines, enabling real-time insights at scale.

10x Performance and Linearly Scalable Architecture

The VAST Event Broker delivers the world's fastest Kafka-compatible performance—streaming nearly one million events per second per VAST CNode with consistently sub-millisecond latency, even at massive scale. It outpaces leading commercial alternatives by 20% in published benchmarks and achieves nearly 3x greater throughput under high-load conditions.

Unlike Kafka, which couples compute to local disks and relies on broker-level partitioning and replication, VAST runs on a stateless compute layer backed by a Disaggregated, Shared-Everything (DASE) storage architecture. Each VAST compute node has direct, parallel NVMe access to all-flash storage—no shard ownership, no east-west traffic, no coordination delays. This eliminates bottlenecks and enables the world's most linearly scalable system—without operational complexity.

The result is transformative for real-time use cases like fraud detection, algorithmic trading, and AI inference—where every millisecond matters. While traditional Kafka deployments suffer from latency spikes under load, the VAST Event Broker delivers consistent, ultra-fast performance—even at exabyte scale.

Where Events Become Intelligence

Ingesting events is only the beginning. The VAST Event Broker streams Kafka messages directly into the VAST DataBase, where they are automatically stored in columnar format—optimized for high-speed analytics and instant access.

Because messages are stored natively, teams can run sub-second queries on live streams as they arrive. And with the VAST DataEngine, those same messages can trigger serverless functions for real-time enrichment, downstream processing, or AI inference. For example, an S3 event can launch a function that analyzes a newly ingested object and joins it with historical context—all within the platform.

This seamless integration turns the Event Broker into more than a messaging backbone—it becomes a real-time analytics and AI engine, unified, responsive, and built for modern applications.

Why VAST Data

Unified Data Management

Consolidate structured and unstructured data and all analytics workloads for seamless access and faster insights.

Exabyte Scalability

Easily scale to exabyte-level datasets with high performance as data grows.

AI-Ready Infrastructure

Enable AI-driven workflows and real-time data analysis with integrated GPU accelerated I/O.

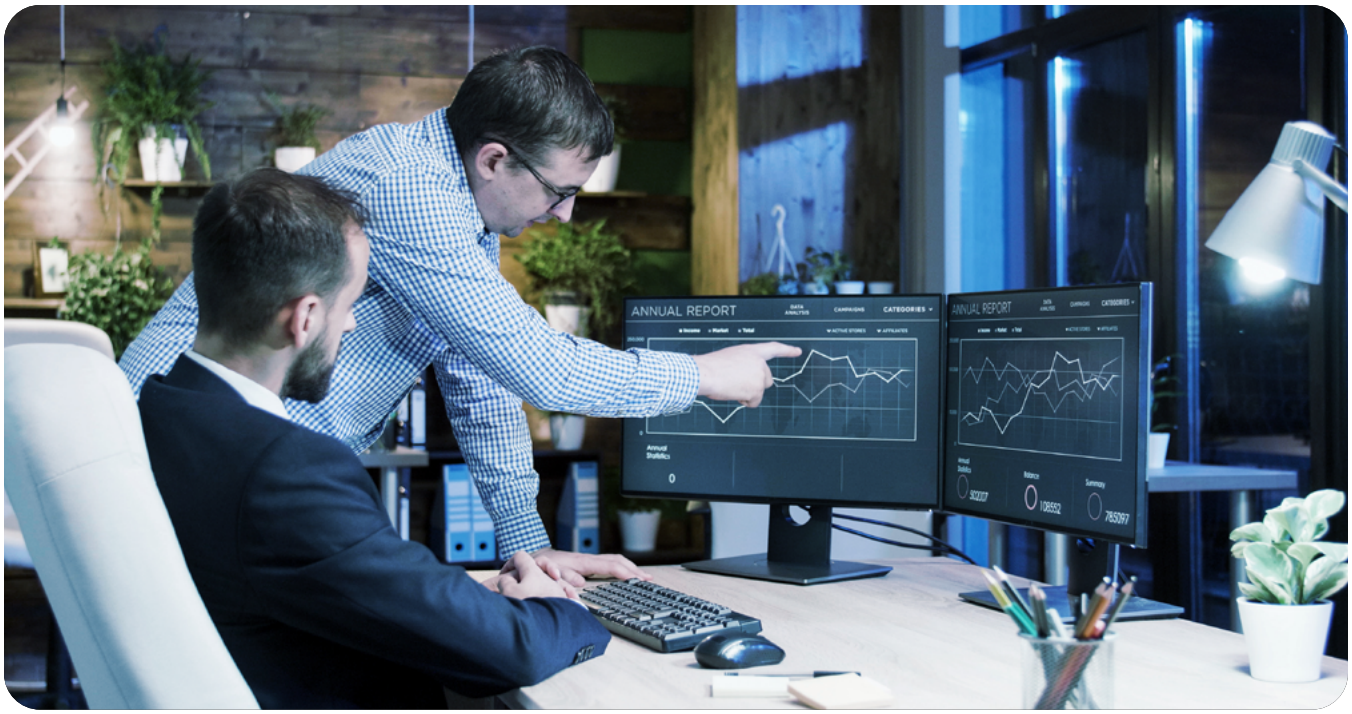
Unified Security & Governance

Manage all data types and workloads under a single, unified security model.

Streaming-to-Query Integration

Kafka topics become tables—query in real time without ETL or pipelines.

With **900,000 events/sec** per CNode, having up to **1,000 partitions** per topic gives you fine-grained parallelism and performance tuning for large-scale streaming applications.
But since VAST doesn't require manual partitioning for performance or reliability, you get Kafka compatibility without the Kafka complexity.



A Core Capability of the Unified VAST Data Platform

The VAST Event Broker isn't an add-on—it's a native part of the VAST Data Platform, which unifies analytical, transactional, streaming, and vector workloads into a single, flash-native system. Built to eliminate fragmentation, VAST treats event data as just another queryable format—integrated with the same governance, security, and performance model that powers files, objects, tables, and AI pipelines.`

With support for structured and unstructured data, automated serverless workflows, and policy-based access control across all major data protocols (S3, NFS, SMB), the platform delivers a radically simplified alternative to siloed architectures.

This consolidation cuts costs, eliminates redundant pipelines, and collapses multiple tools into one cohesive system—giving customers a real-time foundation ready for AI, analytics, and data-driven decision-making at any scale.

About VAST Data

VAST Data is the leading data platform software company bringing businesses into the AI era. By accelerating time-to-insight for workload-intensive applications, the VAST Data Platform delivers scalable performance, simplifies data management and enhances productivity. Launched in 2019, VAST has become the fastest-growing data infrastructure startup in history.

Looking to simplify your data center and unlock insights from all of your data?
Contact us at hello@vastdata.com

Trusted By Industry Leaders

PIXAR FOX CoreWeave NHL servicenow agoda

©2025 VAST Data, Inc. All rights reserved. All trademarks belong to their respective owners.

05/2025