

Success Story

Top 5 Global Bank Modernizes Low Latency Trading Infrastructure

A leading US bank faced challenges with its aging storage infrastructure for low-latency trading operations. The existing parallel file system solution took longer to manage and expand. With support for the current system ending in 2025, the bank needed a modern, scalable solution to meet demanding performance requirements while simplifying management and reducing operational stress.

Challenges:

1. **Aging storage infrastructure with limited expandability**
2. **Approaching end of support for the existing parallel file system**
3. **Daily capacity constraints requiring frequent manual interventions**
4. **High operational overhead, with 24/7 monitoring and management**
5. **Lengthy processing times for critical trading data workflows**
6. **Increasing complexity and cost of current data lake solution**

The bank's low-latency trading team initiated a search for a new solution that could address these challenges while providing a foundation for future growth and technological advancements.

VAST Data Solution

After evaluating numerous options, the bank selected the VAST Data Platform to modernize its low-latency trading infrastructure. The solution included:

1. **High-performance NFS platform for consolidating multiple data lakes**
2. **Linear scale-out capabilities for both performance and capacity**
3. **Built-in data reduction for improved economics and data center space savings**
4. **Resilient system with 99.999%+ uptime**
5. **Multi-protocol access to enhance pipeline workflows**
6. **Built-in replication for disaster recovery**
7. **AI/GPU-ready platform to support future initiatives**

Implementation

The bank deployed the solution across three clusters: two for production and disaster recovery (with 3PB capacity each) and a smaller development environment. The implementation was done with a managed service provider, ensuring seamless integration with the bank's operations.

Outcomes and Benefits

1
Performance Boost
A 6x increase in bandwidth per compute node, significantly accelerating data processing and analysis for their kdb+ database and algorithmic trading workloads

2
Operational Efficiency
Minimal intervention now required, reducing constant monitoring and management

3
Improved Data Processing
Critical batch that previously struggled to complete before the next day's market opening jobs now finish within two hours of market closing, ensuring data readiness for the next morning's trading activities

4
Capacity Optimization
An over 2:1 overall data reduction ratio, with up to 4:1 reduction for specific low latency workloads

5
Data Center Efficiency
An 80% reduction in rack space requirements (from 60 to 12 rack units), while adding 1 PB of capacity and decreasing power consumption by an estimated 14–20 kilowatts

6
Simplified Management
The need for daily manual interventions was eliminated (i.e. deleting snapshots and cleanup)

7
Future-Proofing
Foundation for easy expansion and adaptation to new technologies

8
Improved Utilization
Significant improvement in asset utilization across its infrastructure

9
Cost Reduction
Reduced licensing and hardware costs

Business Impact

The VAST Data Platform has transformed the bank's low latency trading operations. The bank can now focus on core business activities rather than infrastructure management. These improvements have positioned the bank's competitiveness in algorithmic and high-frequency trading.

These successes have sparked interest from other departments at the bank, potentially leading to broader adoption of VAST Data across the organization. The bank is considering using VAST's data catalog features to enhance data management and accessibility.

By modernizing its low latency trading infrastructure, the bank has solved its immediate challenges and laid the foundation for future growth and innovation in its trading operations. The new infrastructure supports strategic initiatives, including integrating AI and GPU-accelerated workloads, ensuring it remains competitive in an increasingly technology-driven financial landscape.

About VAST

VAST Data is the data platform software company for the AI era. Accelerating time-to-insight for workload-intensive applications, the VAST Data Platform delivers scalable performance, radically simple data management and enhanced productivity. Launched in 2019, VAST is 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** hello@vastdata.com

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