

Top 5 US Bank Prepares for AI Revolution



A leading US bank is taking bold steps to revolutionize its digital capabilities and prepare for an AI-driven future. The bank's Digital Strategy Organization, responsible for developing digital experiences and capabilities across all business units, recognized the need to modernize its data infrastructure to support cutting-edge AI and machine learning initiatives.

Background: Deploying A Superior Data Pipeline

Legacy infrastructure poses a significant challenge, as it was not designed to handle the complexities and demands of modern AI processes. Collecting and refining raw data from various sources often results in performance bottlenecks due to the need for data copying between systems. Additionally, model training, a critical phase that demands peak performance, is delayed by the necessity of moving refined data to specialized storage solutions, leading to inefficiencies, additional costs, and specialized skillsets.

Challenge: Modernizing a Complex IT Landscape

The bank faced significant hurdles in its AI aspirations due to an outdated and complex data infrastructure:

- 1 **Inefficient resource utilization across multiple technology stacks**
- 2 **Siloed data environments hinder innovation and data-driven decision-making**
- 3 **High licensing and hardware costs from legacy systems**
- 4 **Limited scalability for AI workloads**
- 5 **Inability to support modern data pipelines**
- 6 **Operational complexity resulting in an unbalanced staffing model focused on maintenance rather than innovation**
- 7 **Lengthy provisioning and deployment processes for new services**

Data / information silos

is the most significant challenge negatively impact the quality of data fed into AI systems, in turn making it difficult to optimize AI algorithms:



Limited data access

Siloed data can make it hard for departments to access relevant data outside of their area, which can hinder strategic planning and AI algorithm optimization.



Inadequate data integrity

Data silos can lead to issues like data decay, duplication, and inconsistent compliance measures, which can directly affect the quality of data fed into AI systems.



Lack of data visibility

Siloed data can limit visibility into business operations, making it harder for company leaders to gain comprehensive visibility into their operations and finances.

Solution: VAST Data Platform for Comprehensive Modernization

To address these challenges, the bank’s Digital Strategy Organization turned to the VAST Data Platform as part of a multi-year strategy to consolidate, simplify, and modernize its IT infrastructure. The solution offered:

- 1

High-performance S3 platform for consolidating multiple data lakes
- 2

Linear scale-out capabilities for both performance and capacity
- 3

Automatically bring structure to unstructured data using built-in triggers that apply custom functions, enabling efficient data orchestration and querying
- 4

Resilient system with 99.999%+ availability
- 5

Multi-protocol access to enhance pipeline workflows
- 6

Built-in replication for disaster recovery
- 7

AI/GPU-ready infrastructure to support future initiatives

Implementation

The bank deployed VAST as the foundation for their AI and ML initiatives. The initial deployment is set to expand, with plans to double the configuration and implement a disaster recovery counterpart. The VAST Data Platform and [NVIDIA Certified Reference Architecture](#) makes it incredibly easy to deploy an AI-production ready environment that delivers agile, scalable performance for the most challenging machine learning and deep learning workloads.

Outcomes and Benefits

- 1

Simplified Data Management
Consolidated multiple data silos into a single, manageable platform, reducing operational complexity
- 2

Enhanced Performance
Achieved significant improvements in data processing and analysis speeds, enabling faster insights
- 3

Cost Optimization
Reduced licensing and hardware costs through consolidation and efficient resource utilization
- 4

Space Efficiency
Dramatically reduced data center footprint, promoting sustainability and cost savings
- 5

Future-Proofing
Established a scalable foundation for AI and ML workloads, supporting the bank’s long-term innovation strategy
- 6

Operational Efficiency
Streamlined management processes, allowing IT staff to focus on strategic initiatives rather than day-to-day maintenance
- 7

Flexible Consumption Model
Enabled a more agile approach to technology adoption and scaling
- 8

Improved Data Access
Facilitated easier access to data across the organization, breaking down silos and enabling more comprehensive analytics

Enabling AI-Driven Innovation

With the VAST Data Platform in place, the bank's Digital Strategy Organization is now positioned to explore and develop a wide range of AI-powered services and capabilities, including:

**Chatbots and Virtual Assistants**
Providing 24/7 customer support and assistance with transactions

**Speech Recognition**
Facilitating voice-activated banking services

**Process Automation**
Automating repetitive tasks like data entry and compliance checks

**Fraud Detection**
Analyzing transaction patterns to detect fraudulent activities in real time

**Credit Scoring**
Using AI to evaluate creditworthiness based on diverse data sources

**Personalized Financial Advice**
Offering tailored financial advice and product recommendations

**Customer Insights**
Analyzing customer data to enhance marketing strategies and improve services

**Predictive Analytics**
Forecasting market trends and customer behaviors

**Risk Management**
Assessing and mitigating financial risks through advanced data analysis

**Loan and Mortgage Processing**
Streamlining the approval process with AI-driven evaluations

These initiatives represent just the beginning of the bank's AI journey, made possible by the VAST Data Platform's robust and scalable data foundation.

Aligning with Strategic Vision

Adopting the VAST Data Platform aligns closely with the bank's strategic vision of radical simplification and agile delivery. It supports key principles such as:



Delivering standardized self-service infrastructure products for developers



Optimizing capacity utilization with a strong preference for virtualized workloads



Ensuring all tools, hardware choices, and data frameworks are API-driven for automation purposes



Enabling seamless relocation of workloads with minimal impact on applications or services



Reducing OpEx/CapEx through elasticity, speed, and optimization

Looking Ahead

As the bank continues to expand its AI capabilities, the VAST Data Platform will play a crucial role in supporting its growth and innovation. The solution's scalability and flexibility ensure that the bank can adapt to emerging technologies and changing market demands without the need for frequent infrastructure overhauls.

By embracing the VAST Data Platform, this leading US bank has addressed its immediate data management challenges and positioned itself at the forefront of AI innovation in the financial services sector. This strategic move sets the stage for enhanced customer experiences, improved operational efficiency, and sustained competitive advantage in an increasingly AI-driven banking landscape.