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CASE STUDY

Vanguard Accelerates Data Analytics with Dremio's Lakehouse Platform

At a Glance

The Customer

Vanguard®

Challenge

Vanguard's data teams across multiple business units were experiencing significant bottlenecks where analysts had to wait weeks for data engineer support, while existing infrastructure suffered from performance issues and high costs that hindered critical business decisions.

Solution

Vanguard implemented Dremio's data lakehouse platform to create a unified analytics solution with virtualization capabilities that eliminated bottlenecks and enabled self-service analytics while maintaining stringent governance and security standards.

Results

- Analysis timeframes reduced from weeks to hours or days for data analysts

- Eliminated dependency bottlenecks between data analysts and data engineers

- Enabled real-time performance for fraud detection and risk management use cases

- Cost optimization achieved through platform consolidation and improved resource utilization

The Customer

Vanguard is one of the world's largest asset managers, with approximately $8 trillion in assets under management. The company serves both retail and institutional investors with a mission to provide greater investment success opportunities while maintaining cost optimization principles. As a large enterprise with multiple lines of business, Vanguard operates numerous data teams across different departments, each facing similar challenges around data access, performance, and cost management.

The Challenge

Vanguard's data teams across multiple business units were experiencing significant bottlenecks that hindered their ability to deliver timely, data-driven insights. Data analysts routinely had to wait weeks for data engineers to complete tasks, creating delays that impacted critical business decisions. The existing infrastructure suffered from performance issues that made complex analytics difficult to execute efficiently.

Cost considerations became increasingly problematic as several platforms rendered expensive operations that didn't align with Vanguard's cost optimization principles. The company needed to integrate data across disparate sources while maintaining their rigorous governance and security standards—particularly crucial given their responsibility to protect investor data and maintain regulatory compliance.

Time-sensitive use cases, particularly in fraud detection and risk management, required immediate data analysis capabilities that the existing systems couldn't support. The company recognized that certain analytical processes couldn't wait weeks for completion when fraud or risk events were happening in real-time, demanding a platform that could deliver millisecond or second-level latency for critical dashboards.

The Solution

After evaluating multiple vendors in the market, Vanguard selected Dremio's data lakehouse platform to serve as their unified analytics solution. The implementation focused on creating a semantic layer on top of existing data sources while enabling seamless integration across their heterogeneous data environment.

Dremio's virtualization capabilities allowed Vanguard to connect disparate data sources without requiring massive data movement or replication. The platform's performance optimizations enabled complex analytical queries to execute efficiently, eliminating the bottlenecks that previously required data engineer intervention for routine analyst tasks.

The solution incorporated Dremio's advanced security features, including row-level and column-level security controls, which aligned with Vanguard's stringent governance requirements. This enabled the company to maintain their risk-averse approach to data management while providing broader access to authorized users across different business units.

Vanguard implemented the platform with a persona-focused approach, initially targeting data analysts and business users before expanding to data scientists and machine learning engineers. This phased rollout allowed them to demonstrate value and refine processes before scaling to additional user groups.

Results

The transformation delivered immediate and measurable improvements to Vanguard's data analytics capabilities. Tasks that previously required data analysts to wait weeks for data engineer support can now be completed independently in hours or days, dramatically reducing time-to-insight across the organization.

The performance improvements enabled Vanguard to support time-critical use cases in fraud detection and risk management, where real-time analysis capabilities are essential for protecting investor assets and maintaining regulatory compliance. The platform's ability to deliver millisecond response times for complex queries has made previously impossible analytical workflows viable for production use.

Cost optimization was achieved through platform consolidation and improved resource utilization, allowing Vanguard to better align their technology investments with their principles of returning value to investors. The solution enabled the company to shift from a restrictive governance model to a hybrid approach that maintains security while improving data accessibility.

The success has driven organization-wide adoption, with data teams across Vanguard expressing enthusiasm for the platform's capabilities. This foundation has positioned the company to expand into advanced analytics and AI initiatives while maintaining their commitment to data governance and investor protection.