

SOLUTION BRIEF

Unlocking High-performance Time Series Analytics

Accelerate tick analytics and increase historical data value.

The capability to quickly ingest, process, and act on a variety of real-time and historical data provides trading strategies with a strong competitive edge. From data collection and cleaning through historical testing and extensive market simulations, the Pure Storage® solution portfolio is designed with data science and time-series workloads in mind, empowering analysts with accelerated access and best in class performance for tick data analytics workloads. Accelerated data model processing unlocks the ability to save and recycle a researcher's time, yielding greater outcomes and accelerated time to insight. Whether dealing with real-time market data feeds or massive volumes of historical data, the Pure Storage portfolio enables model training on a unified all-flash tier, eliminating traditional speed and scale barriers and resolving the challenge of balancing performance against cost.

Maximize Efficiency for Rapid Insights

Financial institutions invest significant capital in trading solutions aimed at providing their teams with a strategic advantage over competitors. These investments focus on enabling faster development, testing, deployment and responsiveness of complex data models. Time-series databases are part of this investment and in order to bring maximum value to a firm, must be underpinned by a technology stack that is capable of delivering the highest throughput and lowest latency. Trading strategy development must move at market speed and with data sources and volumes growing at an unprecedented pace, firms must heavily weigh their options when selecting a data platform partner. While many claim high throughput and low latency are core competencies, few have a proven track record paired with industry standard test results to back their claims.

The Pure Storage FlashBlade//S500 platform underwent STAC audited testing¹ and proved itself to be a best in class solution for delivering the low latency, maximum throughput and continuous uptime needed to meet the demands of data scientists running multi-threaded, time-series workloads. The results from both the baseline (Antuco) and scaling (Kanaga) suites demonstrate the Pure Storage commitment to delivering exceptional performance. Ultra low latency paired with peak storage efficiency and streamlined data management make all-flash solutions from Pure Storage the industry leader in enterprise data driven, time-series database workloads.



Unmatched Performance

STAC-M3 proven performance results demonstrate FlashBlade® excels at handling complex workloads, ensuring swift processing and analysis of datasets critical to insight.



Scalable Efficiency

Tailored to handle highly parallel workloads, Pure solutions provide the seamless scalability necessary for improved analytic runtimes and development of complex financial models.



Advanced Data Management

With seamless tiering and independent scaling of performance and capacity, FlashBlade empowers financial institutions to handle massive volumes of tick and historical data cost-effectively, for precise and efficient compliance, backtesting, and analysis.

Unleash the Power of Historical Data

Historical data is the key to better identifying modal patterns relied upon in the world of quantitative and high-frequency trading. Alpha generating models require fine tuning, and backtesting against historical data serves as the foundation for many calibrations, ensuring that models are both accurate and responsive in near real-time scenarios. Time-series databases are utilized to ingest, enrich, and analyze multiple data sources, yielding better informed trading strategies and execution. With the application of machine learning and AI-driven trading, the quality, volume, speed and reliability of historical data fed into systems directly impact their predictive accuracy and overall capabilities.

In an optimal configuration, time series-driven workloads can quickly absorb extensive datasets often spanning decades. The strategic tiering of data, balancing performance and cost-effectiveness, becomes a decisive factor in securing a leading position in the intense competition with industry peers. An agile data stack is especially important to escaping “POC purgatory,” as promising strategies fail to make it into production before losing their edge. Latency-sensitive trading firms, especially those focused on quantitative and algorithmic trading, place significant emphasis on the capability of a time-series platform to consistently handle both real-time and historical data.

Seasoned data scientists and trading desks also understand the dynamic nature of financial markets, which are far from predictable. Hence, firms require a data platform that can perform seamlessly and consistently in both routine and unforeseen circumstances. This is the driving force behind the creation of the Pure Storage data platform—a solution designed to deliver unparalleled performance and scalability to meet the diverse demands of dynamic financial landscapes.

Innovative Scale-out Performance and Simplicity

Leveraging its unparalleled speed, exceptional flexibility, and compatibility with a wide array of data formats, flash storage has emerged as the optimal choice for managing high-performance data. Pure Storage is the industry leader in cutting-edge all-flash storage solutions offering extraordinary speed, extensive scalability, and user-friendly simplicity.

The FlashBlade Platform

FlashBlade is a distributed, scale-out unstructured data platform that provides the flexibility needed to exploit alpha opportunities by effectively balancing loads and processing data at exabyte scale. The unique modular architecture of FlashBlade allows capacity and performance to be scaled independently, enabling the platform to meet evolving workload capacity and I/O needs. Native NFS, SMB, and S3 protocols along with fully-featured management REST API make deployments, management, and upgrades simple and non-disruptive.

A single unified platform combining compute, storage and networking simplifies deployment, management and upgrades. And Pure Storage DirectFlash® modules eliminate the need for SSDs or HDs, ensuring peak performance, security and reliability.

- **FlashBlade//S™** is the ideal data platform for the most demanding unstructured data workloads. It offers multi-dimensional performance for billions of small and large files or objects, delivering both the high throughput and low latency that are critical to speed-sensitive trading strategies. Cutting-edge capabilities without complexity.
- **FlashBlade//E™** empowers firms to manage and grow their historical data sets with unrivaled efficiency. The //E series from Pure Storage is an all-flash capacity-optimized data platform, designed to tackle both structured and unstructured data repository workloads that until now have largely remained on disk-based storage systems. You gain simplicity and sustainably with better economics than disk.



Optimize Your Trading with Pure Storage Solutions

Pure delivers a modern data portfolio that provides a world-class experience without compromise: simple manageability, proven persistence, massive scalability, unparalleled density, and environmental sustainability—all at an acquisition price comparable to disk-based solutions with a significantly lower long-term cost of ownership. Unlock the ability to run mission critical workflows with greater efficiency and generate alpha by processing complex strategies across data sets of any scale with minimum latency and maximum scalability.

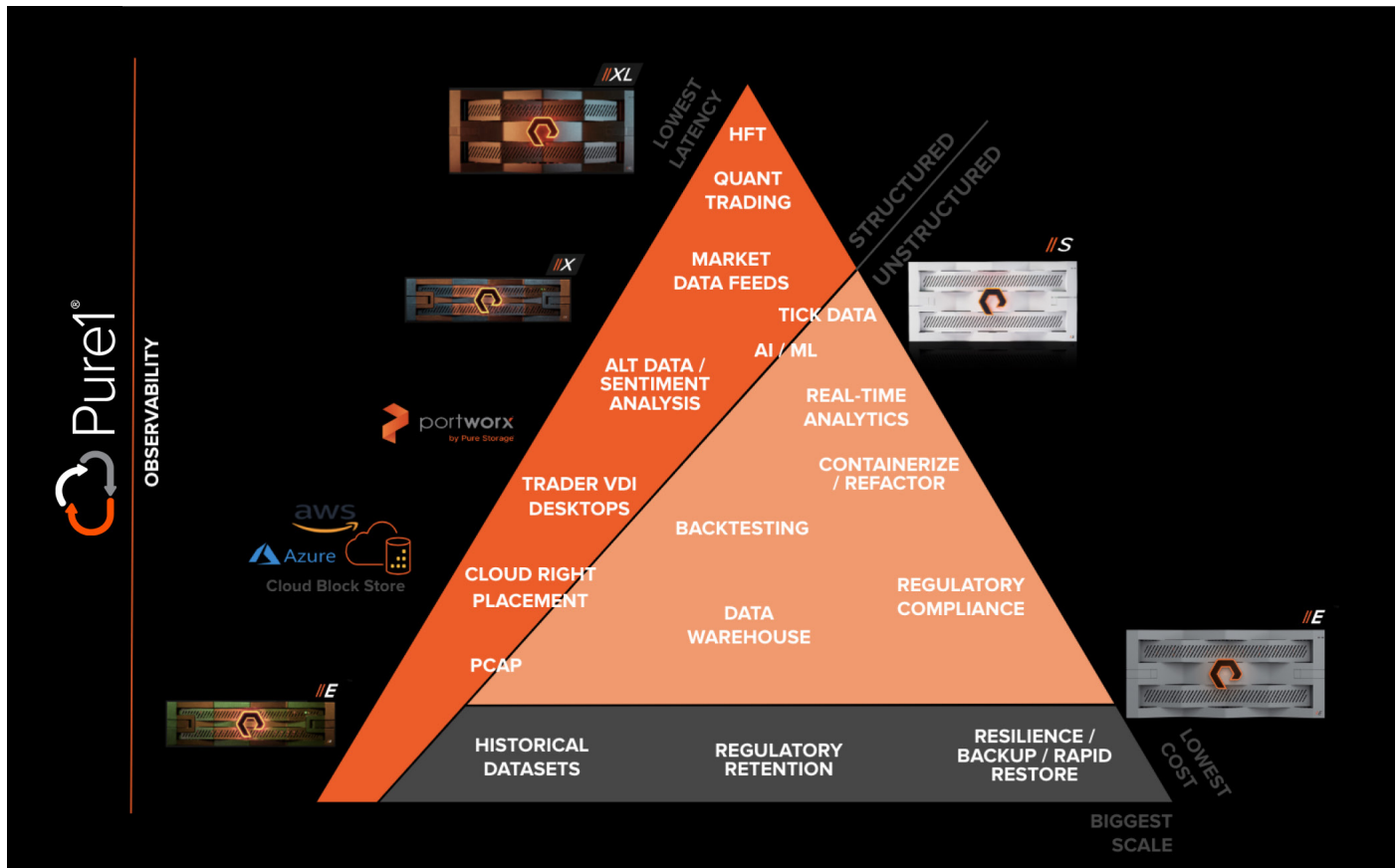


FIGURE 1 Pure Storage empowers quant trading firms with performant, reliable and scalable data solutions.



Scalable Solutions on Demand

When milliseconds determine profit and loss, trading strategies rely upon a scalable data platform as mission critical for success. The ability of a system to perform optimally, even when trading volumes surge due to highly volatile market conditions, can dramatically improve a firm's chance of success. Pure Storage Evergreen®, the industry's first true subscription-based storage experience, frees firms from costly and risky upgrades with a flexible, future-proof architecture.

To ensure unparalleled flexibility, Pure Storage data solutions are designed to support any protocol and any tier, and integration with multiple clouds in a single environment. The seamless nature of upgrades and capacity enhancements, combined with streamlined management processes, empowers IT professionals and quant analysts to focus on more strategic initiatives, utilizing data to pioneer novel strategies. This approach leads to minimized risk, reduced TCO, and better ROI.

Your Partner in Quant Trading and Analytics

Firms within the financial sector need experienced partners who can offer valuable insights and specialized knowledge, enabling them to streamline their model training and trading platforms, as well as foster continuous innovation to maintain a competitive edge. As a globally recognized leader in providing near real-time and historical data solutions, Pure Storage stands as the trusted collaborator for banks, investment funds, asset managers, and trading firms worldwide. Pure Storage is dedicated to supporting our clients and partners in accelerating their alpha generation strategies to market and optimizing their return on investment.

Additional Resources

- Learn more about our [Quant Trading Solutions](#)
- Read the white paper [Meet the Exacting Demands of Quantitative Trading](#)

1 SUT ID: KDB231122 found at <https://stacresearch.com/KDB231122>

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