Pure Storage Solution for Quant and HFT

Accelerating Data Science and Alpha Generation

Predictive trading relies on historical testing and extensive market simulations. The Pure Storage solution portfolio has been designed with data science at our core, empowering analysts with accelerated access and utilization of data at scale. Providing solutions that power models to process faster unlocks the ability to save and recycle a researcher's time, yielding greater outcomes versus brilliance hampered by infrastructure. From enterprise data centers to multi-cloud deployments, the Pure Storage portfolio allows for training models on a single all-flash tier, eradicating the traditional barriers of speed at scale, reducing the time from inception to production, and yielding maximum ROI.

Operating in a World Where Every Second Counts

Whether a firm is utilizing a High Frequency or Quantitative Trading strategy, the speed at which models are tuned and trades are executed can be the difference between profit and loss. As markets move quickly, being able to act on signals faster than the competition is mission critical. In order for firms to build and execute strategies that move the needle, analytic models and algorithms must be rigorously and continuously tested for validation. Backtesting on historical data, stress testing under a multitude of simulated scenarios and ensuring models are finely tuned enough to provide predictive accuracy relies on large volumes of accurate data. The speed at which market, historical, sentiment and other data can be fed into an algorithm often determines a firm's ability to train and tune models and capitalize on price movements deviating from historical norms or take advantage of position arbitrage.

Pure Storage's FlashArray//X™ and FlashBlade//S™ deliver the low latency, maximum throughput and continuous uptime needed to meet the demands of data scientists and the quant traders they partner with. Latencies as low as 150 microseconds paired with 99.99999% availability make Pure Storage's all flash solutions the industry leader in enterprise data for financial services. The ability to span on-premises, hybrid and multi-cloud environments enables maximum flexibility and the unified data access that HFT and Quant strategies require for success.

- Handle the broadest range of data types, from time series to billions of small files and metadata to massive throughput for large objects
- Achieve faster time to insights and alpha via truncated model testing runtimes
- Advanced deduplication and compression for cost minimization of large volumes without sacrificing performance
- Evergreen//One solutions provide maximum scalability and price flexibility

- Bolster unstructured (NFS, SMB, S3) and structured data sets at scale with a single Ultra-performant tier

- Pure quant solutions support expansive data pipelines- on prem, edge or cloud. Our all flash tier boosts strategic models, empowering alpha generation at a cost that redefines competitive advantage
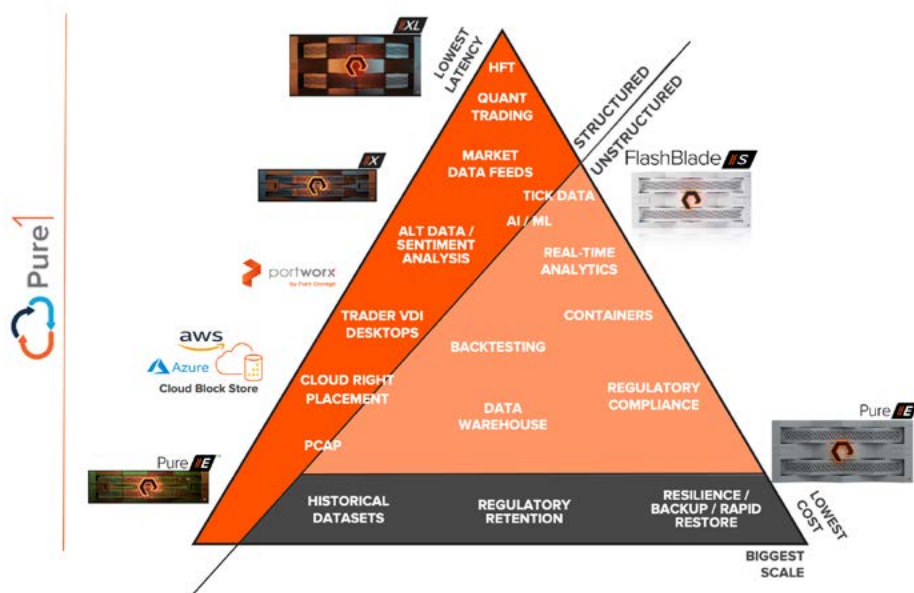
The Immeasurable Value of Historical Data

Historical data is a limitless gold mine in the world of high frequency and quantitative trading. Traders backtest their models against previous market conditions to identify weaknesses and patterns and gauge potential profitability. Quantitative 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. With the ever-evolving 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.

While generating Alpha is the primary focus of high frequency and quantitative trading, accurate and efficient risk management is crucial and relies on invaluable historical data. By analyzing how a trading strategy or investment might have performed during previous periods of market volatility or unusual activity, traders can synthesize worst case scenarios, leading to better risk mitigation and protective tactics. Finally, by utilizing data to constantly retest, train, tune and select models, data scientists and their trading counterparts are able to ensure parameters remain robust, rather than honed to a specific period, and enabling strategies to remain effective and profitable.

Pure Storage's FlashArray//E™ and FlashBlade//E™ series empower firms to manage and grow their historical data sets with unrivaled efficiency. Pure Storage's //E series is an all-flash capacity-optimized data platform, designed to tackle both structured and unstructured data repository workloads that until now have remained on disk-based storage systems. Pure delivers a modern storage portfolio that provides a world-class experience without compromise: simple manageability, 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.

FIGURE 1   Pure Storage empowers quantitative strategies with performant, reliable and scalable data solutions, enabling firms to harness the full potential of their alpha generating algorithms and analytics.

Scalable Solutions On Demand

High frequency and quantitative trading strategies demand scalable storage solutions in order to keep up with market volatility and training models that become more robust with each passing day. Pure Storage provides all-flash, scale up and out data solutions built for high-performance that operate across a broad range of workloads. Pure Storage's Evergreen® service, the industry's first subscription-based storage experience, frees firms from costly upgrades through future-proof architecture. For full flexibility, Pure Storage's storage services can handle any protocol and any tier plus multiple clouds in a single environment. With non-disruptive upgrades and capacity additions along with simplified management, IT staff is free to work on higher value projects while leveraging data to launch new strategies. This means reduced risk, lower TCO and higher ROI.

The Established and Trusted High Frequency and Quant Trading Partner

High Frequency and Quant trading firms need knowledgeable partners to provide insight and expertise that help them modernize their model training, trading platforms and continuously innovate to stay ahead of the competition. With industry leading near real time and historical data solutions, Pure Stroage is the trusted partner for asset managers on a global basis. Pure Stroage is committed to assisting our clients and partners bring their alpha generation strategies to market quicker, generating maximum ROI. Take it from our customer, Liquidnet.

> "We really value Pure Storage's agile and reliable performance. It is providing us with high performance capabilities that open up new possibilities in our application landscape that didn't exist before"

MANI VENKATESWARAN, GLOBAL HEAD OF PRODUCT SUPPORT, LIQUIDNET

Additional Resources

- Check out our Quant Trading Solutions here.

- Interested in learning more? Read Our Quantitative Trading White paper here.

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800.379.PURE

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Uncomplicate Data Storage, Forever

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