# VEXATA INCREASES
# NOSQL PERFORMANCE

## High-Performance NVMe Storage for NoSQL Applications

o **Breakthrough Economics**
Vexata delivers 5X more performance at lower prices and complexity compared to traditional allflash arrays (AFAs).

o **Performance at Scale**
Vexata offers a resilient and high-performance enterprise storage solution, with linear scaling of performance and capacity.

o **Simple Operations**
Large predictive analysis and autonomous decision-making deployments run smoothly with lower operational risk.

o **Designed for Cognitive Applications**
Vexata VX-100 NVMe storage systems scale from TBs to PBs in a compact 6U chassis, supporting any NoSQL database including Cassandra, Couchbase, and MongoDB, with ultra-high performance without sacrificing capacity.

"I'm very impressed with Vexata's performance characteristics and analytics capability and look forward to deploying our second Vexata system and learning more about the architecture."

*Architect – Broadcom Storage Unit*

Enterprise data is doubling every two years, and by 2020, businesses will have access to petabytes of active data that must be transacted and analyzed in real-time. Gartner says half these businesses will use analytics, artificial intelligence (AI), and Machine Learning (ML) to extract value from these large data volumes. Many customers will use NoSQL applications like MongoDB, Cassandra, and Couchbase for their real-time data analytics.

To expand NoSQL analytics an organization needs servers and shared storage designed for NoSQL speed and scale, without sacrificing the enterprise features required to run ML/AI, real-time data analytics, and other large-scale data analysis.
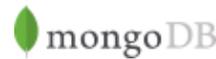
The past decade has seen a hundred-fold increase in server performance due to advanced CPU architectures and wide deployment of GPU technology. Most AFAs can't maintain performance thresholds under load. Adding NVMe drives to the same controller architectures has not yielded the proper performance outcomes, because the AFAs cannot simultaneously access all the drives. As a result, architects are challenged to scale NoSQL applications, being forced to deploy multiple AFA nodes and many servers, dramatically increasing costs.

## Vexata VX-100 Scalable NVMe Systems

The VX-100 family of Scalable NVMe Flash Arrays are purpose built to support large scale block and file deployments, ideal for high performance NoSQL-based applications. Vexata unleashes the performance of NVMe storage to provide NoSQL applications with storage infrastructure can be deployed across Gigabit Ethernet or Fibre Channel networks. Vexata delivers cost/performance ratios that are far superior to any AFA on the market. Vexata's next-generation architecture enables a *dramatic increase in performance at substantially less cost while greatly simplifying the data infrastructure.*

| BREAKTHROUGH ECONOMICS | PERFORMANCE AT SCALE | SIMPLIFIED OPERATIONS | DESIGNED FOR THE COGNITIVE ERA |
|---|---|---|---|
| **Reduce application spend**<br>• Half cost of AFAs<br>• >4X reduction in servers<br>• Dramatic reduction in software licenses<br>• Multi-chassis management reduces management cost | **Accelerate application performance**<br>• Linear scaling of performance as capacity scales<br>• 10× lower latency than AFAs across 100's of terabytes<br>• 5X higher DB query/update performance per server<br>• Ingest at 1.5TB/m<br>• Query of 3TB/m | **Consolidate multiple applications with unified monitoring and management**<br>• Consolidate storage services for applications<br>• Monitor & manage storage services across the hall or across the world<br>• Multi-chassis management<br>• Supports physical and virtualized applications | **Supports multiple simultaneous applications with its SAN/NAS file system**<br>• Scales from TBs to PBs in a 6U chassis<br>• Ultra-high-throughput, ultra-low latency, and millions of IOPS<br>• Supports NVMe attached Fibre Channel (FC-SCSI) and NVMe over fabric (NVMe-oF) using FC or Ethernet<br>• Protocols FC-SCSI, S3, GPFS, SMB, HDFS, S3, NFS<br>• NoSQL applications like Cassandra, Couchbase, MogoDB, and others<br>• VMs that use vSphere, Hyper-V, XenServer, or KVM hypervisors |

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## Scalable Performance with Breakthrough Economics

The Vexata VX-100 delivers linear performance as capacity scales. Its parallel access to flash results in much higher query and ingest rates than traditional AFAs. The distributed, cache-less architecture of the VX-100 delivers 70GB/s of mixed workload bandwidth, less than 200µs of sustained application latency and over 7 million IOPS. The Vexata VX-100 is powered by the Vexata Operating System (VX-OS), which provides linear scaling across a bladed architecture that cost-effective adds NVMe performance and capacity.

The Vexata VX-100 Scalable NVMe System maximizes utilization of server and network resources. Get over 10X the performance from existing licenses and cut your infrastructure costs in half.

## Case Study

### GLOBAL PAYMENTS COMPANY

### Challenges

This customer needed AFA technology as their current hybrid storage arrays were not delivering the I/O needed for their primary database applications. They needed high performance for their OLTP-based payment processing, heavy write ingest for their fraud detection platform, and real-time data access for their analytics. They use applications based on Oracle, SQL Server, SAS, Cassandra, and kdb+.

### Solution

The customer evaluated a number of all flash storage arrays and selected the Vexata VX-100F, which offered superior performance and 30% lower TCO.
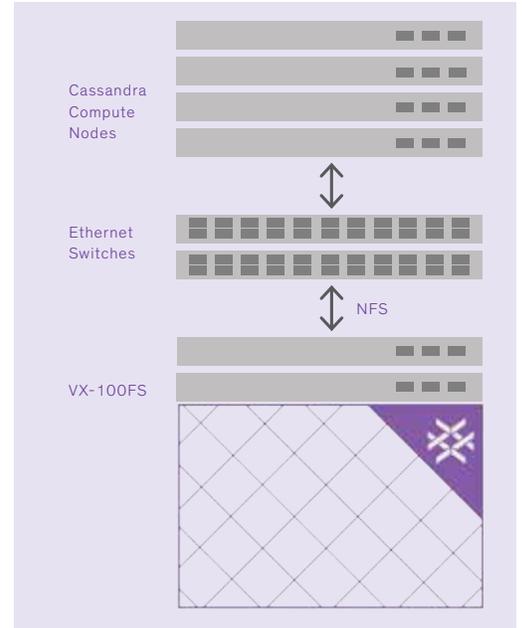
### Results

The VX-100F was smaller, faster, and cheaper than other AFAs evaluated. The customer's Cassandra-based applications saw 7X faster data loads and generated results 5X quicker, delivering faster business outcomes.

## Getting Started with Vexata

Vexata has improved application performance by 3-10X for some of the world's largest corporations on their existing infrastructure. Its patented architecture for accelerated storage ensures NoSQL-based applications are not waiting on I/O. It delivers Tier 0 performance across large datasets at a fraction of the cost of existing storage offerings, providing NoSQL applications with solid-state NVMe storage performance at scale with enterprise-class services.

Vexata will provide a free assessment of your NoSQL application. We will discuss workloads with your application/analytics team, work with your operations group to design an integration plan and provide your IT team with a budgetary TCO analysis.

Learn more at www.vexata.com. Contact us at 1.408.931.6334 or info@vexata.com.