

# WekaIO MATRIX™

## FASTEST FILE STORAGE FOR AI AND TECHNICAL COMPUTING

New applications in technical computing, analytics and deep learning have placed unprecedented demands on storage I/O, throughput, latency and scalability. WekaIO Matrix is the first and only parallel file system that has demonstrated it can meet these storage challenges delivering 10x the performance of legacy NFS based NAS systems. And because it is software only, enterprises can now take control of hardware choices delivering over 2x cost savings for IT infrastructure.



**UNMATCHED PERFORMANCE**  
Delivers >10GBytes/second to a single client. Performance scales linearly as system grows.



**BREAKTHROUGH ECONOMICS**  
Seamless integration of object storage for best cost. Hardware independent.

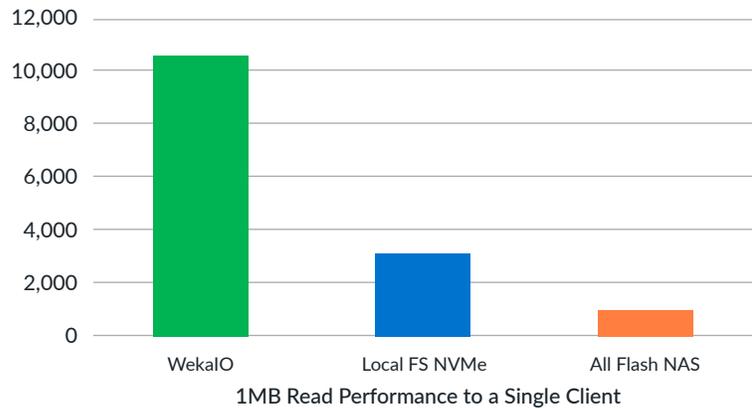


**EASY MANAGEMENT**  
One admin can easily manage petabytes of data



**GLOBAL NAMESPACE**  
A single namespace with integrated tiering and patented data protection—data is safe and always accessible.

MB/sec



WekaIO's Matrix software is optimized to leverage the speed and low latency of NVMe technology to support both small and large file access - either randomly or sequentially - at lowest latency. It can be deployed on any standard X86 infrastructure as a dedicated storage server (appliance model) or integrated into the application cluster (converged). The software also supports a hybrid cloud model allowing enterprises to leverage on-demand public compute resources for cloud-bursting, remote backup and disaster recovery.

The Matrix file system, MatrixFS, is ideally suited for performance intensive workloads such as artificial intelligence, deep learning, data analytics, log management, engineering development, financial modeling, life sciences research, media rendering and government/university research.

**“** *WekaIO Matrix was the clear choice for our on-premises deep neural network training...a NAS solution would not be able to **scale to the extent we would need it to...**and Matrix was **the most performant of all the parallel file systems** we evaluated. – DR. XIAODI HOU, CO-FOUNDER AND CTO* **”**



## BETTER THAN LOCAL FILE SYSTEM PERFORMANCE

Poor NAS performance has forced many organizations to serve data from local flash drives for improved application performance. But copying data into a server from a networked storage system defeats the purpose of a shared file system and adds considerable wall clock time to production runs. WekaIO Matrix delivers faster performance than a local file system and can fully saturate a 100Gbit network link, delivering over 10GBytes/second to a single application client.

Predictable and seamless performance scaling is also a challenge with traditional NAS filers and legacy parallel file systems, resulting in poor utilization of expensive compute resources. With the WekaIO Matrix software, performance scales linearly as the infrastructure grows.

## EXASCALE CAPACITY WITH INTEGRATED TIERING

Matrix delivers the features that enterprise customers have come to expect. It supports instantaneous snapshots, clones, remote snapshots to object storage for disaster recovery, public cloud backup and cloud-bursting. The patented data layout and protection scheme distributes both data and metadata evenly across the entire file system ensuring the highest level of protection while eliminating hot spots and I/O bottlenecks. The storage cluster can survive up to four concurrent failures without loss of service. The software has advanced authentication and encryption suitable for the most demanding enterprise environments.

## USE CASES

**AI and Analytics** • Machine learning, fraud detection, retail optimization, voice analytics and IoT data analytics

**Life Sciences** • Next generation sequencing, bioimaging, structural biology, informatics

**Manufacturing** • EDA simulation and verification, software builds, CFD, thermal imaging

**Media and Entertainment** • Nonlinear editing, VFX rendering, transcoding, and content delivery

**Financial Services** • Algorithmic trading, time series analysis, risk management, and market simulation

**Academic/Government** • Climate change simulation, computational physics, earthquake, space research, intelligence

SPECIFICATIONS	
Software	Matrix™ V3
Data Protection	Distributed data protection (N+2 or N+4)
Supported Protocols	POSIX, NFS, SMB, S3
Management Interface	GUI, CLI, REST API
Snapshots and Clones	File system level, up to 1024 snapshots
Error Detection	End-to-end data protection
System Monitoring	Cloud based monitoring and analytics for application tuning
Alerts	Configurable to Email, SMS, Slack
Access Control	User Authentication
Security	Encryption in flight, encryption at rest
Tiering	REST, S3 compatible cloud (public or private), Ceph
Certified Hardware Platforms	HPE Apollo 2000, HPE DL360, Supermicro BigTwin, Dell R640
Certified Object Stores	Amazon, Western Digital, Cleversafe, Scality, Cloudian, Minio



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