

# Unify Big Data and Fast Data with Scalable Grid Technology



## Challenges

- Keeping pace with exponential data growth without busting the budget
- Growing costs and complexity of supporting and maintaining multiple nonintegrated solutions
- Meeting increasing data retention, security and compliance requirements
- Increasing time spent managing systems due to lack of quality automation and monitoring tools

## Highlights

- Unifies file, block and object storage into a single platform with advanced storage grid technology
- Simplifies automation and management to lower maintenance costs
- Delivers end-to-end protection to assist meeting NIST, CJIS, and HIPAA requirements

## Solution

The combination of OSNEXUS QuantaStor with Western Digital storage platforms creates a unified software-defined storage platform that delivers maximum IOPS and throughput for mission-critical workloads and applications while enabling rapidly growing amounts of data to be stored, managed and protected without busting tight IT budgets.

Acceleration of business activities, processes, competencies and models are driving digital business transformations in a strategic and prioritized way. One of the biggest barriers to effective digital transformation is the ability to analyze the Fast Data in realtime and to gain insights from the large collections of Big Data. Balancing storage efficiency at scale with the need to access data quickly is difficult with traditional storage technology and too expensive to deploy and maintain at petabyte scale.

You can help your business overcome operational challenges and drive towards digital business transformation by leveraging an integrated solution powered by Western Digital and OSNEXUS.

## OSNEXUS Storage Grid Technology

OSNEXUS helps organizations manage and scale their storage environments with greater efficiency, flexibility, and performance with its industry-leading QuantaStor™ Software Defined Storage (SDS) platform. QuantaStor's built-in storage grid technology enables IT organizations to combine over 64 appliances to deliver over 100PB of storage per grid. Storage Grids can be comprised of a single scale-out storage cluster or be made up of multiple independent clusters and can span multiple datacenters while still being easily accessed and managed as a federated storage solution via QuantaStor's web interface which is accessible on every storage server within a given storage grid.

## Western Digital Storage Solutions

Western Digital has a broad portfolio of storage solutions that gives us the freedom to store data with the right combination of performance and cost effectivity. Collectively, Western Digital and OSNEXUS deliver a simple and powerful solution that provides unified file, block, and cloud object storage in a distributed storage platform at a fraction of the cost of traditional storage solutions. This empowers customers to retain data longer, protect data more efficiently and reliably and save money by reducing energy, floor space and maintenance requirements.

## Fast Data and Big Data Meet with Scaleup and Scale-out Storage Clusters

Data can be categorized into Fast Data and Big Data. Fast Data needs high performance while Big Data needs high availability. Mapping these requirements to storage solutions, scale-up storage clusters meet the Fast Data requirements while scale-out storage system will satisfy the Big Data ones. These two designs have specific advantages and disadvantages so QuantaStor supports both.

Scale-up storage clusters use 2x servers per cluster with automatic failover to the paired server in the event of a server outage. This style of cluster uses RAID technology to achieve fault-tolerance and can sustain both a server and a JBOD/JBOF failure with no downtime. Scale-up solutions are generally better at meeting low-latency and high-IOPS requirements and are also more cost-efficient for most backup and archive

applications due to their reduced server and network hardware requirements. QuantaStor leverages OpenZFS technology in its scale-up cluster solutions.

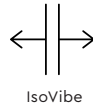
Scale-out solutions combine 3x to 64x servers into a cluster and use erasure-coding and replica-based data distribution and fault-tolerance techniques to achieve high availability in the event of one or more server outages. Scale-out storage clusters are generally better at scaling throughput with capacity while presenting all of the storage to the end users within a single namespace. Scale-out clusters can also span multiple sites. QuantaStor leverages Ceph™ technology in its scale-out cluster solutions.

## Conclusion

With data continuing to grow exponentially, storing, managing, and protecting both Fast Data and Big Data within a tight budget is a challenge. Western Digital and OSNEXUS balance storage efficiency at scale with the need to access data quickly enabling the acceleration of business activities, processes, and competencies. The combination of OSNEXUS QuantaStor with Western Digital storage platforms enable

digital business transformation in a strategic and prioritized way by delivering the ability to analyze Fast Data in realtime while gaining insight from the large collections of Big Data.

For more information on Western Digital's powerful lineup of storage platforms, visit our website at [www.westerndigital.com/platforms](http://www.westerndigital.com/platforms).



### IsoVibe™ Vibration Isolation Technology

Precise cuts in the baseboard provide a suspension for the drives in the chassis, isolating them from transmitted vibration. The result is that consistent performance is maintained, even when all the drivers are working hard.



### ArcticFlow™ Thermal Zone Cooling Technology

By Introducing cool air into the center of the chassis, drives operate at lower and more consistent temperatures than conventional systems. This results in lower fan speeds, reduced vibration, lower power consumption, quieter operation and ultimately higher reliability.

