ESG Lab First Look

Simple, Full-Featured Hyperscale Deployments with OSNEXUS QuantaStor Storage Grids

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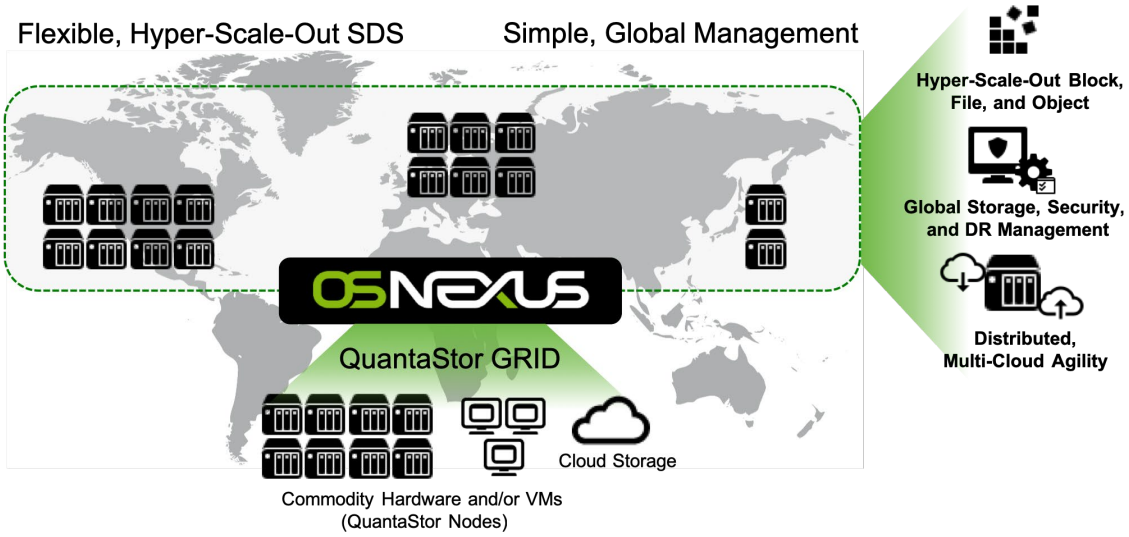
According to ESG Research:

The top three most-cited benefits of deploying software-defined storage (SDS) are **lower operational cost, faster deployment, and simplified management**.[1]

Storage infrastructure is the most-cited area of on-premises infrastructure and operations that IT professionals believe offers an **opportunity to significantly streamline or reduce costs**.[2]

OSNEXUS QuantaStor Storage Grids: Simplified Scale-out SDS for File, Block, and Object

OSNEXUS QuantaStor is a hyperscale SDS solution that allows organizations to turn commodity hardware into a globally scalable, software-defined storage solution with file, block, and object protocol support. OSNEXUS leverages the scale-out capabilities of proven open source solutions from Ceph, GlusterFS, and ZFS in conjunction with its own proprietary storage hardware virtualization capabilities. This enables OSNEXUS to offer organizations storage deployment flexibility from open source technologies, while also removing many of the complexities related to configuration, management, and growth. And because QuantaStor supports simultaneous deployments of high-performance file, block, and object storage via Ceph, GlusterFS, and ZFS, organizations gain agility to dynamically allocate storage resources to applications with different storage requirements whenever they are needed across the globe.



ESG took an early look at OSNEXUS' technology in 2016 and encourages readers to read the 2016 report available on the OSNEXUS website for a basic understanding of the underlying technologies and the results of some initial testing around the deployment and configuration of a Ceph-based QuantaStor deployment at a single location. QuantaStor Grid technology allows local and remote QuantaStor appliances to be linked together and managed and monitored using a single web management interface, REST API, or CLI session. Operations and workflows can be fully automated and orchestrated across the entire Storage Grid, creating a global software-defined storage appliance that can be managed by a single administrator. This greatly reduces operational expenses by simplifying deployment, management, monitoring, planning, and security. The operational agility provided by deploying a QuantaStor Grid instead of point storage solutions at each location is increasingly

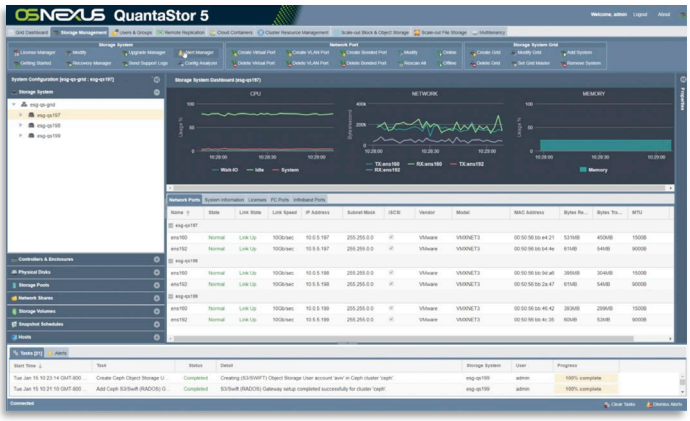
[1] Source: ESG Research Report, *Software-defined Storage (SDS) Market Trends*, February 2017.
[2] Source: ESG Brief, *Streamlining On-premises Infrastructure: Lessons from the Cloud*, January 2018.

important for large-scale distributed organizations that regularly deploy redundant hardware, software, and operational resources at each site in order to provide file, block, object, and cloud storage at scale.

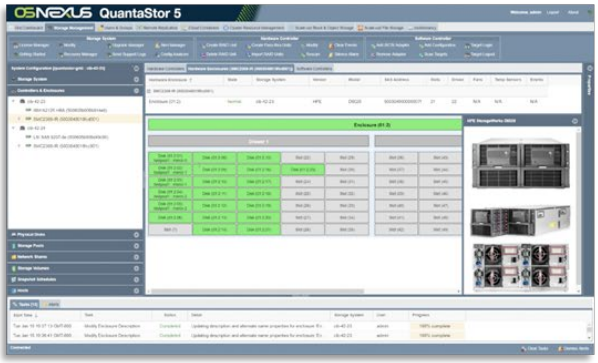
ESG Lab Demo Highlights

ESG Lab performed hands-on testing of QuantaStor Grid technology through a series of demonstrations. We were impressed with the unique features that help simplify the deployment, management, monitoring, and health of complex environments consisting of hardware from many vendors, mixed storage protocols, and virtualized resources.

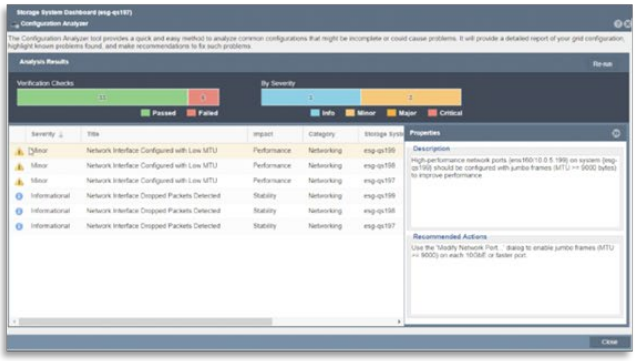
Automation and Insight Reduce Complexity and Risk



- ESG saw how physical and virtual QuantaStor nodes could be easily added to a Storage Grid and managed as a single unit.
- In five easy steps, we were able to configure resources in the Storage Grid to deploy Object (S3) and OpenStack block storage, create S3 gateways, and add users. Each of the five steps automated dozens or more Ceph commands that are complex, prone to error, or would otherwise require script writing.
- ESG saw how easy it was to add a QuantaStor system to a Windows Active Directory domain, create a network share, and show it over SMB in about 90 seconds.
- Role-based access controls made it easy to limit or grant permissions and visibility to users to access appropriate resources and functions.
- In just a few clicks, ESG created a bidirectional link between QuantaStor appliances in a storage grid, created a replication schedule, and asynchronously replicated volumes and snapshots between appliances. The process was simple and intuitive, and it allowed for much customization in the rate of replication, scheduling, and retention and reporting of data.
- We easily created checkpoints and rollback data from the replica. This allows for simplified disaster recovery. QuantaStor appliances are able to failover and failback between any location and provide multi-way replication between locations.
- ESG saw how QuantaStor can help reduce risk to an organization by encrypting a new storage pool and the associated pool keys and then shredding the keys and encrypted data to make sure it was not recoverable.
- ESG was impressed with the built-in ability to monitor the solution and identify potential issues. Of particular note are the unique detailed view for identifying components in third-party hardware (reducing the chance for operator error) and the Configuration Analyzer that automates the analysis typically performed by a complete cross-functional team of experts—helping to identify and remediate issues related to networking, storage, licenses, capacity, security, performance, and compliance.



Hardware support provides deep integration with all major server vendors



Configuration Analyzer: Identifies and remediates issues

First Impressions

Organizations are increasingly aware of the value of the data that they create, acquire, and store. Data created on mobile devices, web-based applications, IoT, and at offices and data centers located around the globe contain information that is critical to the success of the business. Each platform may be optimized to run on a particular storage technology and being able to move data between platforms is critical. Providing high-performance, cloud-like hyperscale storage services to a globally distributed organization is costly in terms of equipment and complex to plan, manage, monitor, and secure.

By now, most organizations understand the economic and operational benefits of deploying software-defined storage solutions, but choosing the right solution for all use cases can prove difficult. Deploying SDS across distributed sites and on disparate hardware can be complex and introduce challenges around interoperability. OSNEXUS QuantaStor grid technology greatly reduces the complexity of deploying, managing, and monitoring distributed storage systems and technologies, while reducing risk to the organization and providing the benefit of automated workflows. If you're considering deploying hyperscale SDS for a globally distributed organization, ESG Lab suggests considering OSNEXUS.