

DEALING WITH THE POLARIZATION OF UNSTRUCTURED DATA

Quantum Xcellis Scale-out NAS Product Spotlight

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Unstructured data is polarizing. On one end, a large portion of unstructured data needs almost no performance, it just needs to be retained in case it is needed in the future. On the other end a smaller, but growing portion, of unstructured data driven by HPC and machine learning use cases need incredibly high performance. The problem is, today, there is no single NAS to fit these polar opposite use cases, and that has led to massive NAS, object storage, cloud sprawl in the data center.

To make matters worse most high performance NAS vendors lack any real focus on the other pole of unstructured data...long-term data retention. Instead they all focus mostly on performance. The result is that the number of storage systems that support an organization's unstructured data demands are growing almost as fast as the data itself.

The NAS Cast of Characters

Today, there are three distinct types of NAS vendors trying to capture some portion of the modern unstructured data market. The first is the traditional enterprise vendors. Systems from these vendors are feature rich but lack the ability to cost effectively scale and deliver performance that the HPC and machine learning markets need. The second type of vendor is the start-up that is trying to strike a balance between performance and cost-effectiveness. Customers of these solutions give up features and to some extent add the risk of dealing with a startup. The third vendor is the performance focus provider. These vendors have been around for a while, specifically focused on the HPC market. Vendors that are solely focused on performance typically sacrifice features and availability, and may add cost to achieve top-end performance.

The problem for the IT planners is trying to select the best vendor for their organizations.

What HPC Needs

HPC needs an unstructured storage system that can scale to meet both capacity and performance demands of their environments as well as the long-term retention requirement. But that scaling has to be granular, so each node in the scale-out cluster is fully utilized before adding another node. That unstructured storage system should also be able to support external tape, object and cloud storage systems so older data can be retained more cost-effectively while still being "close-at-hand" for rapid recall if it is needed again.

What Enterprise Big Data Needs

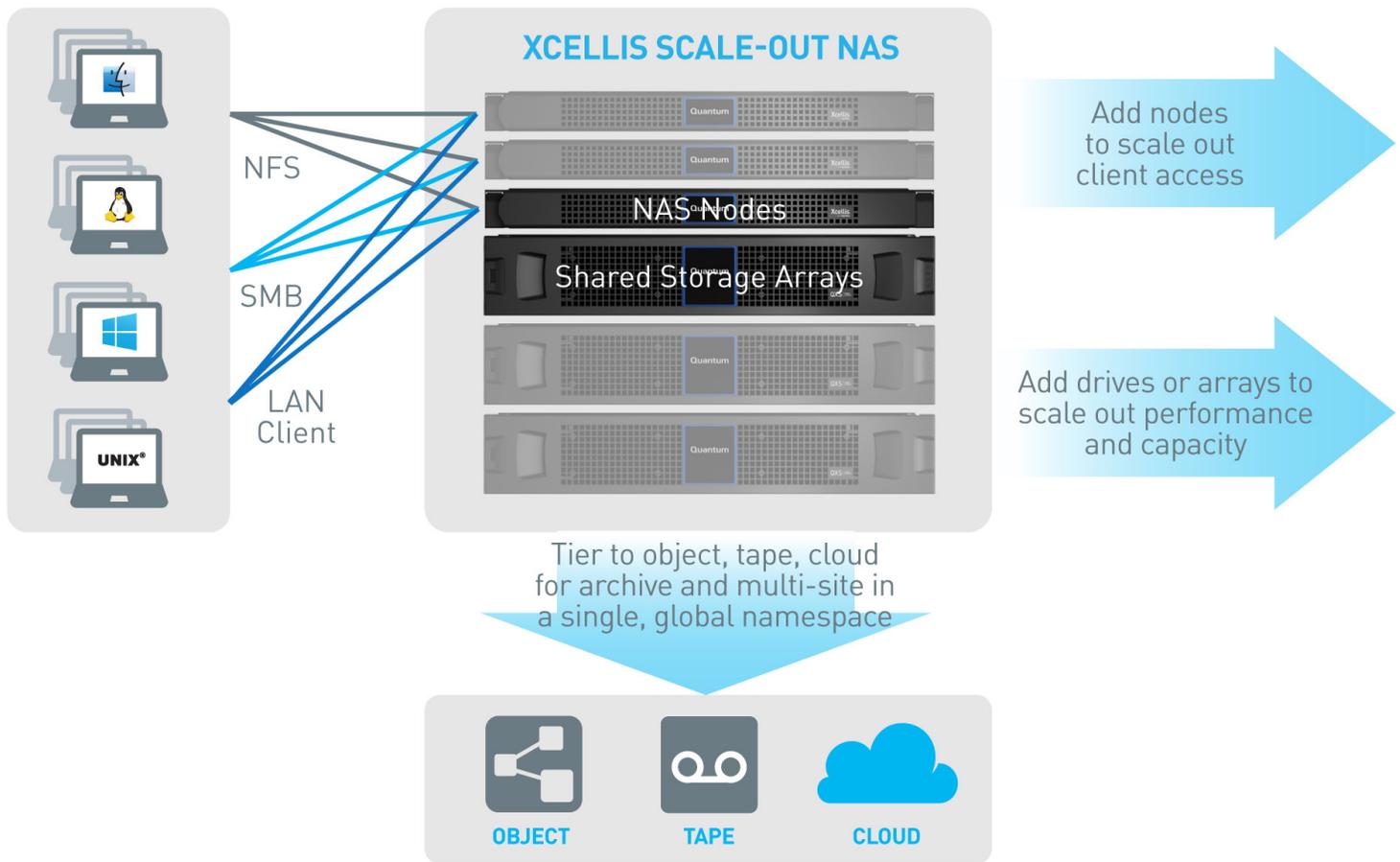
The enterprise is becoming very HPC-like thanks to big data analytics, machine learning and deep learning in addition to its own HPC initiatives. Big Data typically analyzes hundreds of thousands if not millions of unstructured data files to help organizations make better decisions, design better products and to more rapidly respond to customer needs. Instead of introducing a whole new storage silo to address these needs, enterprises are looking for solutions that will provide a more holistic solution to their storage challenges.

Introducing Xcellis Scale-out NAS

Quantum is a company known for secondary storage hardware and one of the most popular parallel file systems in the market, StorNext. StorNext delivers high performance and supports data movement between systems, including tape, object storage and cloud. The problem for would-be StorNext customers is developing the production storage hardware that is the front end for a StorNext workflow. The new Xcellis Scale-out NAS appliance is that front-end.

Like most scale-out NAS systems Xcellis scales by adding compute to the cluster for performance and separately scaling JBODS for added capacity. Unlike most scale-out NAS those nodes are themselves quite scalable and are capable of delivering 1M IOPS each. This flexibility of scale-up and scale-out enables the Xcellis system to properly balance compute, capacity and networking resources making it more appropriate for the mixture of use cases.

While the Xcellis system has standalone value, where it shines is at that front end to an entire StorNext infrastructure. The solution delivers all the StorNext file system capabilities like unified access, global data management, support for private or public cloud storage and even tape storage for long-term data retention.



StorageSwiss Take

NAS Sprawl is a problem many enterprise and HPC data centers are grappling with. At the heart of the problem is the polarization of the use cases ranging from very high-performance demands to very long retention requirements. The StorNext file system addresses NAS sprawl, but it was lacking a turnkey front end that allowed customers to start developing a data management strategy on the fly.

Xcellis is that front end. The solution enables organizations to address their pressing performance problem right now while laying the groundwork for a full-fledged data management strategy going forward. IT planners can start with Xcellis as their high performance NAS then allow StorNext to incorporate other components of the infrastructure, including the cloud as part of a broader data management strategy.



The Firm

Storage Switzerland is the leading storage analyst firm focused on the emerging storage categories of memory-based storage (Flash), Big Data, virtualization, and cloud computing. The firm is widely recognized for its blogs, white papers and videos on current approaches such as all-flash arrays, deduplication, SSD's, software-defined storage, backup appliances and storage networking. The name "Storage Switzerland" indicates a pledge to provide neutral analysis of the storage marketplace, rather than focusing on a single vendor approach.

About Our Partner

Quantum is a leading expert in scale-out tiered storage, archive and data protection. The company's StorNext platform powers modern high-performance workflows, enabling seamless, real-time collaboration and keeping content readily accessible for future use and monetization. More than 100,000 customers have trusted Quantum to address their most demanding content workflow needs, including large government agencies, broadcasters, research institutions and commercial enterprises. With Quantum, customers have the end-to-end storage platform they need to manage assets from ingest through finishing and into delivery and long-term preservation.

See how at www.quantum.com/customerstories.

The Analyst

George Crump is the founder of Storage Switzerland, the leading storage analyst focused on the subjects of big data, solid state storage, virtualization, cloud computing and data protection. He is widely recognized for his articles, white papers, and videos on such current approaches as all-flash arrays, deduplication, SSDs, software-defined storage, backup appliances, and storage networking. He has over 25 years of experience designing storage solutions for data centers across the U.S.