

SOLUTION BRIEF

A New Class of Storage for Cloud-Enabled Data Centers



Avere Key Benefits:

- SPECsfs leader with 1.6M ops/sec throughput (1.24 msec ORT)
- Dynamic tiering of active data to the edge helps prevent any potential latency
- NFS and CIFS provide familiar access protocols for users and applications
- Clustering provides scalable performance, scalable capacity, and high availability
- Global namespace joins Himalaya, public object, and legacy NAS into single pool of storage
- FlashMove™ transparently moves live online data to Himalaya
- FlashMirror™ replicates data to Himalaya for disaster recovery
- AES-256 encryption with CBC and optional key rotation for additional data protection
- Savings of 70% or more over traditional NAS



OVERVIEW

Big Data is playing an increasingly larger role in how businesses of all sizes across all industries grow revenue and improve operational efficiency. Users are demanding real-time access to big data sources and want it kept on-line longer to mine value from it. Traditional storage systems are no longer suitable to manage the ever increasing mountain of data. CIOs and IT Managers are experiencing sticker shock with escalating cost and complexity as unstructured data is grows more than 40 percent per year, yet overall IT budgets are increasing at only 5 percent.

CHALLENGE

Changing workloads and the ever-increasing volume and value of data continue to challenge even the most efficient IT organizations. While NAS-based systems prevail, the underlying RAID technology is no longer suitable for today's big data scale due to increased risk of data loss when using the current large multi-terabyte hard drives. In addition, drive rebuilds can take weeks causing poor performance during degraded mode, and traditional storage requires complex tiering architecture try to control storage costs. To address this and other challenges, many organizations are embracing cloud-scale object storage solutions.

Object storage systems offer superior economics per gigabyte stored and are easy to manage and scale to exabytes and beyond. With very high levels of data durability, costly backup, replication and tiering challenges associated with traditional storage can be eliminated. Object storage can be easily integrated with existing NAS environments with support for standard NFS and CIFS file protocols. It is also important that any solution provide I/O performance sufficient for today's workloads with headroom to be cost effectively scaled to meet future requirements.

SOLUTION

Amplidata and Avere Systems have redefined high performance massively scalable storage by combining Amplidata's Himalaya™ with Avere FlashCloud™ on FXT Series Edge filers. Enterprises can now have a cost effective solution that offers the best of both worlds – superior performance with massively scalable and durable storage in a single global namespace. FXT Edge filers deliver enterprise class NAS functionality including NFS and CIFS support with scalable performance and redundancy to support application access of shared storage resources while simplifying or eliminating complex tiering requirements.

Himalaya Key Benefits:

- Optimized for the latest Intel* Xeon* Processors
- Bit Spread technology provides unbreakable durability with 100% file and system availability
- Easy to scale and manage from 100s of terabytes to exabytes
- Eliminates traditional backup
- GeoSpread technology provides built -in disaster recovery protection
- Eliminates RAID rebuild fire drills and “degraded mode” performance impacts
- BitDynamics provides industry leading self healing protection with individual file repair
- Requires 65% less overhead versus conventional storage
- Plug-n-play system upgrades eliminates the need for “forklift” data migration
- System provides dynamic re-balancing of data automatically

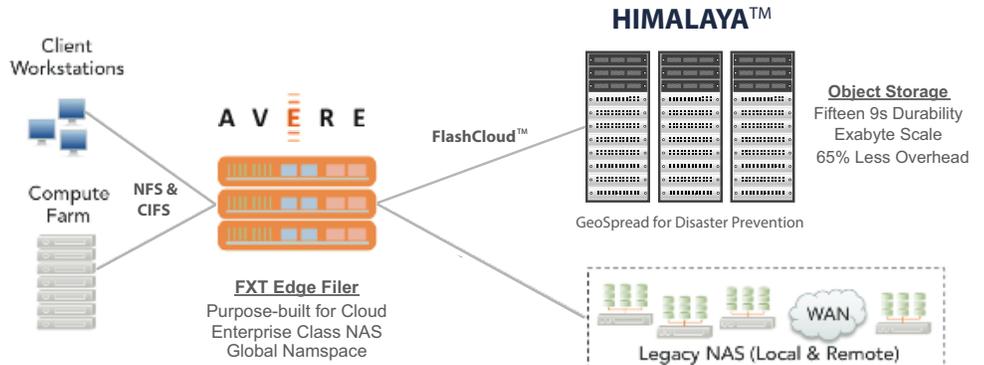


Figure 1: Avere FlashCloud integrates Himalaya object storage with legacy NAS into a global namespace and provides scalable performance for users everywhere via familiar NAS protocols while providing cloud scalability at the lowest TCO.

As shown in Figure 1, Avere FlashCloud integrates the Himalaya object storage platform with enterprise legacy NAS systems into a single global namespace using NFS/CIFS protocol interfaces. The global namespace provides enterprises the flexibility to store their data wherever it makes most sense. Himalaya provides exabyte scalability while the Avere FXT Series filer cluster provides simple storage tiering with performance that can be scaled to millions of IOPS.

Together, FXT Edge filers and the Himalaya storage system provide optimized performance and capacity scaling while reducing the total cost of ownership by 70% or more compared to traditional NAS implementations. Himalaya’s patented BitSpread® and BitDynamics® software runs on Intel-based commercial-off-the-shelf hardware and can be scaled to exabytes. Himalaya protects data with fifteen 9s durability and tolerates up to 19 simultaneous hard drive failures. Data repairs happen in parallel with virtually no impact to system performance.

GeoSpread offers disaster prevention by spreading data across multiple sites using 65% less capacity than RAID 6 with replication. Data remains protected and accessible even if an entire site becomes unavailable. Increasing capacity is as simple as adding storage nodes. Changing the durability policy or system configuration can be done on-the-fly without having to take the system down or migrating data. Simply update the policy or add more nodes and the system re-balance itself.

CONCLUSION

Together, Avere and Amplidata offer enterprises an unprecedented opportunity to keep all of their big data on-line and accessible for a competitive advantage. The combined solution is highly scalable easy to manage and cost effective. Himalaya is ideal for storing and protecting the ever-growing mountain of big data in a consolidated on-line tier and Avere provides technology to easily integrate that storage with existing NAS capacity and provides an easy on-ramp to the Cloud.

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