How to Eliminate Storage Silos:
The Nimble Enterprise-Wide Adaptive Flash Platform

Only the Nimble Storage Adaptive Flash platform brings customers the benefits of storage consolidation: lower costs, higher IT productivity, seamless growth, and reduced risk — all without compromising service levels of applications and workloads.

An IT organization that uses the Nimble Adaptive Flash platform can predict, manage, and deliver the storage that is required to optimize applications and workloads across the enterprise — and across varying service levels.

The Adaptive Flash platform is ideal for eliminating storage tiers and silos and gaining the full benefits of server virtualization.

Server Virtualization Demands A New Storage Model

Server virtualization has driven a consolidated and radically more efficient computing paradigm. It simplifies the process of provisioning new compute instances for applications into a few quick steps.

Combining server virtualization with enterprises’ widespread adoption of mobility, social media, the Internet of Things, big data, and collaboration has created a massive proliferation of applications and an explosion of data.

Managers of enterprise data centers face the challenge of cost-effectively addressing the data needs of hundreds or thousands of applications that need different levels of service for performance, capacity, and data protection — all without increasing IT complexity.

To enable the enterprise’s business applications, data center managers confront the challenges of blending a variety of storage attributes: capacity, scaling, availability, efficient management, and performance — all at the right cost levels. Establishing and maintaining service levels across the mix has, to this point, required a series of trade-offs.

The traditional industry approach to addressing workloads that need varying service levels is to architect and deploy storage in silos. But the consequences for enterprise data center managers are negative: higher risk, complexity, and costs. And the disruptive potential of flash storage to overcome the performance limitations of spinning media introduces additional architectural approaches that exacerbate the silo disparity.

Enterprise IT administrators typically must use a hodgepodge of storage architectures, technologies, and management frameworks to run their applications.

Benefits for Enterprises

Reduce Capital Costs
- Realize on average a 44% savings on infrastructure CapEx
- Reduce data center physical footprint by up to 10x
- Lower data center OpEx (power, cooling, rackspace costs) by an average of 60%
- Experience TCO savings of up to 68% (data center costs, hardware/software, maintenance/support and services) in contrast to legacy systems

Improve Productivity
- Reduce time from install to application provisioning to under an hour vs. days for legacy systems
- SmartStack reference architectures speed application provisioning by up to 6x when compared to legacy vendors

Grow Seamlessly
- Scale to 3.2PB of capacity, 100s of TB of flash, and 500K IOPS
- Scale-up, scale-out, scale-deep independently and in alignment with changing requirements

Minimize Risk
- Proven 99.999% uptime across current installed-base
- > 60% of customers attain an hourly or faster RPO schedule and 70% retain data > 30 days
- Proactive support with InfoSight, 90+% of cases opened automatically and nearly 85% resolved automatically
- With the InfoSight automated support model, IT staff spends 60-90% less time resolving storage issues
The typical scenario is:

- Mission-critical applications run on high-end storage systems that have high levels of redundancy, resiliency, and performance consistency — but the systems are highly costly to deploy and highly complex to manage.
- Latency-sensitive applications may migrate to all-flash arrays, but the arrays’ scaling capabilities are limited and their costs are a barrier to broad-based deployments.
- Mainstream applications that require a balance of capacity and performance are moving to hybrid flash-and-disk storage systems, but the systems fall short in delivering predictable performance.
- Capacity-intensive applications continue to benefit from the economics of disk-intensive storage systems, but the systems lack the required performance and resiliency attributes.

The expanding range of options and sprawl of storage silos pose big problems and require compromises such as:

1. The capital and operating costs associated with multiple storage architectures
2. The complexity and costs of having to use different tools to administer the silos
3. The disparate approaches to cloning, backup, disaster recovery, and other data management services

Although server virtualization brings innate benefits from consolidation, the accompanying storage silo model prevents their full realization.

The Power of One: A Single Storage Architecture and Consolidation Platform

The Nimble Adaptive Flash platform is a storage consolidation platform that enables enterprise IT organizations to support the broadest range of enterprise workloads. The platform — based on the innovative CASL™ flash-optimized file system — is a single architectural approach that can dynamically cater to the needs of varying workloads across performance, capacity, and data protection.

CASL lets IT administrators establish and meet SLAs for a multitude of workloads that reside on a single system, using a strategy such as:

- Mission-critical applications that require deterministic latency can operate in the all-flash service level.
- Mainstream applications that need a combination of performance and capacity can operate in the auto-flash service level.
- Applications with a higher need for low-cost capacity than responsiveness can operate in the disk-only service level.

Unlike siloed, inflexible storage solutions, the Nimble Adaptive Flash platform allows workloads to be changed dynamically from operation at one service level to operation in a different service level, on the fly as their requirements evolve. Further, the Adaptive Flash platform allows seamless scaling of performance and capacity independently as workload requirements change.

The platform’s innovative InfoSight™ cloud-connected management engine complements the CASL functionality by providing real-time visibility and guidance on how to optimize workloads.

InfoSight collects tens of millions of sensor values daily from each customer system, and analyzes the incoming data in real time. InfoSight can accurately track resource utilization and application performance levels, and provide prescriptive recommendations for meeting application SLAs most efficiently.

In addition, recently released InfoSight VM-level monitoring capabilities provide insights at a granular level for each VM, and flag conditions where an individual application might consume more than its allotted resources.

And with fully integrated data protection, the Adaptive Flash platform enables enterprise IT managers to cost-effectively maintain business continuity, using highly efficient low-overhead snapshots that provide the ability to replicate and recover data in near-real-time.

The Nimble Storage Adaptive Flash platform is ideal for achieving the full benefits of server virtualization and eliminating storage tiers and silos. It brings customers the business advantages of storage consolidation: lower costs and reduced risks, as well as higher IT productivity and seamless growth, all while optimizing applications and workloads.

Customers are flocking to Nimble Storage because their applications, data, and IT operational complexity are growing exponentially. The Nimble Adaptive Flash platform is the only storage solution that provides customers with the efficiency and confidence to keep pace with change. The ultimate business benefit is great gains in agility and responsiveness.

To learn more, download the Nimble Storage Company Profile or visit nimblestorage.com.