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Why It's Time to Consolidate Your Primary Workloads on All-Flash Storage

The days of using all-flash storage for a single, performance-critical application are ending as IT decision makers realize they can reduce complexity, enhance agility and lower costs by consolidating multiple workloads onto a single, scalable, all-flash storage platform.

Nearly 60% of all-flash array deployments are now being used for application consolidation, according to 451 Research, which states that "the consolidation use case represents the future" of all-flash arrays.[1] By the end of this decade, all-flash arrays will drive more than 70% of all primary storage spending, according to the IDC White Paper, "NetApp All Flash FAS: Flash-Optimized Storage for Mixed Workload Consolidation," August 2016.[2]

Workload consolidation onto a shared, all-flash storage platform is being driven by a number of factors, including:

- **The continuing decline in flash storage prices.** IDC research shows that the effective cost per gigabyte of flash storage is already below that of legacy hard disk drives (HDDs). In fact, more than 30% of IT decision makers cite reduced total cost of ownership (TCO) as one of the primary benefits of using an all-flash array.[3] This is a major breakthrough and paradigm shift in how IT leaders perceive and evaluate all-flash storage.
- **The ability to reduce IT complexity.** IT departments need to eliminate the silos of legacy data centers in order to streamline operations. All-flash arrays are much simpler to deploy and manage and, unlike HDDs, they easily support mixed-workload environments. Enterprise-grade all-flash arrays can also leverage automation to simplify deployments, provide IT teams with a single pane of glass for storage management and pave the way for software-defined architectures.
- **The opportunity to gain competitive business advantage.** Consolidating workloads onto all-flash storage delivers a range of additional business benefits, including: improved performance across all applications, faster development cycles, accelerated time to market and more timely access to data. These are all drivers of digital transformation, allowing organizations to improve customer experiences, enhance mobility, create new business models and leverage big data analytics.

1 "2016 Trends in Storage," 451 Research, Dec. 2015
2 IDC White Paper, "NetApp All Flash FAS: Flash Optimized Storage for Mixed Workload Consolidation," IDC, Aug. 2016
3 Ibid

TechTarget Custom Media
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Digital transformation requires a new approach to IT infrastructure

Businesses are focused on moving with greater speed and scale to capture new revenue opportunities and drive innovation. Within the next two years, two-thirds of all Global 2000 CEOs will put digital transformation at the center of their growth and profitability strategies, according to IDC; and by the end of the decade, the percentage of enterprises with advanced digital transformation strategies and implementations will more than double.[4]

To support this changing environment, IT infrastructures must evolve to deliver much higher performance and agility, along with reduced complexity through automation, orchestration and software-defined models. Flash storage has proven to be an important enabling technology for this new IT environment—and its role is expanding quickly.

Most IT departments have already deployed flash storage for IOPS-intensive applications such as online transaction processing. Moving forward, the big opportunity is to expand the use of flash across all primary applications, including virtualization, engineering workloads, home directories, databases and infrastructure as a service, among others.

A better customer experience provides business benefits

Some organizations are finding that they literally can't deliver on the speed and agility required by their customers unless they use flash storage. One example is HedgeServ, a global independent fund administrator with more than $300 billion in assets.

"Our clients are investors," says Ira Berisha, director of global platform engineering at HedgeServ. "The faster they can understand what's going on in markets, the faster they can execute their trades and understand where they stand from a profit and loss perspective. Our ability to deliver information in near real time enables them to make calculated decisions."[5]

CoreLogic RP Data, a provider of property information and analytics services, is another example of a company reliant on flash storage to support customers. "We need to make sure that the time to market from when we receive the data to when it gets to our customers is as short as possible," says Simon Perry, general manager of technology.[6]

What to look for in a solution

To get the most out of all-flash storage, organizations need to move away from deploying flash for application silos and begin consolidating their applications onto a single, enterprise-grade, all-flash infrastructure.

For example, when the Australia-based hotel and resort operator Mantra Group was looking at all-flash storage, it initially focused on performance. However, the IT team quickly realized that performance alone would not be enough to meet their needs.

4 "IDC Predicts the Emergence of 'the DX Economy' in a Critical Period of Widespread Digital Transformation and Massive Scale Up of 3rd Platform Technologies in Every Industry," IDC, Nov. 4, 2015
5 Customer Case Study: HedgeServ, SolidFire/NetApp, Apr. 27, 2016
6 Customer Case Study: CoreLogic RP, NetApp

"We wanted the lower latency that solid-state drives could provide, but we didn't want to sacrifice the critical data management features," says Garry Rich, group general manager of IT, Mantra Group.[7]

For workload consolidation, you need these core capabilities:

- **Simplicity** to manage data at scale.
- **Flexibility** to support multiple types of workloads
- **Performance** consistency for all workloads

To get there, there are several key characteristics to consider when evaluating your all-flash storage options:

- **Inline storage efficiencies,** such as compression and deduplication, to reduce the cost of effective capacity.
- **Proven enterprise-grade data services,** such as quality of service controls and policy-based automation to simplify data management at scale.
- **A complete range of data protection options,** including synchronous and asynchronous replication, encryption at rest and support for mixed-media configuration options.
- **Comprehensive integration and storage automation tools** for enterprise software environments, including the major virtualization platforms as well as databases, applications and public cloud services.
- **A unified scale-out design,** with support for multiple storage protocols and the ability to nondisruptively scale performance and capacity up or down as your application requirements change.

Choosing the right partner

NetApp All Flash FAS (AFF) systems provide a high-performance solution for any organization looking to consolidate multiple SAN and NAS workloads on a single, unified architecture.

"We felt that NetApp offered the best overall all-flash solution with the most mature feature set and data management capabilities, including scale-out storage with clustered Data ONTAP and native support for NFS," says Nathan Larsen, director of IT at Sinclair Oil. "Everything is performing better since we moved our business applications and SQL Server databases to All Flash FAS."[8]

NetApp AFF systems allow you to:

- **Consolidate a wide range of workloads on a single platform,** with support for millions of IOPS and hundreds of petabytes of effective capacity across a single cluster.
- **Eliminate performance silos** and seamlessly integrate with hybrid flash and disk systems, enabling multiple performance tiers and cost-effective data protection at scale.

7 "Success Story Mantra Group: Power to Roam and Grow," NetApp, June 17, 2016
8 "NetApp Success Story Sinclair Oil: Tapping a Well of Productivity," NetApp, 2015

- **Leverage proven data services,** including a complete range of data protection options and storage automation tools for popular hypervisors, virtual desktops, enterprise software applications and private cloud stacks.
- **Achieve data mobility across clouds** using the NetApp Data Fabric to securely extend data services to include public clouds such as Amazon AWS and Microsoft Azure.

NetApp has a proven track record of delivering enterprise-grade solutions and offers a comprehensive portfolio of all-flash storage options. In addition to AFF, the company offers SolidFire for customers requiring a web-scale architecture, and NetApp EF-Series for dedicated applications that demand the highest levels of performance, such as online transaction processing.

Conclusion

Consolidating primary workloads on a shared, all-flash storage platform is one of the important steps IT teams can take to improve application performance and business agility while reducing complexity. The key is to choose a scale-out all-flash storage platform that cost-effectively supports mixed-workload consolidation without compromising performance, enterprise data management or data protection.

NetApp has been a pioneer in delivering enterprise-grade storage and is continuing its leadership in the all-flash market. With NetApp all-flash solutions, you benefit from the company's deep storage experience and its tight integration with the leading virtualization, application and cloud platforms. You also benefit from storage innovations such as scale-out architectures, advanced storage efficiencies, integrated data protection technologies and software-defined storage capabilities.

Learn how NetApp can help you consolidate your primary workloads on a shared all-flash storage platform by visiting **http://www.netapp.com/us/technology/all-flash-storage.aspx**.