FLASH FORWARD: CHOOSING THE IDEAL FLASH SOLUTION

ViON▷

DELLEMC

A GUIDE TO FINDING THE RIGHT FLASH SOLUTION

INTRODUCTION

With every passing day, Flash storage solutions improve in capacity and features – and drop in price. If your organization hasn't considered Flash before, or if you've only dipped your toe in the Flash waters, now is the time to investigate all the advantages Flash offers in speed, capacity and cost savings.

Flash storage was initially the most expensive storage option and was available only to organizations with large budgets. However, Flash is evolving and many of the technological problems that kept costs high have been solved. Nowadays, the price of Flash solutions drops by 50 percent approximately every 12-18 months.

Today, the industry offers different kinds of Flash storage solutions from a variety of vendors. It can be difficult to know which solution and which vendor best meets your organization's needs. With 36 years of experience with enterprise storage solutions, and 11 years' experience with solid state storage, ViON can help you understand your Flash needs, select the right solution – and choose the best vendor.

1:
WHY FLASH STORAGE NOW?

For the past couple years, the IT world has been buzzing about the myriad possibilities of Flash storage and what the technology will mean for the industry. Now these possibilities are being realized. Today's Flash beats the performance and capacity of traditional spinning disk drives, and it enables architectures that would be impossible otherwise. Flash offers a compelling combination of enhanced performance and affordability.

Affordability: Flash traditionally has been more expensive than high performance spinning disk drives, so many organizations have not considered implementing it. But Flash is constantly evolving and has finally reached the tipping point. Flash solutions are now very attractively priced compared to the cost of high performance disk drives. Organizations can obtain 100x or even 1000x the performance of traditional spinning disks for the same or less cost per gigabyte. In other words: There is no longer a reason to buy spinning disks for applications requiring high performance.

Performance: Flash solutions are far faster than spinning disk storage. And a faster solution means your organization can sell more products, gain more market share, save more lives, or protect more property – without additional costs.

Flash also has a greater storage density than disks, as much as 2-4x greater. Therefore, one rack of Flash storage arrays can replace hundreds of racks of spinning disks, greatly reducing energy and floor space requirements and decreasing total cost of ownership. In addition, Flash storage arrays have few moving parts, only cooling fans. Since 70 percent of most data centers' power costs are dedicated to removing heat from the environment, the resulting reduced thermal footprint can drastically decrease power bills compared to traditional spinning disk drives.

Flash's efficiency saves your organization money by avoiding capacity overprovisioning to achieve performance gains. By adopting Flash, data centers capture resource efficiencies that allow them to host more IT services and store more data well into the future.

2: FLASH STORAGE OPTIONS

There are three basic types of Flash deployments, each with its own unique advantages and disadvantages:

- Flash in Server
- Hybrid Flash Arrays
- All-Flash Arrays (AFA)

Flash in Server

This kind of Flash storage is built into a purpose-built server, which usually is designed to manage one application in very heavy use, for example: a web application company that serves millions of people.

Benefits

1. Flash in server is typically very fast and provides very low latency.

2. Customers do not need to pay for storage software.

3. Because it is purpose built for your server application, it offers a very specific, customized solution.

Disadvantages

1. Due to its purpose-built, one-dimensional architecture, Flash in server is restricted in its uses and not very flexible.

2. It often requires high-level technical skills, so you need more in-house expertise.

3. Large organizations may find it challenging to manage the level of coordination necessary to bring together the required infrastructure and software programs.

Hybrid Flash Arrays

Hybrid arrays are disk-based storage systems that also include some flash storage.

Benefits

1. The technology is familiar to most organizations' IT staff, so there is a small learning curve. They can be up and running quickly.

2. Hybrid arrays are usually less expensive in terms of raw capacity, but may not be less expensive than all Flash arrays in terms of effective capacity (after using deduplication compression, etc.).

3. Hybrid allows you to mix different storage media types, taking advantage of the best features of both disk and flash storage.

Disadvantages

1. This option is slower than an all-Flash array (AFA) or flash in server.

2. Because they are not built as AFA from the start, hybrid arrays usually cannot use Flash as AFA does. Thus, they usually lack features like compression and dedupe.

All-Flash Array

This is a purpose-built solution which is 100 percent Flash storage. All-Flash arrays (AFAs) are the fastest growing segment of the Flash industry and many customers who have hybrid solutions are turning to AFAs. But that does not mean the solution is the right choice for every organization.

Benefits

1. The fastest Flash option, AFA offers more pure speed than any other choice.

2. Designed to take advantage of traditional storage features such as inline dedupe and compression while still operating at Flash speeds.

3. Can use dedupe and compression to increase "effective capacity," the total usable amount of space. You can store more on AFA without experiencing a decline in performance and while reducing spacing, cooling and power requirements.

4. AFA is sometimes the most economical option in the long run.

Disadvantages

1. Because it is a newer technology, the price for each raw unit of capacity can be more expensive; however, prices are coming down.

2. Sometimes system administrators may not be as familiar with newer Flash technology.

3:
CHOOSING THE RIGHT SOLUTION FOR YOUR ORGANIZATION

Each organization has different needs in terms of Flash storage capacity, speed and cost. How do you decide which Flash solution is right for you?

Step 1: Evaluate Your Needs

First, you must investigate your needs, determine the number of applications for which you need a Flash solution, and define your organization's minimum requirements. Having assisted numerous customers in evaluating their needs, ViON can help you through this process and determine the right Dell EMC Flash solution.

Step 2: Choose Your Flash Option

Do you want the best performance at the best price? Do you need to start small and scale out on an as-needed basis? Or will your organization need to prepare for the future of the next-generation data center? ViON can guide you through a discussion of the pros and cons and help you establish your organizational priorities.

Step 3: Work with the Flash Experts

Once ViON has helped you navigate the options, they partner with the longstanding Flash experts at Dell EMC to select the right solution to address your concerns. No matter your requirements, Dell EMC brings a versatile portfolio of all-flash arrays to help your organization drive greater value from key business applications, increase server CPU utilization, consolidate servers and databases, and control costs.

Dell EMC Flash Solutions

Accelerate your data center with Dell EMC's extensive Flash portfolio

Dell EMC's family of industry-leading All-Flash products, powered by Intel® Xeon® processors, are purpose-built with the most advanced features available. They're designed to push your business in the only direction that matters: forward.

XTREMIO: Delivering Unmatched Business Agility

Transform your IT and create an agile data center that dramatically improves operational efficiency, encourages business agility and much more. XtremIO's groundbreaking performance, simplicity, copy data management and data services solves the wants and needs of application owners and infrastructure administrators.

VMAX: All Flash Meets Mission-Critical

Get performance, scale, high availability, and advanced data services for all mission-critical applications with Dell EMC VMAX All Flash featuring Intel® Xeon® processors. Engineered to optimize flash drive technology, VMAX All Flash is built to take on all of your modern data center challenges.

DSSD D5: The New Revolution

The fastest dense and shared flash appliance out there. Combining the performance profile of direct-attach flash with the availability and reliability of shared storage, DSSD empowers you to boost your workloads and enables next-generation applications to gain instant access to your entire data set.

Dell EMC Unity: All-Flash Storage

Unity, powered by Intel® Xeon® processors, delivers the ultimate in simplicity and value, enabling your organization to speed deployment, streamline management and seamlessly tier storage to the cloud. Unity's All-Flash and Hybrid Flash storage platforms optimize SSD performance and efficiency, with fully integrated SAN and NAS capabilities. Cloud-based storage analytics and proactive support keep you available and connected.

Ready Node for ScaleIO: All-Flash to Software-Defined Storage

Dell EMC Ready Node for ScaleIO combines powerful Dell PowerEdge servers with Intel® Xeon® processors and the software-defined block storage capabilities of ScaleIO to deliver endless server SAN possibilities. Offering All-Flash and Hybrid configurations, the Ready Node for ScaleIO is pre-validated, tested and configured to provide the best performance possible – with a single vendor for support.

SC Series: Intelligent and Automated Storage – When your data IS your business

Fully virtualize your data and fine-tune your current storage environment for maximum efficiency. Dell Storage SC Series software delivers modern features that help you meet aggressive workload demands using the fewest drives necessary. SC Series software includes data progression auto-tiering (which applies diverse media types, including multiple kinds of flash), intelligent block-level compression, deduplication and pervasive "thin" provisioning methods.

Why Flash Now?

Better Affordability

500X the Performance

Up to 4X More Capacity

Today's Flash Options

All Flash Arrays (AFA)

Hybrid Flash Arrays

Flash in Server

Make the Right Choice

Learn About Options

Evaluate Your Needs

Choose the Right Experts

WHY ViON?

ViON has had the most experience providing Flash in the federal government space of any company in the U.S. ViON began working with solid state storage in 2004. ViON has the best and longest Flash past performance of any VAR/Systems Integrator, with more experience selling, integrating and designing flash-based solutions for the federal government space than most in the industry. We have designed and managed many large-scale Flash systems – and we know all of its nuances. Your organization can trust ViON to know how to use Flash, where to deploy it and how to integrate it.

ViON is a veteran-owned, privately held company with over 35 years of experience delivering enterprise-grade storage to the federal and commercial marketplace. ViON is well known for its engineering expertise and exacting standards. ViON's team ensures that only those with superior training, experience, and industry certifications design, install, maintain and support your storage solutions.

To provide the highest levels of customer care, ViON also operates two 24x7x365 support centers in the United States, staffed by U.S. citizens. Field and support engineers are located throughout the country, so your ViON storage team truly works where you work.

Contact ViON to learn how you can get ahead of your most pressing storage challenges.

Visit **www.ViON.com** to learn more.

ViON Headquarters
196 Van Buren Street
Herndon, Virginia 20170
(877) 857-ViON (8466)

www.vion.com