



**NetApp®**  
Go further, faster



Systems

# NetApp V-Series Open Storage Controllers

## KEY BENEFITS

### Build on your current storage investments

Expand the capabilities of your existing storage systems with NetApp® technology to provide new or better services.

### Increase storage and IT efficiency

Improve storage utilization and reduce your ongoing expenditures for disk drives. Increase the productivity of IT staff with the ability to manage more storage with fewer people.

### Enhance flexibility to meet changing business requirements

Simultaneously provide SAN and NAS services from one storage controller. Accelerate software development and test cycles with instant, space-efficient clones.

## THE CHALLENGE

### Expanding IT capabilities while reducing costs and complexity

If you could redesign your data center from scratch, would it look like the one you manage today? If you answered no to that question, you are not alone.

Data center complexity has dramatically increased over time. You may have started out with a well-designed and logical data center plan, but with the addition of multiple purpose-built solutions for new projects, or possibly as a result of mergers and acquisitions, your data center probably contains a complex mix of incompatible systems and platforms.

Your mission-critical applications may now run on a collection of different storage architectures—DAS, SAN, and NAS—from a wide variety of vendors, making it difficult for your IT organization to fulfill its current service-level agreements. You may have more questions than answers to your storage challenges: How can we scale and support all of these different types of technologies? How can we back them up? How can we upgrade them? Can we easily identify and use excess capacity for the next project that comes along?

Substantial investments have already been made in your existing infrastructure, and your IT budget is constrained. Undertaking a full-replacement approach to solving all of your IT challenges is not an option. You need the ability to make the storage you already own more efficient, and to provide new and better services to your end users.

## THE SOLUTION

### NetApp V-Series open storage controllers

One of the well-accepted concepts of IT states that as more components are added to an existing IT environment, management complexity increases. NetApp V-Series open storage controllers provide a rare exception to that rule. V-Series controllers reduce the complexity of heterogeneous storage environments, rather than increasing it.

NetApp V-Series open storage controllers enable IT teams to manage storage arrays from multiple storage vendors—including EMC, Fujitsu, IBM, Hewlett-Packard, and Hitachi Data Systems—in a consistent way and with less effort. V-Series controllers enable you to use the capacity of these third-party systems as if they were NetApp storage.

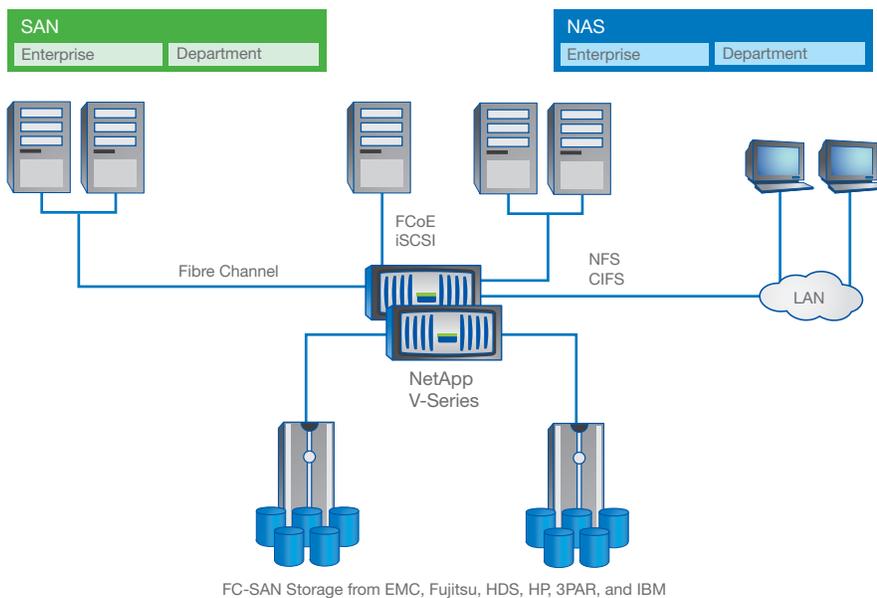


Figure 1) How V-Series works

By leveraging NetApp technology, you can dramatically improve storage efficiency, enhance data protection, and simplify data management—all while preserving your existing storage investments.

#### HOW NETAPP V-SERIES WORKS

V-Series controllers give you the flexibility to provide file services and store block-based data through native support of FC SAN, FCoE, IP SAN (iSCSI), NFS, and CIFS protocols.

Use your existing Fibre Channel SAN fabric to connect V-Series to your storage arrays. Then provision LUNs to the V-Series controller as if it were an application host. These array LUNs are collected into a storage pool from which NetApp volumes and LUNs are created and, in turn, allocated from the V-Series controller to application hosts.

Existing connections between your FC SAN storage arrays and hosts can be maintained while you provide powerful new functionality through the V-Series. Alternatively, you can migrate data from storage array LUNs to NetApp LUNs and manage all capacity behind the V-Series.

Going forward, you will have the flexibility to add new capacity either in the storage array or by adding NetApp disk shelves. V-Series also interacts with NetApp FAS systems, providing a consistent interface across all major storage platforms.

#### THE BENEFITS

##### Increased storage efficiency

With V-Series controllers, you can dramatically increase disk utilization and reclaim stranded capacity across heterogeneous storage environments.

This is made possible by several powerful NetApp technologies, including deduplication of primary storage and thin provisioning. Customers who install V-Series in front of an FC SAN storage array and move their data to NetApp LUNs often reclaim so much capacity that they don't need to buy disk drives for many months. The consumption rate for new capacity can also slow because raw storage is used more efficiently. Using fewer disk drives also translates into savings of power, cooling, and rack space.

##### Better backup and recovery

NetApp Snapshot<sup>®</sup> software, the original and most functional point-in-time copy technology, enables you to protect your data with no performance impact and minimal consumption of storage space.

NetApp SnapManager<sup>®</sup> products automate the processes associated with the backup, recovery, and other data management functions. Tight integration with application software makes it possible to restore data in minutes, with granular data recovery options.

You can also reduce or eliminate tape usage by efficiently storing months or years of backups using NetApp SnapVault<sup>®</sup>.

##### Continuous availability

V-Series can leverage the power of NetApp MetroCluster<sup>™</sup> to improve availability. MetroCluster combines array-based clustering with synchronous mirroring to deliver continuous availability and zero data loss. As a self-contained solution, MetroCluster is able to transparently recover from failures so your mission-critical applications run uninterrupted. It also eliminates repetitive change management activities to reduce administrative overhead and the risk of human error.

##### Effective, affordable disaster recovery

NetApp V-Series controllers provide the ideal platform for global backup and disaster recovery, supporting a broad range of storage systems. NetApp SnapMirror<sup>®</sup> is a data replication solution that offers effective and affordable DR protection for business-critical data.

With V-Series and SnapMirror you can easily replicate across storage from different vendors. Native network compression reduces bandwidth utilization by as much as 70% to accelerate data transfers and improve your recovery point objective. You can also tune SnapMirror to meet a range of recovery time objectives, from zero seconds to hours.

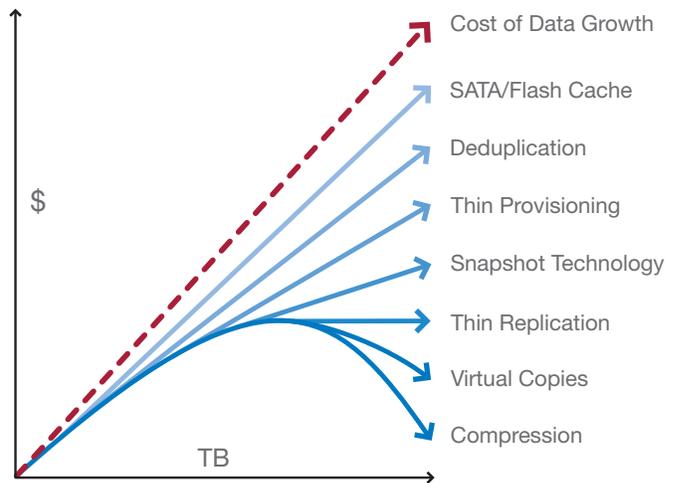


Figure 2) The NetApp storage efficiency effect

### Faster development and test

Many NetApp customers leverage their disaster recovery investment to support application development and test projects. They use NetApp FlexClone® to create instant clones (writable snapshots) instead of full copies from their mirrored production data to support application testing. This can significantly increase productivity for QA groups and software development teams.

When NetApp FlexClone copies are made on the DR side of the mirror, the production storage system is shielded from risk and its performance is not impacted. With NetApp FlexClone, you can instantly replicate production data, files, volumes, and LUNs, and improve space efficiency by storing only new and changed data blocks.

### Improved IT productivity and business flexibility

NetApp V-Series controllers provide a single, easy-to-learn set of tools with application-integrated workflows that simplify and unify storage management across multiple vendors. With V-Series controllers, IT teams will spend less time and effort on day-to-day storage management operations. And by reducing the time spent on storage administration, they can concentrate on higher impact work.

V-Series controllers provide the flexibility to respond to changing business dynamics faster, ultimately increasing service levels and boosting application availability.

### NETAPP CUSTOMER SNAPSHOTS

#### Service provider improves storage efficiency, accelerates backups

Data growth was reaching 40% at a large IT service provider that was struggling to meet tighter backup windows, escalating data storage costs, and space problems in its data centers.

By using Snapshot and SnapVault software with V-Series connected to Hitachi Data Systems storage, the service provider reduced capacity requirements by a factor of 8 and accelerated file backups to just minutes at 2.5 times less cost.

This customer also improved IT staff productivity and obtained a positive return on investment in just weeks.

#### Insurance provider gets affordable disaster recovery with V-Series

Business continuity and disaster recovery ranked as top priorities for an insurance provider. But DR proved costly and technically challenging with its existing EMC storage environment.

V-Series enabled this customer to easily and cost-effectively replicate data between its production data centers and DR site. A deduplication rate of 50% and SnapMirror compression as high as 12:1 helped the insurer avoid upgrading its DS-3 line.

#### Retailer consolidates storage to improve utilization and manageability

A large retailer implemented V-Series controllers to more efficiently manage 150TB of data on its EMC and IBM storage arrays. The V-Series solution unified the retailer's NAS/SAN storage to provide a variety of services:

- CIFS file services for Microsoft® Windows® and Apple® Mac® clients
- NFS file services for UNIX®
- FC SAN access for IBM AIX/VIO and VMware® servers

NetApp deduplication recovered 20TB of capacity for use in new projects, saving up to \$300,000 in future costs.

All 150TB of production data are now managed by a single administrator. The retailer estimates this to be three fewer staff members than the industry average.

## V-SERIES CUSTOMER SUCCESS STORIES

Read more about how NetApp customers successfully use V-Series open storage controllers to improve storage and IT efficiency and increase flexibility.

### **American Greetings says thanks a half-million for NetApp V-Series efficiencies**

<http://media.netapp.com/documents/american-greetings.pdf>

### **Corelio headlines efficiency and availability with NetApp V-Series + MetroCluster**

<http://media.netapp.com/documents/corelio.pdf>

### **JCVI makes funding go further by repurposing existing storage**

<http://media.netapp.com/documents/jcvi.pdf>

### **Open Link Financial avoids forklift upgrade, saves six figures with NetApp V-Series**

<http://media.netapp.com/documents/openlink.pdf>

### **Scientific Publishing Services, Inc. leverages NetApp V-Series and SnapMirror for enhanced data protection and disaster recovery**

<http://media.netapp.com/documents/cs-sps-leverages-netapp.pdf>

### **Sentara Healthcare powers “continuous patient care” program with NetApp V-Series solution**

<http://media.netapp.com/documents/sentara.pdf>

### **Summit Auto Group revamps data storage infrastructure with NetApp solutions**

<http://media.netapp.com/documents/cs-summit-auto-group-as.pdf>

### **Swisscom IT services optimizes costs and quality of file service with NetApp V-Series**

<http://media.netapp.com/documents/swisscom.pdf>

### **University of Utah health care saves \$422,500 while improving storage utilization 30% with NetApp V-Series**

<http://media.netapp.com/documents/univ-ut-healthcare.pdf>

### **Virginia Farm Bureau picks NetApp to preserve critical data and deliver storage efficiency**

<http://media.netapp.com/documents/vfb.pdf>

## NETAPP PROFESSIONAL SERVICES AND GLOBAL SUPPORT

NetApp Professional Services can assist you in any and every phase of the storage lifecycle. Whether you need help planning your next-generation storage system, need an extra set of hands for a major storage deployment, or want to upgrade your existing infrastructure, NetApp Professional Services personnel have the skills and expertise. Our Professional Services offerings include Solution Suites, Assessment Services, Consulting Services, Implementation Services, and Managed Services.

NetApp Global Support delivers the highest availability for your enterprise data environment and helps you optimize your storage investments. Let NetApp mitigate support issues and drive operational best practices. Our innovative, proactive support means you'll have fewer and less-severe support cases. But if a problem arises, our award-winning technical centers and field support staff—delivering in over 100 countries—won't rest until it's solved.

As an industry leader in innovation, NetApp Global Support provides tools and technology to enable business continuity. AutoSupport™, our suite of automation tools, is delivered as a service to help you proactively manage your systems and quickly resolve issues. AutoSupport functions as a “virtual staff” to protect critical data, save time, and reduce impact on your IT resources.

## ABOUT NETAPP

NetApp creates innovative storage and data management solutions that help you accelerate business breakthroughs and achieve outstanding cost efficiency. Discover our passion for helping companies around the world go further, faster at [www.netapp.com](http://www.netapp.com).



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