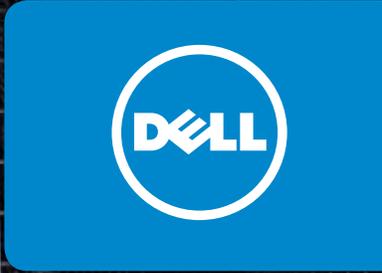




Dell Storage

Redefining the economics of storage





More innovation. Less frustration.

Legacy storage architectures have historically been complex and costly with data rigidly coupled to hardware and frequent vendor-induced upgrades of both equipment and software licensing. Architectural limitations required overprovisioning of capacity to meet future SLAs despite the reality of constrained budgets.

Today's technology is dramatically impacting storage architectures as organizations seek to deploy new features and capabilities, embark upon the next chapter in virtualization, and glean more insights from their data. The siloed storage systems of the past are giving way to broader ecosystems — enhancing data center capabilities, speed of execution and cost structures.

Come talk to Dell. As a solution partner, Dell offers the technology, know-how and experience to deliver new workload-optimized architectures that simplify IT for any size organization.

Welcome to the virtual era

Dell understands the storage hurdles of today. With the volume, velocity and value of data accelerating at an ever-increasing pace, making a departure from historically costly and complex approaches to storage is critical. Dell is redefining the economics of storage through modern architectures, a focus on customer workloads, and an end-to-end integrated portfolio of server, storage, networking, software and services offerings. Dell can help you develop the right data center and virtualization strategies based on your workloads for faster response times and lower TCO. From performance-optimized flash technologies to ultra-dense storage enclosures — and anything in between — Dell's end-to-end storage portfolio can offer you an optimal solution for your business demands.

Redefining storage economics for today's workloads



Performance **Optimized for business critical workloads**

I/O intensive workloads for your mission critical applications and big data analysis leverage flash storage



Price Performance **Optimized for collaboration and infrastructure**

Optimized for server and desktop virtualized environments and traditional IT workloads where price matches performance



Cost Optimized **for cold data and image archiving**

Low TCO and cost-efficient price/TB with dense enclosures

The power to do more

Legacy storage systems are ill-equipped to address the business needs of today. Designed in a previous era and deployed in storage silos, these systems have limited ability to fully address virtualization needs or to deliver economies of both function and scale across today's data center environments. Dell's approach to modern storage architectures starts with flexible, modular designs that easily integrate across our broad ecosystem of internal and external capabilities. The result is storage solutions that specifically address workload and data center challenges, and deliver real advances in capabilities and value.

Designed from the ground up for virtualized environments, Dell's modern storage architecture is scalable, easily enhanced, and uncoupled from the limitations of any legacy architecture with intelligent tiering and innovative licensing. It offers the ability to deeply integrate across the Dell end-to-end portfolio, deploying common technologies across a family of storage products.

Dell Storage leverages state-of-the-art technologies to help you maximize efficiency while slashing storage costs by converging servers and storage. Some businesses are expanding their existing SAN and NAS infrastructure while others are deploying software-defined storage (SDS) solutions with hypervisor-integrated systems and open-source solutions. Dell and its partners enable you to choose the best approach for your data center and evolve at a pace that meets your business needs. To meet the demands of I/O intensive workloads, Dell's unique Data Progression technologies enable performance-optimized flash at the price of a hard disk solution. To run your business, Dell can help you achieve a balance of price and performance with your virtualized or traditional IT environments that can leverage the investments you've already made, thereby reducing your TCO. Lastly, a Dell cost-optimized solution is ideal for your cold data storage as it will allow you to reduce the overall cost of supporting your data.

The result?

You can optimize your data center infrastructure, grow storage on demand, seamlessly adapt to business needs, and intelligently manage your growing data to extract more business value while ensuring business continuity.

Putting the right data in the right place, at the right time, at the right cost

The Dell Storage portfolio is designed to effectively meet the storage needs of organizations of all sizes, from large global data centers to local small businesses.

Dell Storage SC Series

Self-optimized, intelligent storage

High performance designed for business results

Dell Storage SC Series, including the SC9000, SC8000, SC4020, SCv2000 and the new unified SC7020, offers versatility and ongoing economic value for today's most demanding data center environments. The SC Series software delivers modern features that fully virtualize your data and fine-tune your storage environment to help you meet aggressive workload demands using the fewest drives necessary.

Automated, intelligent data tiering dynamically places hot data on high-performance drives and cold data on high-capacity drives, allowing you to maximize application performance without straining your budget or sacrificing capacity. "Thin" methods (provisioning, snapshots, clones) as well as intelligent block-level deduplication and compression on all-flash or HDD arrays enable capacity reduction, driving costs down.

To maximize efficiency and investment protection, the new Dell Storage Manager (DSM) software supports multi-array, multi-site, cross-platform replication and management (PS Series and SC Series) from a single interface. And Dell's innovative approach to services (including ProSupport, ProSupport powered by Copilot, Copilot and Dell Optimize offerings) ensures your data center runs smoothly, aligning directly with your business needs.



Dell Storage SC9000

Dell's flagship storage controller, SC9000, provides the ideal solution for large-scale systems, high-end workload performance and large distributed environments.



Dell Storage SC4020

Extends the powerful advantages of SC Series to small and midsize deployments, offering the same advanced auto-tiering and virtualized storage features in a more compact, affordable format.



Dell Storage SC7020

Dell Storage SC7000 Series combines SAN performance with feature-rich NAS on a single array to address your file and block workloads.



Dell Storage SCv2000

Dell Storage SCv2000 Series offers feature-rich, entry-level storage arrays with a blend of high-performance and high-quality data storage at an affordable price.

"With the Dell Storage SC Series, we can sell to our customers based on the fact that our cloud is based on an all-flash array. Performance degradation is a thing of the past, and they'll be able to get the IOPs their applications require."

Andrew Fisher
 Director of Product Engineering
 Expedient

Dell Storage PS Series

Unified, virtualized storage

Performance and efficiency simplified for the real world

Built on an advanced, peer-scaling EqualLogic™ storage architecture, the Dell Storage PS Series simplifies the deployment and administration of consolidated storage environments, enabling efficient scalability for both performance and capacity without forklift upgrades. Its powerful, intelligent and simplified management improves productivity and streamlines IT infrastructure through unified block and file storage capabilities. To address demanding workloads for small to mid-sized companies, the PS Series offers high-performing all-flash and hybrid arrays, powered by newly designed controllers and enhanced software. The PS Series products include a comprehensive software portfolio with easy-to-use array software, host integration tools and all-inclusive licensing. In addition, the PS Series arrays are interoperable and can be mixed and matched to build tiered storage within a single storage pool or across multiple pools.

The new Dell Storage Manager offers common management and cross-platform replication capabilities between PS Series and SC Series arrays, providing PS Series customers the flexibility to add SC Series arrays to their environment, if and when they choose.



Dell Storage PS6610

Designed to address high-capacity requirements such as mixed workloads consolidation, secondary storage/archival and video surveillance. These ultra-dense series includes a hybrid array configuration that auto-tiers data and stores frequently accessed data on SSDs for rapid response, and stores cold data on HDDs within the same array.



Dell Storage PS Series

Applies a virtualized, scale-out architecture to simplify management, scale seamlessly, and reliably protect data.

“According to preliminary statistics, the simplicity of our Dell Storage has helped us reduce the TCO of the platform behind our website by 20 percent.”

*RHuang Qiangyuan
IT System Manager
eLongNet Information Technology*

Dell Storage MD and NX Series, and Dell MD3 Series

Value and performance storage

Designed for quick deployment, easy management and efficient storage scalability

Optimized to meet the needs of small business, departmental and branch office operations, the Dell Storage MD and NX Series, and Dell MD3 Series offer industry-leading capabilities. They are designed to offer affordability without compromising advanced features and reliability. The MD3, MD and NX Series provides a range of storage options that include entry-level SAN and NAS appliances, and direct-attached storage (DAS) expansion enclosures. The versatile MD3 Series brings advanced features to meet the demands of high performance and data protection. Enhanced premium features, mix-and-match hard drive configurations, and the ability to select between a small form factor and a compact high-density form factor are just some of the versatile options available with the MD3 Series. The NX Windows NAS Series offers solutions for companies who have standardized on Microsoft® Windows Storage Server® (WSS) software, or customers who want the flexibility to purchase software and capacity as their storage needs grow.



Dell MD3 Series

Delivers the latest connectivity options and offers affordable advanced features and data protection without sacrificing performance.



Dell Storage MD Series

Modular DAS that adds capacity behind the MD3, NX, DR and DL Series as well as all Dell PowerEdge™ servers. These arrays can connect to PowerEdge 13th generation servers that have SanDisk® DAS Cache software and SSDs to accelerate applications.

“What we like about the MD3 product line is how much SAN you get for such a low cost. It’s pretty amazing that you can get so much storage and redundancy so affordably.”

*Timothy P. Carroll
Senior Network Engineer
XS, Inc.*



Dell Storage NX Series

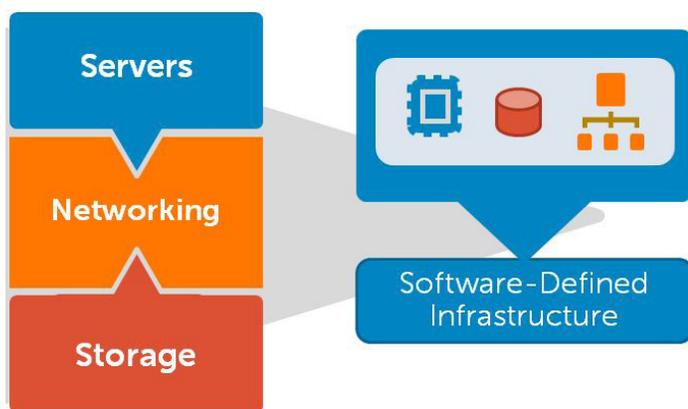
Built with award-winning Dell PowerEdge servers, the NX Series harnesses the NAS file based innovations of WSS 2012 R2. The latest version of WSS software leverages host file serving features, and introduces many storage enhancements to the NX Windows NAS Series.

Dell software-defined storage solutions

Advance your IT with enhanced flexibility and orchestration

Your data center, defined by you

Dell's SDS portfolio is designed to make IT more efficient, deliver new IT faster, and make technology simpler and easier to use. Whatever your compute and storage needs involve, Dell and its partners can help you to choose the best approach that will grow with your business. Dell SDS solutions offer hypervisor-integrated systems and open-source solutions to deliver IT infrastructure quickly and efficiently for your future-ready data center.



Dell Storage and Microsoft Storage Spaces (DSMS)

provides Dell validated and tested building blocks — Storage, Networking and Servers — for a complete compute to storage solution. The predefined configurations offer Dell end-to-end engagement — sizing, deployment, management and support — for the lifecycle of an entire solution.

Scality and Dell offer an integrated solution that combines Scality RING software and Dell server and storage hardware for capacity-driven storage environments. The Dell and Scality solution provides object-based storage that scales to multiple petabytes and billions of objects with linear performance scaling. These software-based solutions are designed for 100% uptime and run on standard x86 servers to increase flexibility and introduce cloud economics to large storage environments.

Dell's SDS partner technologies

Nutanix®, Nexenta™, Microsoft® Storage Spaces, VMware® VSAN, RedHat® Inktank Ceph and Scality

Expand your environment with ease as your business needs grow

Consolidate compute and storage into a single chassis with the Dell XC Series web-scale hyper-converged appliances powered by Nutanix software. Without disrupting your growing business needs, an XC Series appliance installs and integrates easily into any data center, and can deploy multiple virtualized, business-critical workloads such as VDI, test and development, and private cloud.



Dell XC Series integrates Dell's proven x86 server platform with Nutanix web-scale software for a highly scalable compute and storage solution.

Dell and Nexenta SDS solutions offer open source-based storage software coupled with Dell's proven server, network and storage technologies and comprehensive management capabilities. These solutions are certified, preconfigured and offer highly flexible SDS that includes SAN and NAS support, unlimited snapshots and cloning, block and file replication and inline deduplication.

Dell Storage FS Series NAS Appliances

Ensures efficiency by leveraging a shared infrastructure for block and file data

Dell Storage FS Series with Fluid File System (FluidFS) software provides NAS for the SC Series and PS Series platforms, while achieving best-in-class performance with linear performance scaling and low-cost per file OPS. Both storage capacity and performance can be scaled non-disruptively and independently within a single namespace as requirements evolve, preventing the need for expensive forklift upgrades. FluidFS also supports a variety of reliability features to ensure robust data protection and high availability. Dell FluidFS can decrease the capacity needed for common data by up to 48% by deduplicating and compressing redundant data when it's no longer needed.¹



Dell Compellent FS Series — FS8600

Scale-out NAS with operational efficiencies and advanced features.



Dell EqualLogic FS Series — FS7610

Simplified and versatile NAS appliance for scale-out unified storage.

“We can offer researchers the lowest possible price point for data storage and the flexibility to use it however long they need it, thanks to the Dell Compellent NAS solution.”

*Charlie Collins
Operations Manager
ASU Advanced Computing Center
Arizona State University*

¹ Based on May 2013 internal Dell analysis of the FS8600 NAS appliance with Fluid Data Reduction, using real-world home share environment comprised of Office files (21%), .GZ (19%) and .flate (19%) files, among others.

Dell DR, DL, TL and ML Series

End-to-end disaster recovery solutions, D2D, dedupe and tape

Simple protection and recovery, designed to reduce complexity for organizations of all sizes

Dell Data Reduction (DR) Series and Disk Library (DL) Series offer native disk-to-disk alternatives to tape libraries, and reduce the complexities of manual setup and legacy tape management. Designed for low-touch operation, Dell DR and DL Series disk systems offer modular flexibility and rugged construction. With features such as proactive monitoring, alerts, reporting and deduplication, DR and DL disk systems can help reduce costs, reduce complexity, streamline maintenance and maximize system uptime.



Dell DR Series

Offers a simple and cost-effective disk backup and recovery solution featuring deduplication, compression, replication, data at rest encryption and capacity expansion.



Dell DL Series

Allows you to go beyond backup to integrated disaster recovery with the leading-edge technologies in AppAssure software for Microsoft Windows® and Linux®.

Tape Library (TL) Series provides a versatile, automated midrange tape backup solution. Multi-library (ML) Series offers a modular tape library ready to intelligently protect your business. TL Series creates backup copies of data using the rewritable functionality of LTO media, and can also create permanent, portable archive copies of data using WORM (write once, read many) capabilities. Extend LTO capabilities to mid-sized deployments and help protect long-term investments with the ML Series that is designed to automate the retrieval, storage and management of tape cartridges with exceptional modular scalability.



Dell Storage TL Series

Offers expandable and affordable tape automation.

Dell Storage ML Series

A versatile, mid-range, top-rated modular tape library that allows you to scale your SAN backup solution.



"We can ensure that clinicians and staff are better supported, and the hospital can continue delivering excellent services using the Dell DR4100 appliance even if the unexpected strikes our core infrastructure."

*James Pardon
System Administrator
Yeovil District Hospital*

Helping you realize your data center vision

Dell offers a wide range of professional services to simplify the assessment, design, implementation, management and maintenance of your IT environment, and to help you transition from platform to platform.

Dell Enterprise Consulting Services

When you need to grow, optimize or transform your storage environment, Dell consultants offer expert guidance every step of the way. From planning and architectural design to data protection, we help you gain measurable improvements in storage performance, scalability and capacity while continually adding value to your existing investments.

Dell ProDeploy Enterprise Suite

ProDeploy helps you get more out of your technology starting on day one. Trust Dell experts to lead deployments from planning, installations to configuration, and complex integrations. You'll save time, reduce the cost of implementing new technology, and have confidence that your new systems will be easier to maintain.

Dell ProSupport Enterprise Suite for PS Series, MD Series and SCv2000 Series

Dell ProSupport offers a suite of support services that enable you to choose support models based on how you use technology and where you want to allocate resources.² We recommend Dell ProSupport Plus with our award winning [SupportAssist](#) technology³ for critical systems or Dell ProSupport for comprehensive hardware and software support for your Dell Storage PS Series, MD Series or SCv2000 Series solution. With automated proactive technology, SupportAssist can cut your troubleshooting steps by half and accelerate your time to resolution. For very large data centers, we also offer ProSupport Flex for Data Center.

Dell Copilot for Dell Storage SC4000, SC8000 and SC9000 Series

Dell Copilot Support goes beyond traditional support offerings by identifying and resolving potential problems before they happen. We've formulated the right combination of proactive processes, professional expertise and worldwide reach to help ensure your satisfaction.

Dell Support Suite for Dell Storage SC7000 series

Dell ProSupport powered by Copilot offers highly trained storage experts around the clock and around the globe to address your storage needs, minimize disruptions and maintain a high level of productivity.

ProSupport Plus powered by Copilot, for critical systems that need more than break-fix support, offers proactive and preventative measures to get ahead of problems before they happen. Dell ProSupport Plus powered by Copilot combines expertise and technology to proactively improve the performance and stability of your Dell Storage, allowing you to focus on your strategic goals.

Dell Optimize for Dell Storage SC Series

Optimize provides in-depth, predictive analysis and consultative guidance to keep your Dell Storage SC Series arrays optimized and configured for year-round peak performance. You'll get highly skilled expertise from a dedicated Dell Enterprise Systems Analyst who proactively monitors storage health and identifies areas for improvement.

Dell Storage Training

Get hands-on experience and learn from our Dell experts how to implement Dell Storage into an existing IT infrastructure, including storage fundamentals and initial setup, configuration, advanced features and performance management. Options include self-paced eLearning and instructor-led training available regionally and remote classroom.



² Availability and terms of Dell Services vary by region. For more information, visit Dell.com/servicesdescriptions. And if you're looking to preserve cash or increase operational efficiency, Dell Financial Services has a wide range of options to make technology acquisition easy and affordable. Contact your Dell sales person for more information.

³ 2015 TSIA Award for Innovation in Leveraging Technology for Service Excellence



Dell Storage solutions give you the power to do more

The virtual era offers an unprecedented opportunity for organizations to rethink and reinvent their computing infrastructures, specifically with an eye toward solutions to overcome the challenges of growing workloads and virtualization demands.

With its broad product and services portfolio, Dell offers unparalleled strengths as an IT solution partner. Let Dell collaborate with you to architect a storage solution that can scale seamlessly, adapt gracefully to new — even over-the-horizon — hardware and software capabilities, all while helping to reduce capital and operating costs.

As a solution partner, Dell offers the technology, know-how, and experience to help you develop the right architecture for your most important workloads and the right technology for innovation in your environment. And with a flexible, modular and modern architecture as the core design, Dell Storage can play a vital role in shifting your resources from maintenance to transformation.

Available in more than 150 countries, Dell Storage is providing customers with innovative, simple and affordable solutions.

Why Dell Storage?

- Worldwide presence and expertise
- iSCSI market leader⁴ and #1 external DAS vendor⁵
- Intelligent storage platforms with advanced virtualization capabilities
- Modular portfolio of customer-centric services
- Open, pragmatic, proven solutions
- Complete, end-to-end solution development, delivery and support

⁴ IT Brand Pulse Annual Brand Survey, February 2016. iSCSI market leader 6 years in a row.

⁵ #1 external DAS vendor by vendor revenue share worldwide for the past 13 quarters (2013Q1-2016Q1) per the IDC WW Quarterly Enterprise Storage Systems Tracker 2016Q1.

To explore the Dell Storage portfolio, visit Dell.com/Storage.

