

Flash forward your storage. Cut TCO.

Dell is transforming the economics
of flash with Dell Storage SC Series
disk arrays powered by Intel®



News flash: The days of pricey flash storage are over. Now you can get flash performance at disk prices, with more benefits than ever. Affordable flash enables you to use it broadly to advance productivity across all your workloads, not just a select few. At the same time, you can cut your storage footprint.

Did you know...?

Dell Storage SC Series flash storage solutions powered by Intel® have self-optimizing, 100-percent virtualized architecture and are fully integrated with leading server virtualization technologies from Microsoft, VMware, Citrix and others.

In fact, the Dell Storage SC Series portfolio of flash storage solutions powered by Intel® now offers SSD solutions for the same cost per gigabyte as 15K HDDs.¹ Plus, they can provide more than 40 percent IOPS improvement.² And new enhanced compression provides up to 93 percent reduction in required capacity to help reduce your storage footprint and energy use for Microsoft SQL data applications.³

These transformative economics are enabled through a unique approach to flash-optimized storage tiering that is a foundational design feature of the Dell Storage SC Series arrays. This differentiated flash tiering capability leverages different performance and price classes of solid-state drives, or SSDs, with no performance or endurance tradeoffs. This means you can get extreme flash performance at the lowest dollar/GB compared to other major vendors — both in terms of raw and usable flash capacity.⁴

Many efficiency-related design elements contribute to this extraordinary capability — including flash-to-flash tiering of all active workloads and automatic RAID performance optimization.

On the following pages, learn how large and small organizations around the world are addressing their growing performance demands with Dell Storage SC Series flash-optimized disk arrays. You'll discover how you can transform your productivity and competitiveness like they have.

1. Based on internal Dell pricing analysis, July 2015.

2. Based on Dell internal testing in August 2015 comparing to the Dell SC8000. 100% reads, 100% sequential load, and 8K sector transfer size. Actual performance will vary based on configuration and usage and manufacturing variability.

3. Dell internal testing, August 2015. Best case results for Microsoft SQL application data. Customer results may vary depending on application and configuration.

4. Pricing is based on a variety of sources including analyst data, price sheets when available and public information.

Of course, any individual customer's price may vary based on a variety of circumstances and data should be used for comparison purposes and to drive conversations with your sales representatives.

Find out how you can accelerate your data storage performance with Dell Storage SC Series flash solutions.

Performance

Turbocharge your workloads with flash-to-flash tiering. It's what delivers flash's game-changing economics, including the lowest street price on a \$/raw GB basis for all-flash storage arrays compared to major storage vendors.⁵



Efficiency

Take advantage of advanced efficiency technologies, such as compression, automated storage tiering and thin provisioning, to reduce storage footprint and contain capacity costs.



Flexibility

Scale seamlessly as your needs change with non-disruptive incremental capacity expansion, automated performance optimization and federated data mobility across SC Series models.



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Regional hospital on the cutting edge



Complete Dell Solution for Big Data

- Dell Storage SC8000 arrays, each with Intel® Xeon® processors
- Dell PowerEdge R720 rack servers with Intel® Xeon® processors
- Dell PowerEdge R910 rack servers with Intel® Xeon® processors
- Dell Networking 8132 10GbE switches
- Dell Storage Copilot Support
- Dell Deployment Services

Company profile

Company Wheeling Hospital
Industry Healthcare
Country United States
Website wheelinghospital.org

Get flash performance at disk prices to support high-quality patient care

When Wheeling Hospital's overnight data backups on its storage area network (SAN) started colliding with the morning rush of pharmacy prescriptions from its medical floors, the IT staff knew change was needed. And a makeshift solution wouldn't work.

The team chose two Dell Storage SC Series flash-optimized hybrid arrays, each with 60TB of storage. The primary SAN has two tiers of flash storage and a bottom tier of spinning-disk storage. The hospital also deployed 10 Dell PowerEdge R720 rack servers, plus two PowerEdge R910s for its Allscripts electronic health records (EHR) database platform, interconnecting it all with Dell Networking switches. With its new Dell solution, the hospital boosted its EHR system performance by 40 percent and reduced its backup times by 50 percent.

"We cut our backup window in half and saw a 40 percent increase in database performance with the Dell [hybrid flash] solution."



Backup times **reduced by 50 percent**



Database performance **increased by 40 percent**



Gained hybrid flash and spinning disk storage **at one-third the cost** of competitor solutions



Upgraded **in less than a month** to the clinical information system

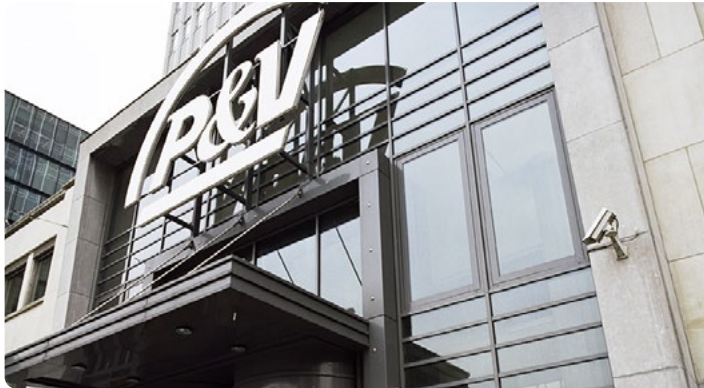


Has **more time** to deploy innovative new technologies

View the full Wheeling Hospital case study [here](#)

Insurance company complies with regulations much faster

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Complete Dell Solution for Big Data

- Dell Storage SC Series flash-optimized storage arrays with Dell Storage SC220 enclosures and Intel® Xeon® processors
- SAS® Risk Management for Insurance
- Dell Enterprise Manager
- Dell Storage Copilot Support
- Dell Deployment Services

Company profile

Company	The P&V Group
Industry	Insurance
Country	Belgium
Website	pv.be/nl

Get flash performance at disk prices to boost reporting speed

The P&V Group, a leading insurer, needed faster reporting to comply with a new EU regulatory directive. Its existing storage platform took 24 hours to provide reports from its SAS® Risk Management software. But that wasn't fast enough to stay compliant. IT determined that a flash-storage solution was needed.

After evaluating a number of vendor solutions, IT chose Dell Storage SC Series flash-optimized storage arrays. Now two company sites share access to 72TB of tier-one flash-optimized storage. IOPS rose 10x with the new solution, helping the insurer get reports in 7 hours instead of 24 hours. Compliance reporting is done 70 percent faster. And staff gets the data needed for making smart decisions more quickly.

"We can produce reports in SAS 70 percent faster with our Dell Storage SC Series flash-optimized storage."



Consolidated storage helps **lower costs by 80 percent**



Compliance is ensured with **70 percent faster reporting**



Personnel **gain faster insights** to make **smarter business decisions**



Greater virtualization **improves staff services**



IT **streamlines data management**, enabling **more focus on strategic** priorities

View the full P&V Group case study [here](#)

Reducing customer wait times and driving growth

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Complete Dell Flash Storage Solution

- Dell Storage SC8000 Series arrays featuring Intel® Xeon® processors
- Dell Networking S4810 10/40GbE and S5000 Unified Storage switches
- Dell PowerEdge M620 blade servers with Intel® Xeon® processors
- Dell PowerEdge R630 and R720 rack servers with Intel® Xeon® processors
- Dell PowerEdge T320 tower servers with Intel® Xeon® processors
- Dell Networking W-Series access points and controllers
- Dell Configuration Services
- Dell ProSupport Plus for Enterprise
- Dell OpenManage Essentials
- Dell PowerEdge M1000e blade enclosure

Company profile

Company Service King
Industry Automotive
Country United States
Website www.serviceking.com

Get flash performance at disk prices to drive business growth

In expanding from 49 to 267 car repair shops in just three years, Service King outgrew its aging IT infrastructure. When its core business management solution would time out, customers were subject to excessive wait times. Their satisfaction, return business and referrals were all in jeopardy.

Service King deployed a high-performance, all-Dell infrastructure. Today, its data center features Dell PowerEdge blade and rack servers, Dell Storage SC Series flash-optimized storage arrays, and a number of Dell Networking switches to interconnect it all. At its shops, Dell PowerEdge tower servers and wireless networking help service advisors save 20 minutes per customer each day. Altogether the new Dell solution has boosted shop application performance by 300 percent.

“Immediately after the Dell upgrade, our business management solution performance went up by 300 percent.”



Customer wait times **dramatically reduced**



Boosted shop application performance **by 300 percent**



Service advisors **save 20 minutes** per customer each day



IT infrastructure management **greatly simplified**



Ready for **even more growth** beyond its current locations

View the full Service King case study [here](#)

Watching data speeds take off

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Complete Dell Flash Storage Solution

- Dell Storage SC8000 Series arrays featuring Intel® Xeon® processors
- Dell PowerEdge R920 and R720 servers featuring Intel® Xeon® processors
- Dell Storage Copilot Support
- Dell Deployment Services
- Citrix® XenDesktop® software

Company profile

Company Daqo Group
Industry Manufacturing
Country China
Website en.daqo.com

Get flash performance at disk prices to accelerate data speeds and lower TCO

The Daqo Group, a large, diversified manufacturer, wanted to move its entire IT infrastructure to open standards, using virtualization and including the migration of its enterprise application suite (EAS). It decided that faster flash storage would help lower the total cost of ownership for its EAS platform.

Daqo deployed all-flash Dell Storage SC Series arrays, with automated tiering capabilities across 2TB of single-layer and multi-layer cell flash storage. Automated tiering ensures data goes where it's best accessed — "hot" data stays closest to applications in order to minimize latency, while "cool" data that's not needed as frequently is put in lower-cost storage. And thanks to the automation, IT personnel spend less of their valuable time managing storage.

It also installed Dell PowerEdge R920 and R720 servers virtualized with Citrix® XenDesktop® for end users. Now Daqo has a fast, scalable IT infrastructure ready for future growth. And today's users are already finding that fast data access is improving their productivity and efficiency.

"We have seen a 100–200 percent increase in data speeds with our all-flash Dell Storage arrays."



Lowered total cost of ownership with an open platform



Boosted data speeds up to 200 percent



Provides greater employee productivity with faster data access



Employees use existing IT resources more efficiently



IT spends less time managing storage

View the full Daqo Group case study [here](#)

Performance-enhancing storage boosts healthcare

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Complete Dell Solution for Big Data

- Dell Apache Hadoop Solution powered by Intel® Xeon® processors
- Apache Hadoop software
- Dell PowerEdge R720xd rack servers, powered by Intel® Xeon® E5 processors

Company profile

Company	Samitivej Hospital
Industry	Healthcare
Country	Thailand
Website	www.samitivejhospitals.com

Get flash performance at disk prices to help improve patient care

To enhance patient services, Samitivej Hospital looked to upgrade its hospital information system (HIS) platform and needed flash-based storage to deliver the required IOPS. It wanted clinicians to be able to access patient data on-demand around the clock to improve patient care.

The hospital deployed a Dell Storage SC Series of flash-optimized array at each of its two main hospitals to support the main HIS database and boost its performance dramatically. This approach provided the redundancy needed for automatic replication between the two sites and, if needed, fail over capabilities in near-real time.

The Dell flash-optimized arrays were found to be 30 percent more cost-effective than the equivalent solution from Dell's competitors. With up-to-the-minute views of patient data, clinicians can now make better decisions faster.

"We can reach up to 100,000 IOPS with sub-millisecond latency ... and far fewer disks ... with the flash-optimized Dell solution."



Faster clinician data access enables **better patient care**



Data speed **up to 100,000 IOPS** requires fewer disks



Flash storage **reduces costs** for power and cooling



Time savings lets IT focus on bigger priorities



Flash storage **costs 30 percent less** than competing solutions

View the full Samitivej Hospital case study [here](#)

Treating addiction, saving lives

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Complete Dell Flash Storage Solution

- Dell Storage SC8000 hybrid flash arrays with Intel® Xeon® processors
- Dell PowerEdge R920 servers with Intel® Xeon® processors
- Dell Networking N3048 1 switch and N4032 10GbE L3 switches
- Dell Wyse thin clients
- Dell OpenManage Essentials
- Microsoft Hyper-V Server 2012 R2 virtualization software
- Citrix® XenDesktop® software

Company profile

- Company** The Watershed Addiction Treatment Programs
- Industry** Healthcare
- Country** United States
- Website** www.thewatershed.com

Get flash performance at disk prices to improve patient treatment

The Watershed Addiction Treatment Programs operate nine locations in South Florida and Houston, Texas, that can treat 500 patients. Rapid growth in recent years outpaced the company's IT infrastructure, forcing it to consider upgrading to not only address today's needs, but also tomorrow's. Enabling better patient care and outcomes guided The Watershed's new IT solution design.

The IT staff chose Dell Storage SC Series hybrid flash arrays to support its virtual desktop infrastructure. They are part of an end-to-end Dell solution featuring Dell PowerEdge R920 servers, Dell Networking campus switches and Dell Wyse thin clients. Automated tiering across the hybrid flash and spinning drives doubled data throughput performance, minimizing latency to optimize the user experience and productivity.

"Technology is no longer an obstacle but a facilitator that helps us save lives, thanks to Dell."



Faster clinician data access **facilitates care** of patients



Data progression via automated tiering **accelerates performance by 2x**



Gains **50 percent faster** data performance



Near zero latency supports a virtual desktop infrastructure for end users



Private cloud helps **ensure HIPAA compliance**

View the full Watershed Addiction Treatment Program study [here](#)

Gain new levels of performance, efficiency and flexibility for all your data management needs with Dell flash storage solutions, powered by Intel® Xeon® processors. With the days of flash technology costing a premium now over, it's time to consider how you can best deploy this game-changer to accelerate your virtualized data apps, while reducing your storage footprint and energy use dramatically.

Chief Information Officer

- Address today's data challenges with flexibility and tomorrow's data growth with scalability
- Ensure that users' access to data is fast and efficient, to maximize their productivity
- Liberate your IT staff from data management tasks to focus on bigger priorities and make better decisions faster



IT Manager

- Deploy virtual machines and applications faster and easier
- Optimize your data storage utilization with automated tiering
- Reduce your data administrative chores with powerful management tools that deliver the performance your end users demand



Chief Financial Officer

- Realize a lower total cost of ownership to maximize your data storage ROI
- Reduce day-to-day operating costs by using less energy and real estate
- Minimize acquisition capital costs with the most cost-effective flash storage solutions available



To learn more about Dell Storage SC Series flash storage solutions, visit [Dell.com/flash](https://www.dell.com/flash).

 @Dell | #DellStory

View all Dell Case Studies at dell.com/customerstories

Also visit: Intel.com

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