



Dell Storage SC4020 Array

Extending the benefits of enterprise storage to small and midsize deployments

Intelligent, self-optimizing array in an affordable, all-in-one form factor. Why choose between cost and competitive advantage? Best-in-class auto-tiering is now the economical choice.

In the past, advanced storage optimization techniques, available only on a huge scale, were the secret to big enterprise, big data success. The world's largest companies could achieve massive business results while simultaneously enjoying the lowest TCO-per-GB of storage. Cost-saving auto-tiering and data migration capabilities, expensive to acquire, remained out of reach for the resource-strapped smaller businesses that needed them most.

Today, your organization can access these powerful techniques starting with a compact, affordable, yet feature-rich and scalable solution from Dell Storage.

Meet the newest member of the award-winning Storage Center family

SC4000 Series arrays are based on Dell's flagship SC8000 platform. Offering similar benefits at a smaller scale, the multiprotocol-capable SC4020 model and its optional expansion enclosures may be populated with any combination of hard disk drives (HDD) or solid-state drives (SSD). Virtualized multi-tier storage policies are applied quickly and automatically, taking full advantage of the unique characteristics of your disks, and allowing you to target application-specific price and performance requirements with a minimum of planning or effort.

Dual redundant controllers, 24 internal drive slots, eight 8Gb Fibre Channel or four 10Gb iSCSI network ports, and four additional 10Gb ports for management and replication are all delivered in a space-saving 2U chassis, making the flexible SC4020 a true all-in-one solution. In addition, the 10Gb ports can be converted to iSCSI ports using software. For expansion beyond 24 drives, add Dell Storage SC200, SC220 or SC280 enclosures for 500TB total raw capacity.

Auto-tune your data center for maximum performance and cost savings

Like the larger SC8000, SC4000 Series products feature industry-exclusive Fluid Data technology, including Data Progression, which works in the background to provision and optimize data placement across all drives. Incoming writes and other hot data are steered to the highest-performing tier at the fastest RAID level, providing an exceptional performance experience for your users. As the data ages, it is automatically identified and moved to less expensive storage until it becomes more active again. Data is precisely where it's needed, when it's needed — resulting in an ideal blend of high IOPS and cost-savings.

Spend less time configuring and managing your arrays

Dell's fully virtualized Storage Center platform enables unprecedented levels of efficiency and automation. All available storage is combined in a single pool by default — and since individual disks and volumes can support multiple RAID levels, pre-allocation of RAID groups is not required.

The performance and capacity of the entire pool is presented to all RAID levels simultaneously, which dynamically expand or contract as needed based on real-time usage metadata tracked at an extremely granular 512KB block level. Thin provisioning best practices are automatically enforced, ensuring the best utilization of heterogeneous disks, with no administrative intervention required.

Designed and optimized for flash

Dell's Data Progression auto-tiering is especially beneficial for flash solutions. SC4020 all-flash or hybrid SSD/HDD configurations can support multiple SSD tiers, leveraging the best attributes of both write-intensive and read-intensive drives. SC4020 all-flash solutions now cost less than a comparable 15K disk drive solution — making it an easy choice to move 100% of your hot data to flash.¹

Enhance any environment

SC4000 Series arrays support SAN infrastructure natively, and with the Dell Storage FS8600 NAS front-end, can also support file-based systems under unified management. Intelligent enterprise features such as space-efficient Replay Snapshots, block-level Compression, Remote Sync/Replication, and FastTrack drive optimization — along with world-class Dell Copilot Support² — make the SC4020 a perfect complement to any Dell server installation. Regardless of your present infrastructure, this open standard array helps you begin your migration to a modern storage system in small, affordable increments.

In today's global marketplace, the ability to efficiently store, manage, access and extract value from data is synonymous with business success. State-of-the-art storage virtualization is no longer a luxury — it is a key business requirement. Fortunately, the SC4000 Series now gives even small organizations and remote departments the self-optimizing resources necessary to succeed in a big data world. It's just one more way Dell is redefining the economics of enterprise storage.

Deploying with SC8000

Although SC4000 Series arrays are robust enough for standalone environments, they are also ideal as departmental, remote or branch office "edge" solutions with an SC8000 core. With shared management, expansion enclosures and disk support options, the Storage Center portfolio integrates seamlessly to provide a unified end-to-end data center experience.

Dell Storage SC4020 Technical Specifications	
Performance	
Controllers	2 controllers per SC4020 array (Dual-Active controllers)
Processor	Intel® Xeon® Processor E3-1265L v2, 2.50GHz, 4 cores, 8MB cache
Memory	32GB ³ per SC4020 array (16GB per controller)
Capacity	
Internal storage	24 x 2.5" drive bays
Supported expansion enclosures	Dell Storage SC200: 12 x 3.5" drive bays Dell Storage SC220: 24 x 2.5" drive bays Dell Storage SC280: 84 x 3.5" drive bays
Maximum drive count	192 (24 internal, plus 168 external)
Total storage capacity	500TB
Supported drive types	SSD: write-intensive SLC, read-intensive MLC; HDD: 15K, 10K, 7.2K RPM (different drive types, transfer rates and rotational speeds can be mixed in the same system)
Connectivity	
Network/server (front-end)	Fibre Channel model: <ul style="list-style-type: none"> 8 x 8Gb FC ports per SC4020 array (4 per controller) Simultaneous multiprotocol support available with optional upgrade to firmware v6.6. Management/Replication ports may also provide two ports of front-end iSCSI network I/O per controller. iSCSI model: <ul style="list-style-type: none"> 4 x 10Gb iSCSI ports per SC4020 array (2 per controller) Additional iSCSI network connectivity available with optional upgrade to firmware v6.6. Management/Replication ports may also provide two more ports of front-end iSCSI per controller.
Internal drive (back-end)	4 x 6Gb SAS ports per SC4020 array (2 per controller)
NAS deployment (optional)	Supports file-based storage via FS8600 NAS appliance
Data Replication	Multiprotocol replication support; supports Fibre Channel and iSCSI replication
Software	
Product OS	Storage Center 6.5 or higher (version 6.6 required for Compression and 192-drive support)
Server OS support	Microsoft® Windows Server®, Oracle® Solaris, HP®-UX, Oracle Linux, IBM® AIX®, Novell® NetWare, SLES, Apple, HPTru64, VMware®, Citrix® XenServer®, RedHat®
RAID	Supports RAID 0, 1, 5, 6, RAID 10 and RAID 10 DM (dual mirror). Any combination of RAID levels can exist on a single Storage Center. Multiple RAID levels can exist on the same storage tier within an array.
Management options	Enterprise Manager (included, server-installable), Storage Center Manager (included, onboard browser-based), Enterprise Manager Chargeback, Replay Manager, vCenter Operations Manager plug-in, command-line interface
Chassis	Rack size: 2U Height: 8.79 cm (3.46 inches) Width: 48.2 cm (18.98 inches) Depth: 54.68 cm (21.53 inches) Weight at maximum configuration: 24 kg (53 lb) Weight empty: 7 kg (15.4 lb)
Environmental operating conditions	Power/wattage: 2 hot-swappable 580W power supplies; 580W maximum power Heat dissipation: 1,978 BTU/hr maximum Voltage: 100-240 VAC Frequency: 50/60 Hz Amperage: 7.6-3.0 A Operating temperature: 50 - 95°F (10 - 35°C) Non-operating temperature: -40 - 149°F (-40 - 65°C) Operating humidity ranges (non-condensing): 10% to 80% with 29°C (84.2°F) maximum dew point Non-operating humidity (non-condensing): 5% to 95% with 33°C (91°F) maximum dew point Inlet type: NEMA 5-15/CS22.2, n°42
Dell support and optional storage service offerings	Along with Deployment and Consulting Services and Dell Copilot Support, Dell Copilot Optimize is available for ongoing strategic counsel and guidance from a highly trained system analyst. ⁴

Global services and support

Reduce IT complexity, lower costs and eliminate inefficiencies by making IT and business solutions work harder for you. You can count on Dell for end-to-end solutions to maximize your performance and uptime. A proven leader in Servers, Storage and Networking, Dell Enterprise Solutions and Services deliver innovation at any scale. 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 Representative for more information.

OEM-ready version available

From bezel to BIOS to packaging, your storage arrays can look and feel as if they were designed and built by you.⁵ For more information, visit Dell.com/OEM.

¹ Based on internal Dell analysis performed in February 2014, based on Dell Storage SC4020 all-flash and 15K spinning disk list pricing for workload requirements in the range 16,000-20,000 IOPS for OLTP databases with less than 36TB of raw storage.

² Dell Copilot Support received a 96% customer satisfaction rating for over five years in a row. Results based on internal Dell analysis of online surveys 2009-2013.

³ GB means 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.

⁴ Availability and terms of Dell Services vary by region. For more information, visit Dell.com/ServiceDescriptions.

⁵ OEM-ready available on certain models.

Manage Data Differently at Dell.com/Storage.



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