



# Dell Compellent SC8000 Storage Center Controller

## Enterprise storage for virtualized data centers and the cloud

Enhance your storage efficiency, performance and scalability with the Dell™ Compellent™ SC8000 Storage Center Controller that can help lower the total cost of ownership. A Storage Center SAN built with an SC8000 controller is an all-in-one storage array that allows organizations to actively manage data at a highly granular level using built-in intelligence and automation with Storage Center array software. This ultra-efficient, easy-to-manage storage solution optimizes drive utilization, dynamically.

Help control data center operating expenses with Dell-driven efficiency, quality and durability. The SC8000 is a Storage Center controller built on the Dell PowerEdge™ 12th generation server platform with a custom configuration to support the needs of an enterprise datacenter. The SC8000 offers high density, exceptional processing power, excellent memory, and fast PCIe Gen3 IO bus. Dynamically scale to meet business requirements with the flexible, persistent SC8000 hardware platform.

### Enhance efficiency with resilient hardware

The SC8000 is a 2U rack chassis with dual six-core, 2.5GHz (with Turbo) Intel® Xeon® E5-2640 processors. It can support full high-availability and failover capabilities with a dual controller system and provides enhanced diagnostics capability with the Integrated Dell Remote Access Controller (iDRAC).

The SC8000 offers exceptional power efficiency with dual redundant 80 PLUS® Platinum rated hot-swappable, low wattage power supplies and has six redundant hot-plug fans. Using Fresh Air™ technology, the SC8000 can operate at higher temperatures or even chiller-free environments to help reduce datacenter costs.

Providing up to five nines of availability (99.999% availability), Storage Center keeps critical customer data at the ready<sup>1</sup>. Combining resilient hardware and software with world-class Copilot Support helps enterprises realize the continuous data availability critical to their success.

### Increase storage optimization with intelligent, automated software

Built-in intelligence and automation optimize the storage environment, and every enterprise feature is fully integrated for optimum efficiency, flexibility and performance. Empowered by real-time system information about each block of data, Storage Center optimizes data placement, management and protection throughout its lifecycle. Storage is provisioned without wasting capacity. Data is moved where it's needed, when it's needed, based on actual use and performance needs. Data is automatically

tiered from SLC and MLC SSDs as well as traditional rotating disk options to optimize performance and cost. And data is continuously protected using pointer-based snapshots.

Storage Center leverages a comprehensive software suite with advanced functionality. At the core of the solution is true storage virtualization, which pools all resources across the array for maximum efficiency and performance. Thin provisioning, automated tiered storage software and space-efficient snapshot technology help you get more out of your storage investment. Thin replication and dynamic business continuity software provide a cost-effective recovery and allow for the movement of volumes between arrays without disruption.

### Scale on a persistent, open, agile platform

A Storage Center SAN built with the SC8000 scales up to 960 SAS drives per dual controller system and scales-out to multiple systems across multiple sites, monitored by a single console. It supports simultaneous iSCSI, Fibre Channel (FC) and Fibre Channel over Ethernet (FCoE) front-end interconnects to provide flexibility in your datacenter.

Unlike systems that require you to rip and replace technology as your business needs change, Storage Center supports the continual adoption of new technologies as you grow. You can easily mix and match SSD, SAS and FC drive technologies, upgrade storage array firmware and build a unified storage solution without ever worrying about a forklift upgrade. This allows you to use any combination of industry-standard technology at any time, and you can add capacity or make configuration changes without downtime or disruption. Incorporating the latest data center technologies is as simple as plugging in new components on the fly. Storage Center adjusts automatically, re-striping data across all drives and updating the in-flight use characteristics.

Dell Compellent SC8000 Tech Specs	
Product operating system	Storage Center 6.1 or later
OS support	Microsoft® Windows Server®, Oracle® Solaris, HP®-UX, Oracle Linux, IBM® AIX®, Novell® NetWare, SLES, Apple, HPTTru64, VMware® Citrix Xen-Server, RedHat
Processor	Two 2.5 GHz Six-Core (Sandy Bridge) Intel™ processors per controller
Memory (Read Cache)	16GB <sup>2</sup> to 64GB total available cache per controller, with a maximum 128GB per dual controller system (a dual controller configuration is required to support full high availability and failover capabilities in production)
Storage capacity	Each system supports up to 960 SAS drives. The maximum usable capacity supported by a system varies based on configuration. Each 3.5" SAS enclosure holds up to 12 SAS drives or up to 84 drives in each dense enclosure. Each 2.5" SAS enclosure holds up to 24 SAS drives.
Drive interfaces	SAS and NL-SAS drives. <sup>3</sup> Backwards compatible with existing Compellent Fibre Channel and SATA drives. Different drive types, transfer rates and rotational speeds can be mixed in same system.
RAID	Supports RAID 0, 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.
<b>Connectivity</b>	
Front-end connectivity	Fibre Channel (4Gb, 8Gb, 16Gb), iSCSI (1Gb, 10Gb), FCoE (10Gb) Simultaneous interface support
Maximum front-end ports	16 (Fibre Channel), 10 (1Gb iSCSI), 10 (10Gb iSCSI), 10 (FCoE) per controller. NOTE: SC8000 controller can support up to 16 FC front-end ports with 4-port low-profile SAS back-end IO option.
Back-end connectivity	SAS (6Gb, 3Gb), Fibre Channel (2Gb, 4Gb, 8Gb)
Maximum back-end ports	16 (FC), 20 (SAS) per controller NOTE: No SATA ports, FC and SATA enclosures are connected to FC8 IO card.
<b>Chassis</b>	
Storage controller	Rack size: 2U Height: 87.3 mm (3.44 inch) Width: 482.4 mm (18.98 inch) with rack latches 444 mm (17.08 inch) without rack latches Depth: 755.8 mm (29.75 inch) with bezel Weight: 19.73 kg (43.5 lb)
Rack Support	ReadyRails™ II static rails for tool-less mounting in 4-post racks with square or unthreaded round holes or tooled mounting in 4-post threaded-hole racks
<b>Environmental operating conditions</b>	
SC8000 controller	Power: Dual, Redundant 750W 80 PLUS Platinum-certified power supplies <sup>4</sup> Heat Dissipation: 1450 BTU/hr rated Power Supply Operating Temperature: 50 - 95°F (10 - 35°C) Non-Operating Temperature: -40 - 149°F (-40 - 65°C) Operating Humidity Ranges (non-condensing): Operating, 20% to 80% Non-Operating Humidity (non-condensing): 5% to 95% Inlet Type: NEMA 5-15/CS22.2, n°42

<sup>1</sup>Results based on March 2013 internal Dell testing with actual MTBF calculated from a run time total of 26 million+ hours (accumulated by 6724 systems). Run time and availability impacting failures for a 6 month period from 8/2012 thru 1/2013. Estimated weighted average MTTR of 6.6 hours for 12 hour part SLA. Actual performance will vary based on configuration, usage and manufacturing variability.

<sup>2</sup>GB means 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.

<sup>3</sup>SATA drives and enclosures are supported on existing Storage Center SANs, but are not available for new customers.

<sup>4</sup>See Dell Energy Smart Solutions Advisor at <http://essa.us.dell.com/DellStarOnline/DCCP.aspx>

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