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 a comprehensive solution that allows organizations to actively manage data at a highly granular level using built-in intelligence and automation with powerful Storage Center software. This ultra-efficient, easy-to-manage array 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[1]. 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, restriping 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, HPTru64, VMware® Citrix® XenServer®, RedHat®
Processor	Two 2.5 GHz six-core (Sandy Bridge) Intel™ processors per controller
Memory (Read Cache)	Up to 128GB[2] total available cache per dual-controller system. Larger cache capacity available in clustered systems using Live Volume.[3]
Storage capacity	960 drives (up to 3PB raw capacity) per dual-controller system. Larger capacity available in clustered systems using Live Volume.[3]
Drive interfaces	SAS and NL-SAS drives.[4] 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.
Connectivity	
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.
Chassis	
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
Environmental operating conditions	Power: Dual, Redundant 750W 80 PLUS Platinum-certified power supplies[5] 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
Dell support and optional storage service offerings	Along with Deployment and Consutling Services and Dell Copilot Support, Dell Copilot Optimize is available for ongoing strategic counsel and guidance from a highly trained system analyst.[6]

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.[7] For more information, visit Dell.com/OEM.

[1] 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 six-month period from 8/2012 through 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.

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

[3] Multiple SC8000 arrays may be deployed in "clustered" configurations of any size using the SC Series Live Volume feature. Transparent, non-disruptive volume movement among arrays is enabled, allowing the combined capacity and cache of the entire cluster to be seamlessly utilized for maximum performance and scalability in expanding data centers.

For example, a cluster of eight SC8000 arrays can provide a total of 7,680 drives (up to 24PB raw capacity) with over 1TB of system cache. Live Volume acts as a "storage hypervisor," preserving server-side mappings as users quickly redistribute workloads among any number of additional controller pairs without I/O interruption.

Best of all, the SC Series Volume Advisor feature recommends the best initial data placement within the cluster when new volumes are created, constantly monitoring all arrays to proactively recommend optimization changes as needed over time, based on customizable performance and capacity policies.

[4] SATA drives and enclosures are supported on existing Storage Center SANs, but are not available for new customers.

[5] See Dell Energy Smart Solutions Advisor at http://essa.us.dell.com/DellStarOnline/DCCP.aspx.

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

[7] OEM-ready available on certain models.

Manage Data Differently at Dell.com/Compellent.

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