



Dell Compellent Storage Center

Enterprise storage for virtualized data centers and the cloud

The Dell™ Compellent™ Storage Center™ SAN 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. This ultra-efficient, easy-to-manage storage solution optimizes drive utilization, dynamically moves data between storage tiers and RAID levels, continuously protects data against downtime and disaster, scales on demand, and quickly adapts to ever-changing business needs. Storage Center enables organizations to cut the time, cost and risk of managing enterprise storage—today and in the future.

Manage data differently

Part of the Dell Fluid Data™ architecture, Storage Center changes the way organizations manage data. 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. And data is continuously protected using pointer-based snapshots. This level of data awareness also enables Storage Center to virtualize the storage infrastructure, bringing new efficiency, agility and resiliency to enterprise storage by creating a pool of high-performance storage shared by all servers and applications.

Scale on a persistent, open, agile platform

Storage Center is built on a flexible, persistent hardware platform that dynamically scales to meet business requirements. 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 drive technologies 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.

Increase storage efficiency with intelligent, automated software

Dell Compellent and Dell Fluid Data architecture empower organizations to move beyond simply storing data to actively managing data. Built-in intelligence and automation optimize the storage environment, and every enterprise feature is fully integrated for optimum efficiency, flexibility and performance.

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.

Resilient, available data keeps the enterprise at work

Providing up to five nines of availability (99.999% availability), Storage Center keeps critical customer data at the ready¹. With resilient hardware and software combined with world-class Copilot Support, enterprises realize the continuous data availability critical to customer success.

Feature	Dell Compellent Storage Center SAN
Hard Drives	Each 3.5" FC enclosure holds up to 16 FC or 14 SSD drives (with a FC drive in bays 1 and 16). Each 3.5" SAS enclosure holds up to 12 SAS drives. Each 2.5" SAS enclosure holds up to 24 SAS drives.
3.5" Drive Performance and Capacities ²	15,000 RPM SAS drives available in 450GB and 600GB 15,000 RPM FC drives available in 300GB, 450GB and 600GB 7,200 RPM SAS drives available in 1TB, 2TB and 3TB
2.5" Drive Performance and Capacities	15,000 RPM SAS drives available in 146GB and 300GB 10,000 RPM SAS drives available in 600GB and 900GB 7,200 RPM SAS drives available in 1TB SAS Solid State Drive (SSD) available in 200GB
Host Connectivity	Maximum of 22 front-end ports per controller. A switch is recommended for all configurations and required for clustered controller configurations.
Storage Controllers and RAID Levels	
Storage Controllers	Each Series 40 controller features a 2.53GHz Quad-core processor, 6 PCI-E expansion slots and 4GB of battery-less multi-threaded read-ahead mirrored cache Each Series 30 controller features a 3.00GHz Dual-core processor, 1 PCI-X and 4 PCI-E expansion slots and 3.5GB of battery-backed multi-threaded read-ahead mirrored cache Multi-path software provides failover management of redundant data paths between the server and storage array Virtual ports increase port capacity, drive bandwidth, I/O connectivity and port failover
RAID Levels	Support for RAID levels 0, 5, 6 and 10 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 Storage is virtualized and pooled across array without RAID group limitations
Enterprise Software	
Storage Center Core	<p>Drive Virtualization: Manage drives as a single pool and present drive resources to any server. Port Virtualization: Increase port capacity, drive bandwidth and I/O connectivity while enhancing failover. Server Mapping: Rapidly map hundreds of virtual servers simultaneously. Drive Optimizer: Intelligently restripes data as drives are added to optimize performance. Thin Import: Convert data from legacy systems into thin provisioned volumes on a Dell Compellent SAN. Application Optimizer: Set the size of data transfers within the SAN to match I/O performance for different applications. Copy-Mirror-Migrate: Make copies or mirrors and migrate volumes without impacting users. Boot from SAN: Allow driveless servers to share storage resources and boot from the SAN. Heterogeneous OS: Support any number of simultaneous operating systems. LUN Masking: Hide unassigned LUN/ID numbers for secure storage domains. Performance Monitoring: Real-time reports to identify and optimize performance and utilization. Unified User Interface: Enterprise-level functionality through a common intuitive user interface. System Administration: Operate from any standard browser. Create unique user profiles with administrator configured privileges. Remote Monitoring/Phone Home: Remotely report status and automatically trigger service responses.</p> <p>For Series 40, Storage Center 6.0 feature enhancements over Storage Center release 5.5.4 include the following:</p> <ul style="list-style-type: none"> • 64-bit operating system • 12GB memory upgrade kit • vStorage APIs for Array Integration (VAAI) Primitives: <ul style="list-style-type: none"> ▸ Full Copy ▸ Hardware Assisted Locking (Copy Offload) ▸ Atomic Test and Set
Storage Center Applications	<p>Data Instant Replay: Create space-efficient Replays (snapshots) that restore data instantaneously while ensuring the integrity of enterprise application data spanning multiple volumes (Consistency Groups). Remote Instant Replay: Create space-efficient Replays (snapshots) of data at multiple locations and expedite initial synchronization (Portable Volume). Dynamic Capacity: Allocate space based on actual data written (thin provisioning). Data Progression: Automate tiered storage between storage classes based on user-defined rules. Fast Track: Place active data on the outer tracks of a spinning drive. Dynamic Controllers: Cluster storage controllers to increase system availability and performance. Enterprise Manager: Comprehensive monitoring, reporting and remote replication management. Multipath Manager for Microsoft Servers: Failover and load balancing for Microsoft Servers (MPIO). Replay Manager for Microsoft Servers: Non-disruptive Replays for Microsoft Servers (VSS). Live Volume: Online migration of volumes between storage systems.</p>

¹ Results based on January 2012 internal Dell testing with actual MTBF calculated from a run time total of 26 million+ hours. Run time and availability impacting failures for a 6-month period from 8/2011 thru 1/2012. Estimated weighted average MTTR of 7.2 hours for 12 hour part SLA, 4.5 hours for 4 hour part SLA.

² SATA drives and enclosures are supported on existing Storage Center SANs, but are not available for new customers.

Manage data differently at Dell.com/Compellent

