

## Dynamically unify your data center

# Self-optimized, intelligently tiered storage to power critical workloads

Boost application performance while maximizing efficiency with built-in intelligence that automatically places hot data on high-performance drives and cold data on large-capacity optimized drives. Take the guesswork out of growth through non-disruptive hardware scalability and perpetual software licensing. Choose Dell™ Compellent™ Storage Center™ — one of the best investments of any enterprise-class array on the market. Storage Center is a high-performance, efficient and scalable storage platform that unifies block and file and helps lower the total cost of ownership. It is designed to help you save resources by supporting increased data growth and providing the ability to run large-scale, data-hungry applications without having to replace your storage platform.

Dell offers its clients a path away from the limitations inherent in legacy storage. Empowered by real-time system information about each block of data, Storage Center optimizes data placement, management and protection throughout its lifecycle. This level of data awareness also enables Storage Center to virtualize the storage infrastructure, bringing exceptional efficiencies and extensive scalability to enterprise storage by creating a pool of high-performance storage shared by all servers and applications. Leveraging 12 generations of design experience, the SC8000 controller offers high performance with excellent power efficiency.

The FS8600 NAS solution leverages the highperformance, scale-out Dell Fluid File System (FluidFS) for the Compellent family. FluidFS is a clustered file system that avoids the architectural limitations of traditional file solutions. It allows storage capacity and performance to be scaled non-disruptively, while supporting a variety of reliability features to ensure robust data protection and high availability. The FS8600 shares a back-end infrastructure with Compellent Storage Center; together, the SC8000 and FS8600 enable you to extend the block efficiencies of the Compellent SAN to file data with a virtualized, scalable pool of disks to support both block and file needs without sacrifice.



Figure 1. Scale-out performance and capacity with Dell Compellent

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### Enterprise-class performance that supports large datasets and workloads

With flash for the price of disk, you can optimize performance and cost savings for your data-intensive workloads. Dell Compellent's innovative Flash-optimized solutions offers up to an approximate 2x price advantage over competitive hybrid solutions and up to an approximate 5x price advantage over competitive all-flash solutions.<sup>1</sup>

- Automatically place data on the most appropriate type of storage, from high-performance, super-fast SSDs for active data to cost-optimized, high-capacity 7.2K disks for static data
- Respond to demanding OLTP workloads and business critical applications with 100,000 IOPs at less than sub-millisecond latency<sup>2</sup>
- Rely on the Data Progression feature to continually optimize performance and data placement as the system grows to help slash storage costs significantly
- Accommodate unforeseeable growth and technology advances with flexible memory and connectivity options as well as performance and capacity scaling
- Create virtual volumes without designating specific tiers of drives or RAID levels, all without complicated capacity planning or performance tuning
- Avoid the performance degradation associated with traditional file management protocols with redirecton-write snapshot

### Exceptional efficiency designed to drive down your total cost of storage

Having separate solutions for your SAN and NAS systems is costly and inefficient. The Compellent Storage Center and FS8600 combine to deliver a single platform for block and file built on the efficiency and intelligence of Compellent's technology. Compellent offerings provide a fully integrated set of reliability features to help you increase data availability, improve your disaster recovery, and shrink your RPOs and RTOs.

- Save up to 96% in software licensing costs over competitive systems with perpetual software licensing and up to 44% with modular expansion hardware<sup>3</sup>
- Defend data with a full suite of built-in, fully-integrated features that provide local (snapshots) and remote data protection — Data Instant Replay (snapshots), remote instant replay synchronous and asynchronous replication, and Live Volume

- Keep critical systems at the ready with field-tested design that delivers 99.999% availability across 26M+ hours of uptime<sup>4</sup>
- Double bandwidth with the first storage array to deliver 16Gb Fibre Channel connectivity
- Can offer a 96% longer productive life span compared to other storage solutions<sup>5</sup>
- Proactively address concerns before they become issues with award-winning Copilot Support—that received a 96% customer satisfaction rating for over five years in a row<sup>6</sup>

#### Scalability with the future built in

Compellent Storage Center, based on SC8000 and FS8600, provides a flexible SAN and NAS architecture that scales easily, and adapts to evolving technology and business needs. Easily add capacity with the energy-efficient and reliable Compellent SC200, SC220 and ultradense SC280 enclosures. Administrators can mix SSDs (including SLC and MLC) — SAS drives and enclosures in the same system, as well as access data across a full range of standard interconnects and protocols — providing the ability to choose the right interface for each application and IT environment.

- Grow as your business requires without fear of technology limitations
- Use space only when data is written with advanced thin provisioning technology
- Easily scale up and out across block and file without disruption or forced platform rip-and-replace
- Pay only once for features with perpetual software licensing — even across hardware upgrades
- Enjoy true storage virtualization by creating a dynamic pool of storage shared by all servers
- Save space and costs with the SC280 enclosure, that offers the best rack unit density of any major storage solution
- Scale up to 2PB of SAN and NAS in a 48U rack with two Storage Center systems



Figure 2. SC280 Dense Enclosure

#### **Proactive support**

Compellent Copilot Support goes beyond traditional support offerings with the right combination of proactive processes, personal support and professional expertise to help ensure the satisfaction of every customer.

Feature	Dell Compellent Copilot Support		
Support options	24x7 support, priority response	24x7 support, next business day response	24x7 support, call center only
Call center support	24x7 support center	24x7 support center	24x7 support center
On-site response	Priority (4-, 8- or 24-hour)	Next business day	_
Parts delivery	Priority (4-, 8- or 24-hour)	Next business day	UPS Ground
Software releases	Perpetual Software Licensing	Perpetual Software Licensing	Perpetual Software Licensing
SupportAssist technology	24x7 monitoring & response	24x7 monitoring & response	24x7 monitoring & response
Incident Fees	\$0	\$0	Time & material

<sup>1</sup>Competitive US list pricing from from Gartner Inc, CP Storage, as of June 2013. Market price calculated assuming a

discounting of approximately 50% for all competitive systems and Dell Compellent.

Internal test performed by Dell in March 2013 with Storage Center v6.3.10 on dual SC8000 controllers running OLTP type workloads using IOmeter with a 100% random, 70/30 read/write mix and 8K sector transfer size. Actual performance will vary based on configuration, usage and manufacturing variability.

<sup>4</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>5</sup>Oct 2012 Dell-sponsored IDC whitepaper, The Business Value of Dell EqualLogic and Compellent Primary Storage Solution.

#### Learn how Compellent can give you the power to do more with your data at Dell.com/Compellent



<sup>&</sup>lt;sup>3</sup>Based on 2013 Dell internal TCO tool analysis.

 $<sup>^{6}</sup>$ Results based on internal Dell analysis of online surveys, 2009-2013.