compellent

ENTERPRISE STORAGE WITH THE FUTURE BUILT IN

- Breakthrough Efficiency
- Intelligent Storage Automation
- Single Platform Scalability
- Real-time Responsiveness
- Continuous Data Protection

Storage Enclosures

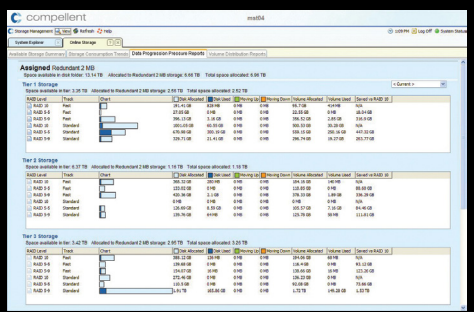
Storage Controllers

OPEN, AGILE HARDWARE

Compellent is built on a flexible, persistent platform that scales without limits. Unlike systems that require you to rip and replace technology as your business needs change, Compellent 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.

INTELLIGENT, AUTOMATED SOFTWARE

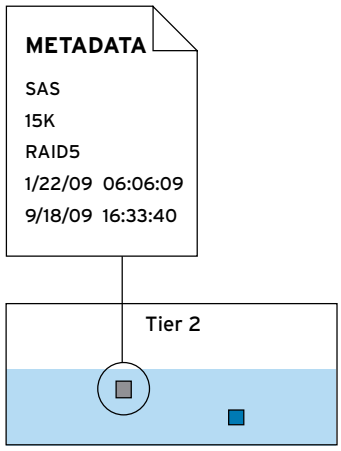
Compellent enables enterprises of all sizes to move beyond simply storing data to actively managing data. Powerful software with built-in intelligence and automation optimizes the provisioning, placement and protection of data throughout its lifecycle – to cut the time, cost and risk of enterprise storage.



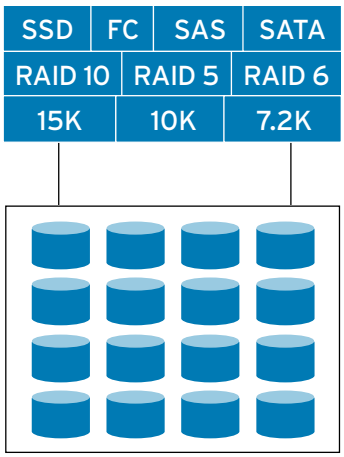
FLUID DATA ARCHITECTURE

A patented Fluid Data architecture enables Compellent to actively manage data at a more granular level. Detailed information about each block provides unprecedented system intelligence to dynamically store, recover and manage your data. With a Fluid Data architecture, the impact to your business is immediate. Business applications are implemented faster, information to make decisions is always available, new technologies are instantly deployed and data is continuously protected.

- Buy fewer drives and use more Tier 3 storage, saving on power and space
- Simplify your IT infrastructure with zero touch management
- Scale without limits on a persistent, technology-independent platform
- Recover instantly and set up multi-site replication in minutes
- Rely on storage that delivers as promised from day one



Optimize data movement and management with block-level intelligence.



Manage disks as a centralized storage pool independent of drive type, RAID and speed.

ADVANCED STORAGE VIRTUALIZATION

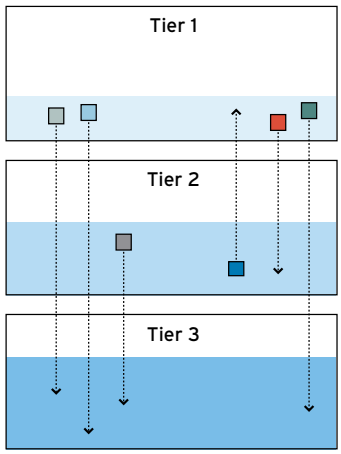
Compellent virtualizes storage at the disk level, accelerating data access by spreading read/write operations across all drives so multiple requests are processed in parallel. You can create high performance, highly efficient virtual volumes in seconds without allocating drives to specific servers, without complicated capacity planning and without performance tuning. Remove the limitations of physical drives and dynamically change and scale your virtualized pool without disruption or downtime.

- Create a centralized pool of storage shared by all servers
- Write any size virtual volumes to the entire pool or any subset of it
- Present disk capacity regardless of tier, RAID level or server connectivity
- Speed data access by utilizing all available disk resources all the time
- Eliminate disk “hot spots”
- Use virtual ports to increase port capacity, disk bandwidth, I/O connectivity and port failover

AUTOMATED TIERED STORAGE

With unique patented technology, Compellent automatically classifies and migrates data to the optimum tier of storage based on actual usage. The most active blocks of data reside on high-performance SSD or Fibre Channel drives, while less active blocks of data automatically move to lower-cost, high-capacity SAS or SATA drives. The result is storage that is always in tune with application needs – and overall storage costs slashed by up to 80%.

- Eliminate manual data classification and migration
- Automatically migrate inactive blocks of data to lower cost disk and RAID levels
- Move most active data to the fastest, outer edges of each drive
- Maximize write performance and data availability for every application
- Add disk drives to any tier of storage on the fly

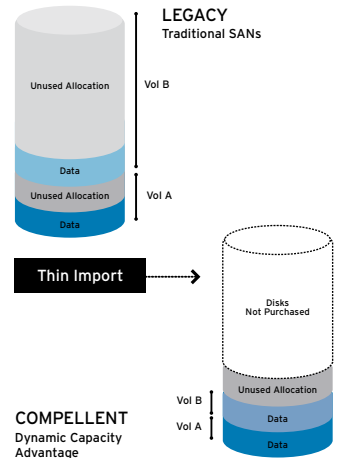


Automate data placement with a sophisticated data movement engine.

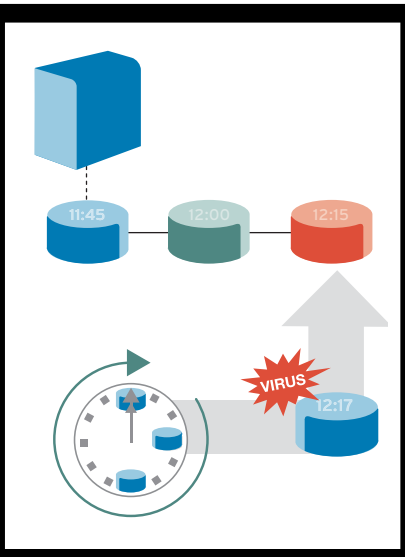
ADVANCED THIN PROVISIONING

Built into every Compellent system, Thin Provisioning delivers the highest possible storage utilization. Our advanced Thin Provisioning completely separates storage allocation from utilization, enabling users to allocate any size volume upfront yet only consume physical capacity when data is written. You can even reclaim capacity that is no longer in use by applications, automatically reduce the space needed for virtual OS volumes and convert traditional volumes on existing storage to thin-provisioned capacity.

- Add the right capacity at the right time with capacity threshold alerts and consumption trend analysis
- Expand capacity on demand without downtime
- Automatically allocate space on write according to incoming payload
- Convert legacy provisioned volumes to thin virtual volumes
- Reclaim disk space after files are deleted in Windows® environments



Improve disk utilization with Thin Provisioning that stands apart.



Recover files instantly with unlimited space-efficient Replays.

CONTINUOUS DATA PROTECTION

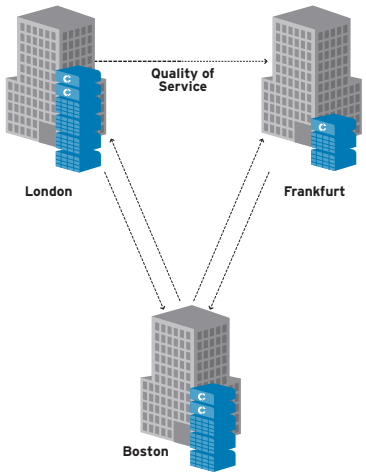
With Data Instant Replay, you can take an unlimited number of space-efficient "snapshots" to speed the local recovery of lost or deleted files. Once an initial snapshot of a volume is taken, only incremental changes in data need to be captured. These readable and writable Replays are automatically stored on lower cost drives and can be used to recover any size volume to any server in less than 10 seconds.

- Create frequent Replays at any time interval
- Use negligible disk capacity and system overhead
- Take simultaneous snapshots of application data spanning multiple volumes
- Roll back to any previously known state using a simple point-and-click interface
- Quickly boot servers from a Replay on the SAN
- Implement a cost-effective and robust test and development environment

THIN REPLICATION

Remote Instant Replay leverages space-efficient Replays between local and remote sites to deliver Thin Replication at a fraction of the cost of traditional disaster recovery solutions. After initial site synchronization, only incremental changes in data are replicated on an ongoing basis, cutting hardware, bandwidth and administration costs. You can replicate over Fibre Channel or native IP, which brings disaster recovery within reach of every budget.

- Set up multi-site replication with 7 clicks
- Replicate data with less bandwidth and disk capacity
- Use Portable Volume to sync sites in days instead of months
- Optimize bandwidth with simulation and shaping
- Utilize different configurations at local and remote sites
- Easily test and verify replication success with 1-button recovery

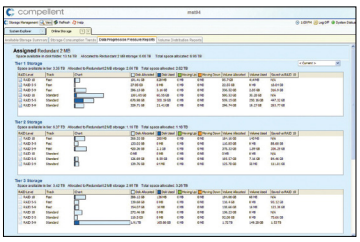


Deliver affordable, verifiable replication to multiple sites.

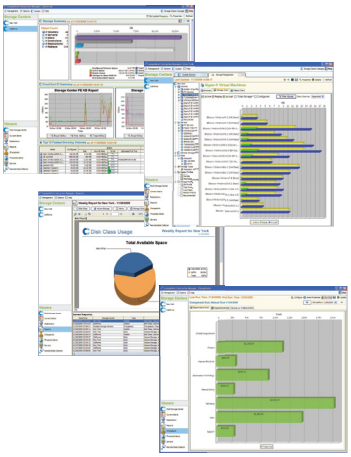
INTUITIVE MANAGEMENT INTERFACE

Compellent storage systems feature a unified, point-and-click user interface that cuts administration time and eliminates the need for specialized administrative skills. The intuitive interface automates repetitive, time-consuming tasks so data center staff can focus on other important projects. Complex allocation, configuration and administration functions are easily accomplished with wizards to guide the process. And comprehensive Phone Home capabilities deliver remote, diagnostic and monitoring tools coupled with automated alert and notification services.

- Configure a system and be ready for production data in minutes
- Manage individual or multiple storage systems through a point-and-click interface
- Create and map new storage volumes of any size in less than a minute
- Manage more storage without adding staff
- Increase IT service levels



Expand the capabilities of a single administrator with a wizard-driven interface.



Manage, monitor and measure multi-site systems locations from a single, centralized console.

STORAGE RESOURCE MANAGEMENT

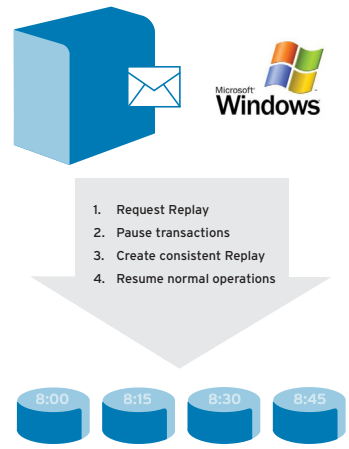
Enterprise Manager simplifies storage resource management by providing comprehensive monitoring and management of all local and remote Compellent systems. You can gain instant visibility and control of a multi-terabyte, multi-location solution to streamline administration and reduce operational costs. Configure and verify remote replication processes, monitor storage capacity and disk utilization in real time, and generate comprehensive storage usage and performance reports – all from a single pane of glass.

- Use accurate capacity and performance data to maximize utilization
- Streamline disaster recovery planning and replication configuration
- Speed event resolution with centralized alert notification and management
- Associate storage with business departments and chargeback utilization
- Optimize performance by identifying and managing trends
- Automatically calculate energy savings and generate boardroom-ready reports

DATA CENTER AUTOMATION

With aggressive platform integration, ongoing interoperability testing and collaborative design efforts, Compellent delivers best of breed data center automation for industry-leading applications. The Storage Center Command Set for Windows® PowerShell streamlines system management with an intuitive scripting interface. Replay Manager enables consistent and automated data backup and restore of Microsoft Exchange and Microsoft SQL Server, as well as Hyper-V virtual machines (VMs). These certified and validated platforms ensure seamless interoperability and support.

- Increase productivity by automating common, repetitive tasks
- Protect Windows application data without taking applications offline
- Integrate backup processes seamlessly with Microsoft's Volume Shadow Copy Service (VSS)
- Prevent files from being corrupted or skipped during the backup process

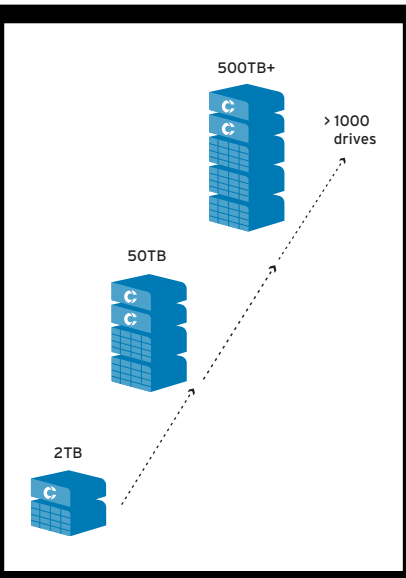


Automate data center operations with Replay Manager.

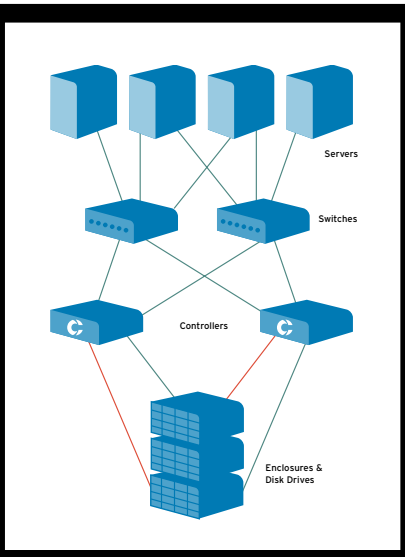
MODULAR SCALABLE HARDWARE

Compellent's standards-based hardware architecture reduces technology risk by providing the capability to mix and match server interface or drive technology, and easily adopt new technologies as they become available. With Compellent's Persistent Hardware Architecture, you can choose the technologies that make sense for your IT infrastructure today with the flexibility to change technologies as your business needs change over time. Scale capacity, connectivity and performance on a single, modular platform.

- Scale from 2TB to over 1,000TB within one system
- Expand storage online without disruption
- Upgrade to new hardware and software without downtime
- Optimize performance and cost by picking the right technology for each application
- Easily integrate new storage technologies without discarding existing investments
- Design a system with the speed and bandwidth your environment requires



Scale on demand on a single platform.



Architect a system to provide continuous availability.

HIGHLY AVAILABLE ARCHITECTURE

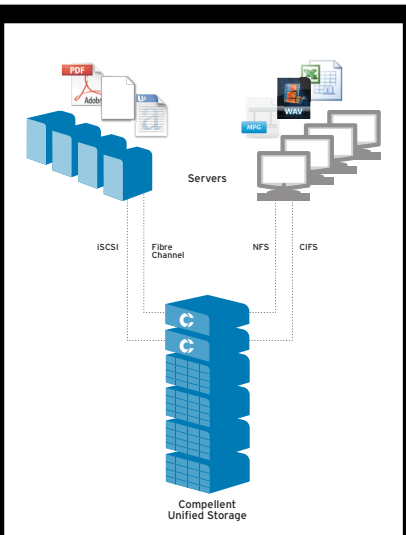
Compellent is architected for high availability with fully redundant hardware and advanced failover features. Deliver uninterrupted data access with dual paths from servers to disk drives and fully redundant power supplies and fans. Clustered controllers provide a superior level of availability by operating in unison yet connecting independently. Further improve availability by virtualizing server connections across ports and enabling automated failover.

- Fully redundant system with no single point of failure
- Automatic controller failover provides high resilience
- Controller clustering delivers higher availability than traditional implementations
- Multi-path I/O failover requires no special software
- Mirrored, battery backed cache increases data protection
- Controller failover with only a single server connection for maximum resilience

UNIFIED BLOCK AND FILE STORAGE

The Compellent unified SAN/NAS solution extends the benefit of storage consolidation across the enterprise by combining file-level access with block-level efficiencies. You can cut server costs, improve performance and increase manageability by consolidating file servers with NAS. And with Compellent, you can easily utilize all of the enterprise features of Compellent storage, including Thin Provisioning, Storage Virtualization, Automated Tiered Storage, Replays (continuous snapshots) and Remote Replication.

- Reduce connectivity costs by connecting via Ethernet
- Built-in support for CIFS, NFS and HTTP/ HTTPS protocols
- De-duplicate at the file level with Single Instance Storage (SIS)
- Increase availability, reliability and performance with MPIO failover support
- Simplify volume setup and mapping with embedded Virtual Disk Service (VDS) Manager



Integrate file and block-based storage on a single, scalable platform.

CLUSTERED STORAGE CONTROLLERS

With Compellent, you can select single- or dual-controller configurations with Fibre Channel and/or iSCSI interconnects to meet organizational cost, performance and availability requirements. Compellent controllers connect to any open-system servers without dedicated server agents and can automatically fail over to another controller within a cluster. Virtual ports within the controller increase port capacity, disk bandwidth, I/O connectivity and port failover.

- Persistent hardware architecture delivers unmatched investment protection
- Upgrade and add capabilities over time without a forklift upgrade
- Standards-based hardware
- Server and disk connections via PCI cards
- Controller clustering for high availability
- Shared-nothing approach
- High-speed mirrored, write-back cache

Add capacity, connectivity and performance incrementally to match demand.

Mix and match any number of drives and enclosures.

DISK ENCLOSURES AND DRIVES

Compellent disk drive enclosures offer extensive flexibility and scalability so organizations can easily adapt to changing business needs. Compellent is built on a technology independent architecture, allowing users to mix and match SSD, Fibre Channel (FC), SAS and SATA drives in the same system. And any blend of drives can be housed in the same system at any location – with configurations changed at any time.

- Scale from 2TB to over 1000TB
- Expand storage online
- FC switched disk enclosures support Fibre Channel 10K and 15K and Solid State
- SAS disk enclosures support 15K and 7.2K drives
- SATA disk enclosures support 7.2K drives

THE FUTURE BUILT IN

Compellent combines a powerful data movement engine, virtualized software applications and an agile, hardware platform to redefine efficiency, productivity and protection in a truly scalable enterprise storage solution. Built-in intelligence and automation optimize the provisioning, placement and protection of data. A modular hardware platform grows with your business. One interface manages any number of systems, giving IT instant visibility and control.

Compellent Fluid Data storage. Finally, enterprise storage with the future built in.