



Dell™ Compellent™ Data Instant Replay

Continuous snapshots deliver continuous protection

- Recover most volumes to most servers in seconds
- Deploy dozens of virtual machines at once
- Create Replays to match your recovery objectives without performance degradation



The limitations of traditional snapshots

Many companies are using snapshot technology to improve recoverability over daily tape backups, but traditional offerings have numerous limitations and are difficult to manage. These technologies put a cap on the number of snapshots either per volume or for the array. These solutions also consume excess storage space through pre-allocation, require highly skilled administrators to implement through complicated interfaces and can have a negative impact on performance, limiting the ability to meet recovery point objectives.

Rapid recovery from any point in time

What if you could protect your data without the limitations of traditional snapshots? Dell Compellent Data Instant Replay software creates point-in-time copies called Replays. With Data Instant Replay, you minimize system downtime with the ability to recover any size volume in seconds and create and store Replays at any time interval with minimal storage capacity and, without performance degradation. By creating space-efficient point-in-time copies based on a schedule that meets your business needs, Data Instant Replay helps you meet recovery point objectives without traditional storage system restraints. With Data Instant Replay, you're protected against data hazards and disruptions, including viruses, power outages, hardware failures and human errors.

Key benefits

- Eliminate tape for daily backups
- Minimize system downtime from disk or server failures, viruses or human error
- Easily set up Replay schedules with intuitive point-and-click interface
- Cut time and risk by testing new software and patches on actual data before releasing to production
- Reduce the cost of servers by increasing the efficiency of booting from the SAN

Space-efficient Replays

Dell Compellent Replays are created without an initial clone and contain only written data, rather than the allocated but unused storage typically captured by other snapshot solutions. This space-efficient design enables you to create and store Replays without consuming excess storage capacity or negatively impacting performance. Although Replays only consume a small amount of storage space, every Replay is a readable and writeable volume that can be instantly mapped to any server. Replays automatically expire after a user-specified time and space is automatically returned to the shared storage pool.

Fast recovery compatible with every application

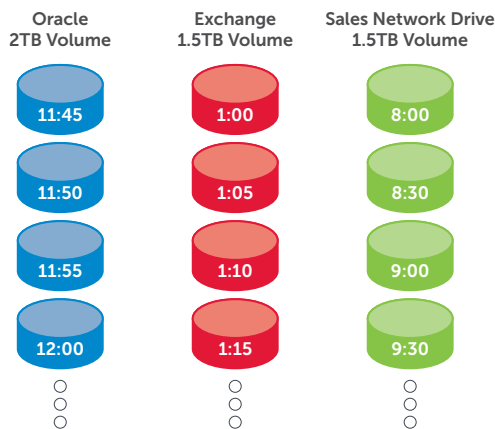
Data Instant Replay works across all operating systems without the expense of server software or server agents. Data Instant Replay integrates with most applications and can provide quick, consistent application recovery. Multiple new volumes can be created from a single Replay to allow multiple teams to work in parallel using the same data—shortening the time it takes to find a problem plaguing a server. This allows you to offer an increased level of service to your end users by recovering deleted files quickly.

Customizable schedules improve recoverability

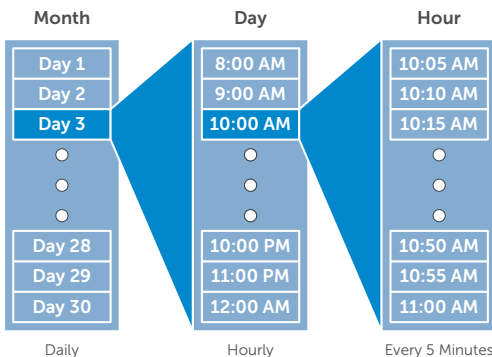
With Data Instant Replay, you can create Replays at any time interval and keep those Replays as long as needed. This allows you to establish the number of recovery points your business requires and reduce dependence on tape backups. Creating more recovery points minimizes potential data loss so recovery can be targeted as closely as possible to when the failure occurred. With many options available to the administrator, such as, volumes, size of volumes, replays-per-LUN, number of branches using writeable Replays and duration and expiration of Replays, you can create a recovery plan that fits your business. Plus, branched Replays can be created to allow multiple teams to test recovery strategies, test new software or deploy new OS patches without risk. And overlapping Replay schedules allow the coverage of one Replay instance to be substituted for another.

Intuitive interface enables fully automated replays

Administrators of all levels can easily create, track, organize and automate Replays from a single screen with an intuitive point-and-click user interface and wizard-based setup and recovery. Replay schedules are created with easy-to-implement, user-defined policy-based schedules—no scripting is required. Once a rule is created, it can be applied to multiple volumes. You can also import data from existing templates to easily apply standard Replay rules—and rules can be added at any time, even after the volume is in use. This means you can easily implement continuous data protection and spend less time managing backups. Plus, Data Instant Replay gives you PhoneHome status notification and remote and local web-based monitoring to stay in control 24x7.



Create Replays at the frequency required for your business without traditional scaling limitations.



Nested Replay schedules deliver continuous protection.

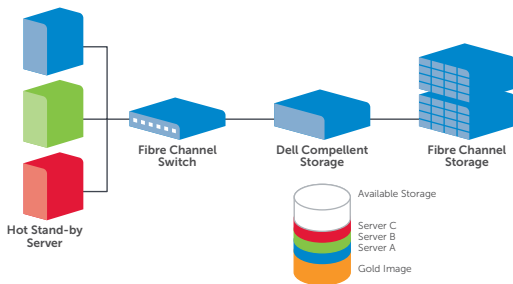
Grouping for multi-volume consistency

If Microsoft Exchange or SQL Server is using multiple volumes within an array, Replay Manager utilizes consistency groups to make sure that the Replays taken of all those volumes share recovery points created at the exact same point in time—even across multiple servers and multiple application types. In a multi-tiered application environment, this allows you to recover all volumes associated to a particular application or database at an exact, common point in time, with Replay compatibility across the entire environment. Integration with Microsoft Volume Shadow Copy Services (VSS) also helps ensure consistent application recovery.

Reduce server costs with boot from SAN

Storage Center optimizes the boot process through the creation of a golden copy of the boot image on the SAN rather than on the internal disk drives within every server—saving money, increasing performance and conserving capacity. Using Data Instant Replay, boot images for every additional server can be made from the original boot image by copying only the minor differences between servers. In this fashion, boot images can be placed on the SAN for literally dozens of servers and consume only slightly more storage than the space typically required by one server.

This allows you to deploy diskless servers—significantly reducing server hardware costs, lowering server maintenance cost by deploying hot spare servers and creating boot volumes for large server farms consuming minimal disk space without limitations on how many servers can access the base volume.



Optimize boot from SAN images by only storing the minor differences between servers using Data Instant Replay.

About Dell™ Compellent™

Part of the Fluid Data architecture, Dell Compellent provides storage solutions that optimize efficiency, agility and resiliency for enterprises and the cloud. With built-in intelligence and automation, Dell Compellent helps organizations cut overall storage costs, secure data against downtime and disaster, and scale on a single platform in line with business needs. For more information, visit Dell.com/Compellent.

Data Instant Replay specifications

Architecture	
Automated Replay creation and scheduling	Yes
Pre-allocation required	No
Readable and writeable Replays	Yes
Copy-on-write technology	No, pointers to data only
Volume recovery using written data only	Yes
Volume clone required for recovery	No
Automated coalescence of expired Replays	Yes
Additional software required for Replays	No
Performance	
Time required to create a Replay	Less than 5 seconds
Time required to mount a Replay	As little as 5 seconds*
Management	
Wizard-based Replay templates	Yes
Replay scheduling frequency	Once, minutes, hours, days, weeks, months
Multiple Replay schedules for volumes	Yes
Outlook-style scheduling	Yes
Server environment	
Server agent required	No
Volume recovery to any server	Yes
Integration with Microsoft's VSS	Yes
Server operating system support**	Microsoft Windows, Sun Solaris, HP-UX, Linux, IBM AIX, Novell NetWare, Apple, Tru64, VMware

*Operating system and operating system administrative tools will determine how fast a replay can be mounted.

**See the Dell Compellent Compatibility Matrix for latest supported operating systems.



Manage data differently at Dell.com/Compellent