

F5 Acopia Virtual Snapshots

Feature Note
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Highlights

- Simplifies data protection in virtualized environments
- Eliminates reliance on single vendor technologies
- Enables intuitive data recovery
- Provides data center-wide crash consistency

Simplify Data Protection with Virtual Snapshots from F5 Acopia

Snapshots are becoming an essential tool for data protection in the enterprise. By creating a point-in-time image of user and application data, snapshots facilitate rapid recovery of both individual files and entire file systems. Today, when storage vendors bring snapshot technologies to market, they are tightly integrated with their proprietary storage platforms. As customers move from a single storage vendor or platform to several in a heterogeneous environment, they are faced with the prospect of coordinating their data protection across multiple proprietary snapshot technologies. *Virtual snapshots* by F5® Acopia™ simplify deployments of heterogeneous storage environments by bringing snapshot management into the network and leveraging intelligent file virtualization to provide intuitive data recovery with data center-wide crash consistency.

A Snapshot Primer

A snapshot is an image of a file system as it existed at a single point in time. This image includes everything in the file system that was written to disk at the time the snapshot was taken, including directories, files, and file properties. Snapshots are stored locally on the file server, consuming up to a predetermined capacity limit.

Because data is constantly changing, the snapshot image becomes out of date quickly and companies must continuously take new images in order to maintain their level of data protection. Snapshots are accessible and navigable by administrators and are used for short-term data recovery, typically to recover individual files that may have been lost or overwritten. For long-term data protection and disaster recovery, companies select snapshots to back up at a larger interval, and the snapshot image is dissolved.

Companies manage snapshots through policies; these policies govern the interval at which snapshots are taken and how long the policies are retained. A shorter interval will capture more changes and provide better protection, but require more disk capacity. A longer retention period will keep snapshot images on disk for a longer period of time.

The Heterogeneity Problem

In storage environments that use a single vendor or platform, snapshots are a simple, elegant method for protecting user and application data. As companies deploy heterogeneous storage environments, complexity of management increases as administrators must coordinate snapshot policy across multiple storage vendors or platforms and through multiple proprietary snapshot mechanisms.

Virtualizing Data Protection

With the release of F5 Acopia FreedomFabric™ Network Operating System v3.0, F5 Acopia brings the benefits of intelligent file virtualization technology to data protection. F5 Acopia ARX® running FreedomFabric Network Operating System simplifies the management of snapshots in large, complex environments by federating multiple snapshot images into a single, virtual snapshot presentation. ARX coordinates the snapshot presentation across multiple file systems, file servers, and even proprietary storage platforms for true heterogeneous support.

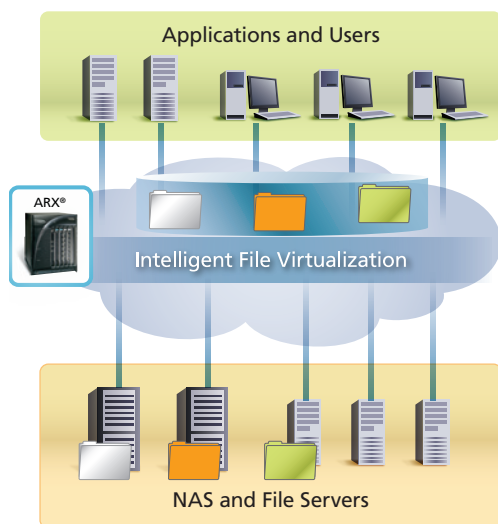


Figure 1: F5 Acopia's virtual snapshot capability coordinates snapshot management and presentation of the underlying storage platforms for simplified data protection, intuitive data protection, and data center-wide crash consistency.

F5 Acopia virtual snapshots are point-in-time images of an entire ARX managed volume. Through the same technology used in its intelligent file virtualization, ARX offers users the benefits of simplified data protection, intuitive data recovery, and data center-wide crash consistency.

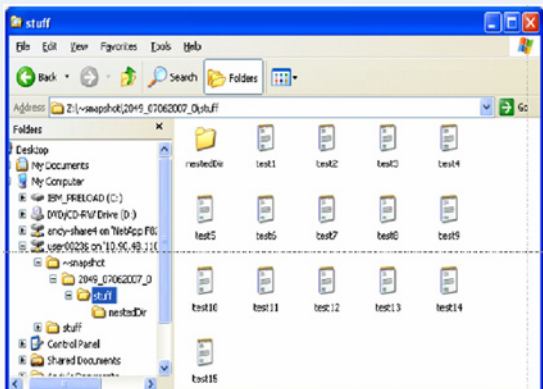


Figure 2: Navigating through and recovering from F5 Acopia virtual snapshots is fast and intuitive.

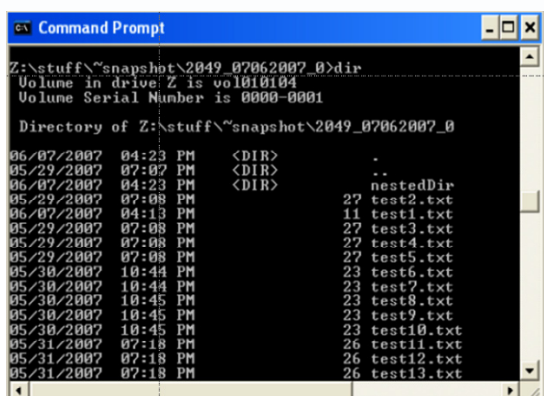


Figure 3: F5 Acopia virtual snapshots integrate multiple snapshots into a presentation that is identical to the virtual directory structure of the managed volume it copies.

Simplified Data Protection

Virtual snapshots reduce the administrative overhead of managing snapshots in large environments through user-customizable snapshot policies. These policies coordinate the creation of snapshots on all file systems virtualized in an ARX-managed volume. Based on schedule and retention attributes, ARX manages snapshot creation and removal for each file system through the underlying storage platform's proprietary APIs. With ARX, administrators can now manage their snapshot policies with the same efficiency as their file storage—holistically and without regard to the underlying physical storage.

ARX also provides extensive reporting capabilities, giving administrators the ability to monitor snapshot creation, verification, and removal of all file systems in a managed volume, at a glance. These reports help administrators verify compliance against the corporate snapshot policy and provide ease of mind that their data can be recovered when needed.

Intuitive Data Recovery

F5 Acopia virtual snapshots eliminate the headache of recovering files or entire file systems in virtualized environments. ARX integrates multiple physical snapshots into a single presentation that is identical to the virtual directory structure of the managed volume it copies. This simplifies finding and recovering files.

Data Center-Wide Crash Consistency

A major advantage to F5 Acopia's virtual snapshot capability is its inherent ability to provide crash-consistency for snapshots in heterogeneous and multiple file system or server environments. F5 Acopia's approach preserves write-ordering with the managed volume, even across multiple physical volumes, file systems and servers, and storage platforms; it also prevents "torn writes," meaning that a write is either complete in the snapshot image or not present at all. Because the F5 Acopia device is inline, it can enforce crash-consistency entirely within the file virtualization layer.



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