

Actifio Tech Brief

Actifio 8.0.0 - What's New

What's New For Actifio AGM, CDS, and Sky

Unless otherwise noted, the features and functions described in this document apply to Actifio Global Manager (AGM), CDS, and Sky.

Note: *Upgrading to software version 8.0.0 is optional but strongly recommended to benefit from the new features and fixes in this release. Consult your Actifio Support representative for assistance in upgrading the software on your Actifio appliances.*

OnVault to Cloud Storage (AGM only)

Highlights

The costs of object storage, both on-premise and cloud storage, has seen a steady decline over the last few years, along with increased performance. At these price points, object storage has become a viable alternative for long term data retention and can negate the need to invest in computational and memory resources needed for deduplication. Actifio recognized this trend and last year introduced OnVault as another tier of storage integrated as part of its SLA-based data management. OnVault images are written in native format and enable instant access to the data via a read/write mountable image, thereby avoiding the need to first copy the entire image into some other storage before data could be used.

With this release, Actifio maintained the instant access to any point in time image stored in OnVault and added to its incremental-forever signature capture method. This enabled frequent and efficient data capture and movement where only the changes are written to the OnVault pool, drastically reducing bandwidth and storage costs. Customers can now send daily copies to a remote location for DR or test/development in the cloud, as well as generate frequent copies on local object storage for Appendix J compliance and other uses.

Data is typically sent to OnVault from a snapshot image but for VMware VMs you can now create policies that capture data from your production environment and move it directly to object storage, reducing the need for snapshot pool storage.

Images stored in an OnVault pool are self-describing so recovery of data can be done from the original Actifio appliance or from a newly provisioned Actifio appliance (for example, in case of DR). The "reading" appliance does not need to run while images write to OnVault; it can be spun up when needed, thus further reducing costs on public cloud infrastructure.

When using a Sky appliance as the "reader," you can mount an image and read directly from it without having to first copy the entire image into the local snapshot pool. This enables very efficient recovery of small amounts of data (e.g., a single file in a large file system) as well as direct access to the data for databases or even direct running of VMs from object storage. The "writing" appliance can be either CDS or Sky.

OnVault images are managed by an "owner" appliance (CDS or Sky), which handles expirations. Storage for expired images is reclaimed immediately. Ownership can be transferred to another appliance if needed, such as in the case of a DR event.

OnVault supports a wide range of object storage solutions for local deployment as well as from cloud providers. See Actifio's Support Matrix for details.

Benefits:

- Object storage provides an economic alternative to deduplication in some use cases.
- Multiple images from previous points-in-time can be kept off-site for DR or for TDM purposes.
- Data can be vaulted directly to public cloud object storage without any additional appliances running in the cloud, but still available for rapid access for DR and other purposes by spinning up appliances when the need arises, thereby reducing cloud costs.
- Customers can replace their offsite vault infrastructure for long-term retention (tapes, compute, dedup, etc.) with on-demand cloud object storage to securely store their daily, weekly, monthly, and yearly backup images.
- Customers can leverage public cloud to replace DR site, using on-demand computing combined with object storage to facilitate low RTO recovery
- Eliminate CAPEX for a remote vault with OPEX for on-demand cloud object storage
- Reduce cost of DR dramatically through usage of the public cloud
- Lower administrative costs and complexity due to simpler solution with fewer touch points (fewer products)
- Reduce risk of compliance failures with instant access to data that's days / weeks / months / years old.
- Access data from object storage instantly for other use cases such as on-demand data analytics and data warehousing in the cloud.

Cloud Mobility - Capturing System State for P2V and V2V

Highlights

This release adds the ability to capture the system state (AKA boot volume) of a Windows or Linux server—whether physical or virtual—and recover it as a new virtual machine. This enables:

- Full capture of physical servers
- Capture of VMs that run on non-supported hypervisors (such as OpenStack or KVM)
- Capture of VMs in cloud environments that do not have a snapshot and CBT mechanisms (such as AWS, Azure, Google Cloud)

The captured servers can be recovered as new VMs on VMware, vSphere, and AWS. Basic metadata of the source machine is captured as well (e.g., # of CPUs, Memory, # of disks, disk size, # of volumes per disk, volume size, # of network cards, network info of each interface, IP, DNS) and is used by default on recovery, and can be changed in the future.

The user can capture all or some of the server's file systems as part of capturing the server with its system state. An SLA template, with all standard policies (such as Snapshot, dedup, StreamSnap, and OnVault) can be assigned to capturing system state.

Benefits

- Delivering a complete server capture solution through a single platform enables easier automation and orchestration in a variety of public and private cloud environments.
- Eliminating the need for a separate product to manage the system state of servers makes the overall solution simpler, more robust, cheaper, and easier to deploy.

- Reducing the operating expense (OPEX burden) for managing virtual machine templates, making it easier for MSPs to deliver DRaaS.
- Automatic cloud conversion lowers operations burden for on-demand DR in VMware or AWS.
- Low RTO with instant recovery reduces mission critical application downtime to the lowest possible TCO with instant recovery from object storage.
- Peace of mind that critical applications are protected and can be recovered in a different cloud.
- Simple and low cost migration between clouds.

Global File Catalog and File-Level Recovery (AGM only)

Highlights

This capability provides a catalog of all files/directories in backup images managed by Actifio appliances and provides an easy way to search for and recover files and directories. Users can enable indexing of backups into the catalog through an SLA templates option, then apply those templates to file systems and VMs. This release supports indexing of:

- Windows file systems (NTFS, ReFS and CIFS) using the Actifio Connector)
- Windows VMs running on VMware vSphere (no connector is needed within the VMs).

The catalog, stored on the Actifio Global Manager server, searches for files and directories using wildcards and filters (such as host and backup/modified dates). Files can be recovered from images in various storage pools, including Snapshot, dedup, and OnVault—all included in the catalog. Once found, files recover directly to the source file system location or to a new one, with various options to overwrite or rename files.

Benefits

- Actifio's traditional copy data virtualization benefits now apply to a variety of Linux-based applications ,now captured in an efficient, block-based, incremental-forever fashion. This includes databases—such as DB2, PostgreSQL, Sybase, MySQL, MongoDB, and others—as well as file systems and other data residing on Linux volumes

NAS Director Support for NetApp C-Mode and 7-Mode

Highlights

NAS Director (formerly Big Data Director) now supports NetApp C-mode and 7-mode configurations.

Benefits

- Efficient backup and instant recovery of large file systems stored on NetApp filers.

Linux CBT (Change Block Tracking) enhancements

Highlights

The Linux CBT (Change Block Tracking) is a feature of the Actifio Connector enabling users to capture data from Linux based applications in a block-incremental fashion. The CBT driver tracks block-level changes which will be used to copy changed blocks only during the data capture phase of an out-of-band generic application. Actifio 8.0 introduces enhancements to the mount screen that makes it easy for users to directly mount backup volumes to a host and initiate the execution of a post script.

Benefits

- When combined, the generic applications and Linux CBT feature allows users to capture changed blocks from databases running on Linux, such as DB2 and SAP HANA.
- The previous and post scripting framework of generic applications provides a way to capture data in an application consistent manner.

- The enhancements to the mount screens allow users to more easily bring up applications by specifying a script.

SQL Server Enhancements

Highlights

- When capturing Microsoft SQL Server databases, you now have the option of also capturing the database's user login data. Captured login data can then be restored along with their associated SQL Server database when creating a virtual SQL Server database during an application aware mount operation.
- When SQL Server instances in Failover Cluster configurations fail over between Windows hosts, snapshots will continue to be incremental, leveraging Actifio's change-block tracking bitmap. In previous releases, this required a "low-splash" process to compare the production data with the latest backup and recreate the CBT bitmap.

Benefits

- Simplified creation of SQL Server virtual copies for test/development and other uses.
- Reduced snapshot job duration when SQL Server instances move to a new node in a Failover Cluster configuration.

Usability and Performance Enhancements

- The Actifio Global Manager view of applications, under Application Manager, has been streamlined with more user control, easier filtering, and saved user preferences.
- Performance of dedup replication has been enhanced when traversing high latency network links.
- Improved error handling in Oracle backup and recovery jobs.

Upgrade Paths

This section details upgrade paths for this release.

AGM

AGM systems running 7.x can be upgraded directly to 8.0. Older versions need to be upgraded to one of these releases before upgrading to 8.0.

CDS & Sky

CDS and Sky systems running 7.x can be upgraded directly to 8.0. Older versions need to be upgraded to one of these releases before upgrading to 8.0.

SVC upgrade from 7.3.0.8 to 7.5.0.9 will remain optional with 8.0 as it was with 7.x. So 8.0 can run with either of these two SVC versions.

Actifio 8.0.1 - What's New

Actifio Service Pack 8.0.1 includes assorted performance enhancements, security improvements, and bug fixes. This is detailed in **Actifio CDS and Sky 8.0.1 Release Notes**.

Supported Platforms

- Added Oracle 12c File System PDB support for Linux platforms.

Upgrade Paths

AGM

AGM systems running 7.x can be upgraded directly to 8.0.1. Older versions need to be upgraded to one of these releases before upgrading to 8.0.1.

CDS & Sky

CDS and Sky systems running 7.x can be upgraded directly to 8.0.1. Older versions need to be upgraded to one of these releases before upgrading to 8.0.1.

SVC upgrade from 7.3.0.8 to 7.5.0.9 will remain optional with 8.0.1 as it was with 7.x. So 8.0.1 can run with either of these two SVC versions.

CDS & Sky System

Actifio recommends using a patch installer to upgrade to 8.0.1.

