

Actifio StreamSnap

Database, Storage and Cloud Agnostic **Replication Software** for Instant Recovery of Mission Critical Applications in Hybrid Cloud

Most enterprises with mission critical applications are under constant fear of the impact of application down time on sales & revenue, enterprise reputation, and employee productivity. An additional priority for enterprise IT is to cut down their data center footprint by leveraging on-demand cloud for use cases such as replication, disaster recovery, test dev and migrate applications over time to cloud. But enterprise IT is not able to accelerate cloud adoption fast enough, because, these critical applications are being managed by many conventional point tools for backup, deduplication, storage snapshots, storage or database replication. These point tools end up creating many 'siloesd' copies of data tightly coupled with the underlying infrastructure. It's hard for enterprise IT to untangle data and its many copies from on-premises infrastructure and point tools, and manage them in the cloud of their choice.

Most enterprises also have development teams who want to release applications faster than ever and hence want to leverage on-demand cloud. But they are not able to test in cloud using secure, masked, refreshed copies of production databases because there are no good tools to manage these copies in hybrid cloud.

All these challenges result in slow adoption of cloud, costly tool and infrastructure sprawl, constant fear of application downtime, and slow application release cycles.

An ideal solution for enterprise IT would be a single platform that can accelerate cloud adoption, eliminate fear of application downtime with

cloud agnostic replication and instant recovery, and accelerate application release cycles for DevOps by refreshing test copies securely in cloud faster with automation.

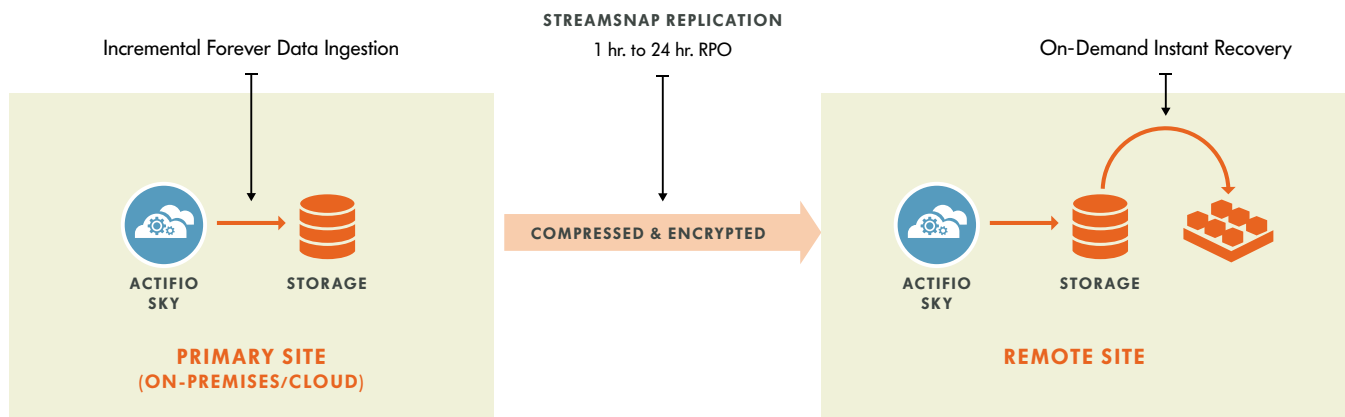
The Actifio platform with StreamSnap replication technology lets enterprises get the technical and business outcomes they want, allowing them to execute on what Gartner calls "Bimodal IT" strategies, by reducing costs and risks for Mode 1 use cases such as backup, DR, and long term data retention. At the same time enterprises can also accelerate their Mode 2 use cases for business agility such as CI/CD with accelerated software release, using flexible cloud-based compute resources.

Actifio captures data in an incremental forever manner for everything i.e. databases, file systems, NAS data. Once a full ingestion is done, Actifio ingests only changed data. Actifio then uses the StreamSnap feature to replicate to remote private / public cloud. In the cloud Actifio enables users to do instant recovery in minutes, irrespective of the size of data.

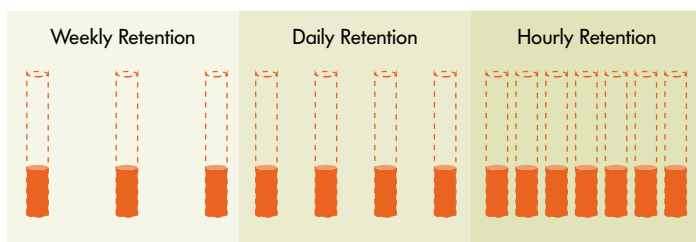
Some of the key features and benefits of Actifio StreamSnap are:

- 1. Incremental Forever:** Data is captured and replicated in an incremental forever manner. This ensures that only the changed blocks are processed and replicated efficiently to remote cloud, thus reducing the IO, cpu, and memory utilization significantly on mission critical production applications.

FIGURE 1: **StreamSnap Replication**



2. **Compression & Encryption:** All data is compressed and encrypted while replicating over network. Optionally data can be encrypted at rest as well. With Actifio Sky (Actifio software in a Virtual machine appliance), data is also compressed at rest.
3. **RPO Dial:** Users can choose RPO i.e. the frequency of replication, according to the importance of their applications. For critical applications, to minimize data loss window, use a low RPO such as 1 hour. For applications where a higher RPO is acceptable, use a higher RPO such as 4 or 8 or 12 or even 24 hours to reduce bandwidth and increase scalability..
4. **Instant Recovery:** Users can achieve on-demand instant recovery in remote cloud in minutes, irrespective of the size of data. On-demand instant recovery at the cloud DR site leverages cloud compute on demand at the time of Disaster Recovery (DR) or DR tests, thus eliminating need to maintain your own infrastructure at a second site. Users can also do instant recovery at the primary site which is typically used for day to day operational recoveries, or pre-production\staging testing while releasing new OS, DB patches.
5. **Protection Against Data Corruption:** Users can choose the number of point in time “virtual images” to be stored at primary and remote cloud DR site. This ensures that users can go back in time to do recoveries. So for example, if production data is corrupted, users can browse various point in times, select a specific point in time and do instant recoveries. Users can even recover a single database to different points in time concurrently to different on-demand compute instances using Actifio’s data virtualization technology.
6. **Sparse Retention:** Most of the restores or recoveries happen to a point in time within the last few hours or days. So users typically want a retention scheme such as retain hourly for 2 days, dailies for 1 week, weeklies for 4 weeks. Such “Sparse retention” saves a lot of storage as compared to saving hourly snapshots for 30 days. Note that recovery at any point in time is instant because Actifio synthesizes a “virtual” point in time full for each incremental backup.



7. **Non-Disruptive Sandbox Testing In Cloud:** Users can do DR testing in cloud in a sandbox environment in such a way that it doesn’t impact production, backup, or replication during the DR testing. Sandbox testing for multiple days can even be conducted without concern over “filling the journal” or impacting recovery times for newer data, as StreamSnap performs delta-based replication instead of journal-based replication.
8. **Large Database Scalability:** Actifio StreamSnap was designed ground up keeping in mind a need to replicate databases that are 100+ TB databases. Actifio does 2 optimizations for such large databases.
 - a. Users can specify the number of simultaneous streams (example: RMAN channels for Oracle databases) so Actifio can shorten the data ingestion window by leveraging parallelization.
 - b. Based on the size of the database, Actifio automatically determines the number of parallel streams during StreamSnap replication. For example, for a 100 TB database, Actifio StreamSnap could create 50 parallel streams for replication to most efficiently utilize available bandwidth.

Actifio StreamSnap technology, with such simultaneous streams, can easily saturate a 10 Gbps network.
9. **Bandwidth Throttling:** Actifio enables users to throttle bandwidth usage for StreamSnap replication, and also allows you to optionally schedule different throttle rates at different times.
10. **Hourly Refreshes for DevOps In Cloud:** Actifio can replicate to cloud site where DevOps teams can provision multiple virtual copies of production data instantly in a self service manner. Some DevOps teams, in their CI/CD pipeline, want to test on latest copies of production. Actifio StreamSnap enables these times to refresh copies in cloud with changes in production with as high a frequency as every 1 hour.
11. **Database, Storage, & Cloud Agnostic:** Actifio StreamSnap replication works for multiple databases such as Oracle, MS SQL, DB2 on physical machines or virtual machines, can use storage from any vendor, and can leverage any of the private cloud platforms from Managed Service Providers, or any of the public clouds like AWS.

StreamSnap Is part of the enterprise-class Actifio Copy Data Virtualization platform that improves business resiliency with comprehensive data protection and DR capabilities, including snapshots, deduplication, disk backup, low-RPO replication, WAN-efficient dedup replication, application integrations, DR orchestration, and vaulting to Public Cloud or on-premises Object Storage targets. The Actifio platform also helps businesses build higher quality applications faster with Test Data Management for CI/CD capabilities.

About Actifio

Actifio virtualizes the data that’s the lifeblood of businesses in more than 30 countries around the world. Its Virtual Data Pipeline™ technology enables businesses to manage, access, and protect their data faster, more efficiently, and more simply by decoupling data from physical storage, much the same way a hypervisor decouples compute from physical servers. For enterprise-class backup modernization, self-serve instant data access, or service provider business transformation, Actifio is the first and only enterprise class copy data virtualization platform.

For additional information, visit Actifio at www.actifio.com or contact Actifio at info@actifio.com or [855.886.8997](tel:855.886.8997).

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