

Actifio CDS™

Copy Data Virtualization for the Enterprise Data Center & Hybrid Cloud

Today's enterprise IT organizations face pressures from all sides, and have to keep up with fundamental organizational changes to respond to the market's shift to digital business. Business leaders question continued infrastructure investments and may advocate for the transfer of IT operations to the cloud or to external service providers.

Application development teams demand access to infrastructure and data to support faster and higher quality software releases. At the same time, IT operations teams are constantly challenged to keep production services resilient and available. They need to keep the lights on for the business while planning for the worst with reliable backups and disaster recovery plans. Often, they must retain data copies for years to support regulatory compliance or legal needs.

To respond to these pressures, the Actifio™ copy data virtualization platform helps enterprises effectively

- 1. Enable a Hybrid Cloud Strategy**, managing and moving data across data center and cloud-based infrastructures, driving cost and flexibility benefits;
- 2. Build Higher Quality Applications Faster**, by providing rapid, self-service access to high-fidelity test data to accelerate release cycles and reduce DevOps conflict, delivering new features to the market and faster top-line growth; and
- 3. Improve Business Resiliency and Availability**, with backup, disaster recovery, and data retention capabilities that improve internal SLAs, while reducing IT costs, complexity and business risk.

Actifio CDS —Copy Data Virtualization in a Data Center Appliance

CDS is Actifio's hardware appliance designed to deliver positive outcomes for the use cases noted above in large-scale enterprise deployments in heterogeneous data center environments. Actifio CDS is powered by Actifio's patented Virtual Data Pipeline™ (VDP) software. It supports a broad range of enterprise applications, host operating systems, and third-party storage, and is designed to manage petabytes of application data per system. CDS is a turnkey gateway system including Actifio's VDP software and fault-tolerant appliance. CDS integrates seamlessly into any data center, leveraging either high-speed IP (10GbE or 1 GbE) or Fibre Channel (8 Gb) networks to capture data. In spite of its scalability and sophistication, Actifio CDS offers operational simplicity with the industry's only application-centric SLA-based management.

Key Capabilities & Features

Business Resiliency and Availability

Actifio CDS provides fast, efficient data protection and disaster recovery capabilities with a comprehensive set of integrated snapshot, backup, deduplication and compression, replication, vaulting and orchestrated recovery features. CDS supports physical servers, virtual machines, databases, and other applications in private, public, hybrid cloud environments.

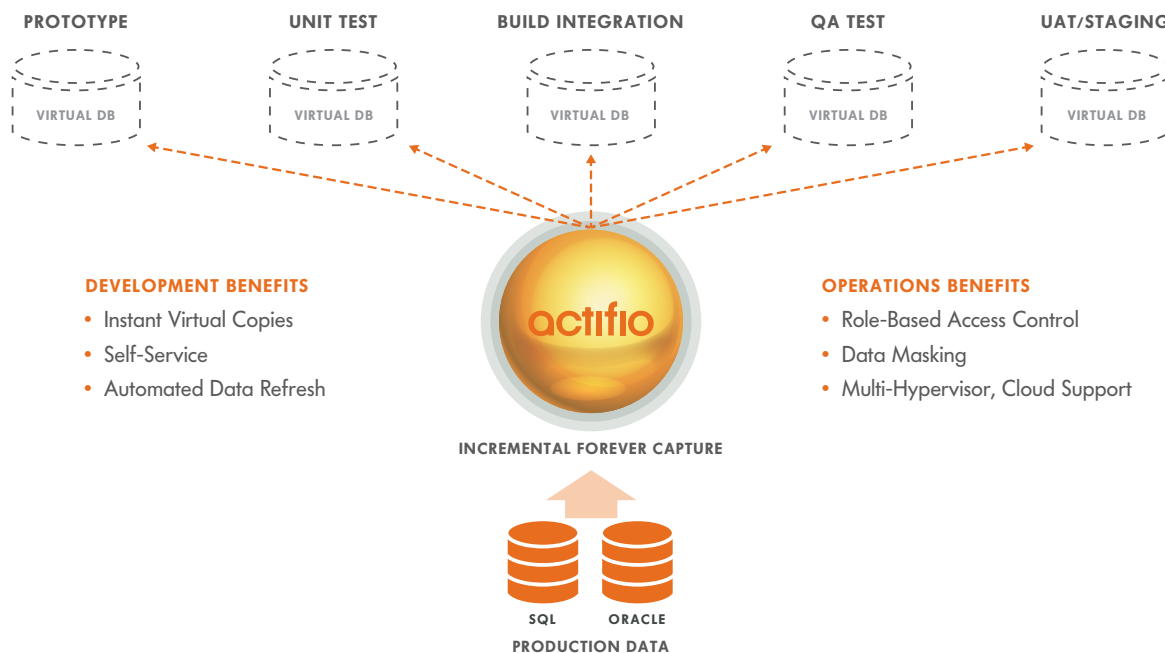
KEY CAPABILITIES THAT ACTIFIO DELIVERS

- Reduce application downtime with instant recovery of application data, regardless of size; and orchestrated, testable
- Massive (often 10x) reduction in backup window, storage IO, and network IO, even for multi-TB databases and NAS filers.
- Reduce licensing and operational costs by replacing multiple point tools for VM backup, physical server backup, dedup appliances, storage snapshot and replication.
- Deployment flexibility: In data centers, private, MSP or hybrid clouds.
- A single system of record for data management with a simple and easy-to-manage policy- and SLA-based approach.

“The biggest backup and data protection pain points for enterprise IT leaders are, first, ‘Cost’, second, ‘Keeping pace with the capacity of data to protect,’ and third, ‘Reducing backup and recovery times.’ Actifio’s enterprise-class copy data virtualization platform is able to address these pains by saving companies money through infrastructure and tool consolidation, delivering instant mounts for data access and shrinking non-production data growth with virtual data copies.”

– SCOTT SINCLAIR, **ENTERPRISE STRATEGY GROUP**

FIGURE 1: Actifio Test Data Management for Application Development



KEY FEATURES

- **Instant Mount:** Recover multi-TB Databases, physical server volumes, and VMs in minutes with. See [this video](http://www.actifio.com/SQLrecovery-video)¹ of Actifio recovering a 1.6 TB MS SQL DB in less than a minute.
- **Incremental Forever Backups:** Eliminate recurring full backups with incremental-forever backups of data in native application format at the block level.
- **Broad Enterprise Application and Environment Support:** Not just for VMs, but also for very large databases, and large file systems on physical servers.
- **Data Deduplication:** Global deduplication on any storage, built into patented data movement and management processes.
- **Automated Site-level Disaster Recovery Support:** With Resiliency Director, get orchestrated, testable and provable, low-RTO DR.
- **Flexible Replication Options:** Based on an application's RPO and priority and available bandwidth, choose either Actifio StreamSnap direct replication for low-RPO recovery of critical applications or Actifio Dedup Async Replication (DAR) for efficient, low-bandwidth data transfer and automated rehydration, both of which present data in its native format for instant access at your DR site.
- **Platform Independence:** Decouple data from infrastructure and enable data protection for any compute and storage infrastructure.
- **Web Scale Management:** Manage multiple appliances from a single console, auto load distribution across multiple appliances, centralized SLA policy and security manager for the entire enterprise.

¹ <http://www.actifio.com/SQLrecovery-video>

Building Higher Quality Applications Faster

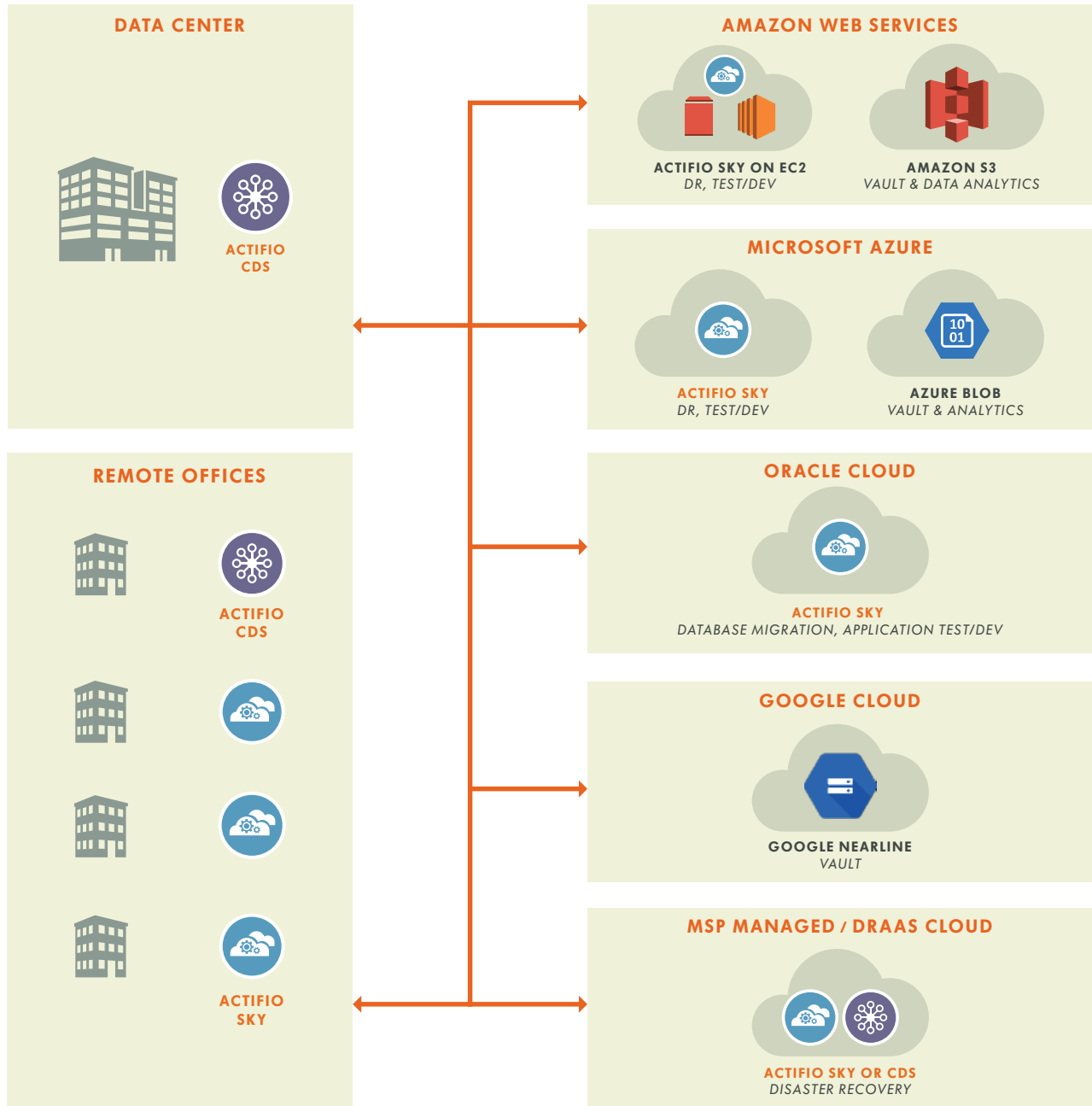
Speed, Cost, Quality, and Data Control (Security) problems plague traditional application testing approaches, which often rely on low-fidelity data-subsetting, synthetic data, backups or full physical production clones. Long refresh cycles, discovery of defects in UAT or even production, multiplying infrastructure costs, and security risks from data sprawl are just a few of the specific pains from traditional testing approaches.

Actifio CDS delivers Test Data Management capabilities for Enterprise DevOps, Agile or traditional application development and test teams, so that they can build higher quality applications faster, responding to market needs and customers faster.

Key Capabilities that Actifio Delivers

- Rapid (up to 25x faster) provisioning of 'personal' virtual copies of production (and potentially masked) data sets to Test/Dev teams.
- Accelerate application release cycles by up to 25% from increased automation and productivity.
- Eliminate burden on DBAs with fully automated virtual database provisioning.
- Improve developer and QA productivity by integrating familiar portal and DevOps tools with Actifio RESTful APIs.
- Shift Left—Improve product quality by catching defects much earlier because of better testing using high fidelity virtual copies.
- Increase customer satisfaction with faster issue resolution by production support teams using instant virtual copies of production data.
- Reduce storage consumption massively. For example: 25 virtual copies of a 10 TB production dataset need ONLY 10-22 TB of storage, instead of 250 TB physical copies.
- Reduce security risks and stay compliant by automating data masking processes and use of role-based access controls.

FIGURE 2: Hybrid Cloud Example



KEY FEATURES FOR DEVOPS, TEST, DEV AND DBA TEAMS

- **Instant Virtual Copies:** Instantly provision dozens of virtual copies of production data for test/dev environments, without extra storage.
- **Self-Service:** Globally distributed team members, using authorized self-service, can securely login and access multiple virtual database copies instantly without any manual processes.
- **Database Consistency:** Integration with popular databases automates provisioning of virtual database copies for use.
- **High Fidelity:** Virtual copies with no data subsetting ensures better testing, QA and better quality.
- **Bookmarks:** Testers can create point in time bookmarks during testing to easily rewind to any selected point.
- **Cloud-based Testing:** Data deduplication and compression minimize replication bandwidth usage, to get data to Actifio Sky virtual appliances in AWS or other clouds, in order to refresh data and provision virtual copies of multi-TB datasets.
- **API Integration:** Integration via RESTful APIs to familiar orchestration portals or DevOps tools including Jenkins, Ansible, Chef, Puppet, and Saltstack.

See in [this video](#)² how 10 virtual copies of a 1TB database can be provisioned in <5 minutes using Ansible via Actifio API integration.

FEATURES BENEFITING IT OPERATIONS

- Role-Based Access Control: IT Ops can control who can access copies of which datasets on what test servers, using standard LDAP / Active Directory integration.
- Fast Data Refresh with incremental-forever data capture
- Workflows to automate and orchestrate rapid provisioning of efficient virtual copies Test/Dev teams locally or at remote sites or clouds without manual work.
- Automated Data Masking by specifying Data Masking server and script to mask sensitive data as part of provisioning workflow.
- Supports Enterprise IT Requirements including multi-vendor database (notably SQL and Oracle), large-scale NAS, multi-hypervisor, OS and Cloud support, Oracle ASM and RAC, high performance networking with iSCSI and scalability for massive databases.
- No impact on production storage or applications, including no space consumption on costly production storage arrays
- Integrated data protection and DR, increasing ROI

Enabling the Enterprise Hybrid Cloud

Enterprise adoption of flexible cloud infrastructures have been hampered by an issue of “data gravity.” The result is that applications and services tend to be stuck where the mass of their data resides, and when that data gets large enough, it’s very difficult to move that data and their associated applications out of a traditional data center, into a Cloud. This contributes to continued high infrastructure Capital Expenditures, complexity, vendor lock-in, inflexible deployment models and slowed schedules and even security risks, both from the emergence of Shadow IT, and from a lack of in-house world-class security talent in many organizations.

Actifio can help overcome data gravity, and enable mobility of data and its accompanying application workloads across legacy data centers and cloud infrastructures.

Key Capabilities that Actifio Delivers

- A single system of record across users, applications, infrastructure types and use cases that breaks down siloes
- Instant access to data in its native application format, regardless of location

² <http://www.actifio.com/ansible-video>

- Highly efficient, automated movement of data with ongoing synchronization of changes
- Portability of data across cloud or data center, preventing platform lock-in
- Enterprise-class security
- RESTful APIs to enable automation and integration with cloud-based applications, services and tools

KEY FEATURES

- **Infrastructure Agnostic:** Actifio CDS can let enterprises capture, manage and use data on-premises and move it to the cloud for any use case
- **Incremental-forever capture of data** in its native application format at the block level
- **SLA-based Management:** Ability to define SLAs for capture, movement and retention each application’s data, regardless of cloud platform, according to business, governance or operational requirements
- **Actifio Global Manager** delivering unified cloud-scale data management across clouds and data centers
- **Multi-Cloud Support:** Ability to move data to AWS, Azure, Google Cloud Platform, Oracle cloud, Sungard AS, Verizon, IBM Softlayer and other VMware-based clouds
- **Flexible data movement options.** The CDS appliance includes
 - **Actifio StreamSnap** direct replication for low-RPO recovery of critical applications in the cloud,
 - **Actifio Dedup Async Replication (DAR)** for efficient, low-bandwidth data transfer and automated rehydration in the cloud, and
 - **Actifio OnVault** to write data to AWS S3, Azure Blob, and Google Nearline cloud object storage, as well as IBM Cloud Object Storage (formerly Cleversafe) for cost-effective long-term retention, as well as other cloud-enabled use cases such analytics, data warehousing, or on-demand database consistency checks.

SYSTEM REQUIREMENTS

- **Software:** Actifio Virtual Data Pipeline software version 7.x
- **Platform:** Dual servers with battery backed cache, acting as a fully redundant storage controller, which virtualizes and supports a wide variety of back-end storage arrays. See the [Actifio CDS Specifications sheet](#)³ for more details.

³ <http://actifio.com/CDS-Specs>

About Actifio

Actifio virtualizes the data that’s the lifeblood of businesses in more than 35 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**.

actifio[®]
Radically Simple



©Actifio, Inc. All rights reserved. Actifio™ is a registered trademark of the Actifio Corporation. All other trademarks and service marks are property of their respective owners.