Actifio Sky™

Copy Data Virtualization for the Hybrid Cloud

Today's Enterprise IT organizations face pressures from all sides, and have to keep up with fundamental organization 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, 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 (CDV) 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 & Availability,** with backup, disaster recovery, and data retention capabilities that improve internal SLAs, while reducing IT costs, complexity and business risk.

Actifio Sky™—Copy Data Virtualization in a Virtual Appliance

Actifio Sky is a virtual machine appliance, built on Actifio's patented Virtual Data Pipeline™ (VDP) software, the same technology that also powers the physical Actifio CDS™ appliance to deliver positive business outcomes for multiple critical enterprise use cases.

Key Capabilities & Features

Business Resiliency & Availability

Actifio Sky provides fast, efficient data protection and disaster recovery capabilities. It delivers a comprehensive set of integrated snapshot, backup, deduplication, compression, replication, vaulting and orchestrated recovery features. Actifio Sky is infrastructure agnostic, and supports physical servers, virtual machines, databases, and other applications in private, public, and hybrid cloud environments.
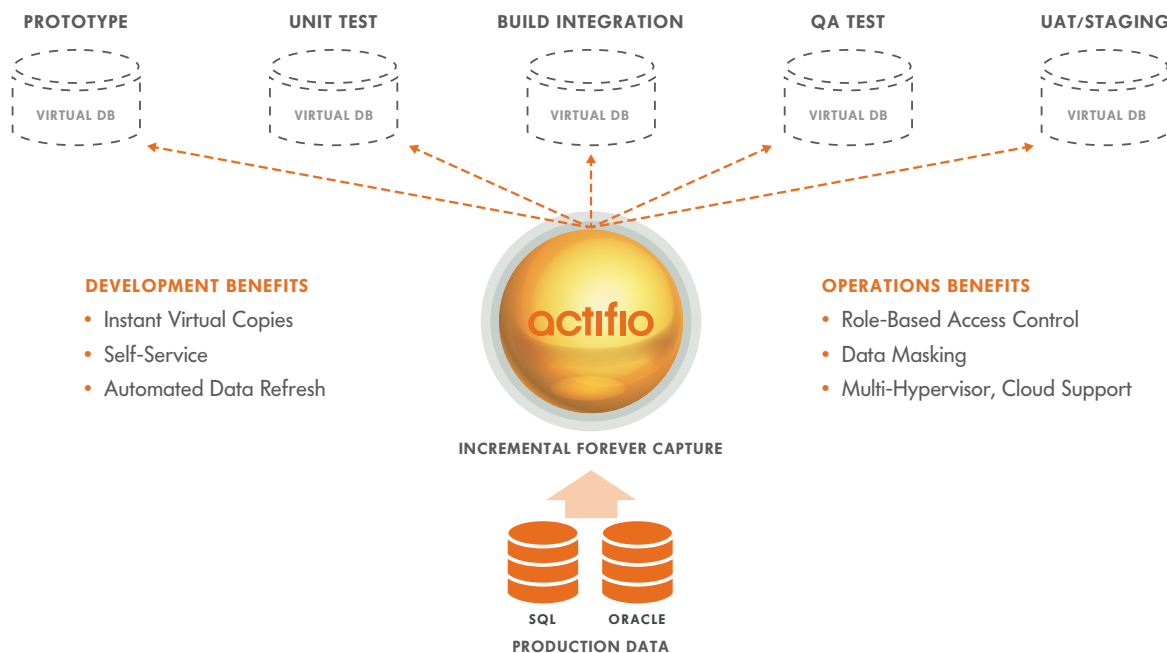
Key Capabilities that Actifio Delivers

- Reduced application downtime with instant recovery of application data, regardless of size; and orchestrated, easily verifiable disaster recovery.

- Massive (often 10x) reduction in backup windows, storage I/O, and network I/O, even for multi-TB databases.

- Lower licensing and operational costs by replacing multiple point tools for VM backup, physical server backup, deduplication software and appliances, storage snapshots, and replication.

- Deployment anywhere: In a private, public, MSP or hybrid cloud, in a data center or remote office.

- A single system-of-record for data management, with a simple 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, SENIOR ANALYST
> **ENTERPRISE STRATEGY GROUP**

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PROTOTYPE   UNIT TEST   BUILD INTEGRATION   QA TEST   UAT/STAGING

VIRTUAL DB   VIRTUAL DB   VIRTUAL DB   VIRTUAL DB   VIRTUAL DB

DEVELOPMENT BENEFITS
• Instant Virtual Copies
• Self-Service
• Automated Data Refresh

OPERATIONS BENEFITS
• Role-Based Access Control
• Data Masking
• Multi-Hypervisor, Cloud Support

INCREMENTAL FOREVER CAPTURE

SQL   ORACLE
PRODUCTION DATA

KEY FEATURES

• **Instant Mount:** Recover multi-terabyte databases, physical server volumes, and virtual machines in minutes. See this video[1] of Actifio recovering a 1.6 TB Microsoft SQL database in less than a minute.

• **Incremental Forever Backups:** Eliminate recurring full backups with incremental-forever snapshots 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 Actifio Resiliency Director and Sky, enterprises can achieve orchestrated, low-RTO DR that can be tested automatically.

• **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 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 & storage infrastructure.

• **Web Scale Management:** Manage all copy data across an entire global infrastructure a from a single console: Actifio Global Manager, which includes auto load distribution across multiple appliances, and centralized SLA policies and roles-based access controls for the entire enterprise.

Building Higher Quality Applications Faster

Speed, Cost, Quality, and Data Control problems plague traditional application testing approaches. Such processes often rely on low-fidelity data subsetting, synthetic data backups or full physical production clones, and suffer from long test cycles, data refresh cycles, and discovery of defects in late development stages, such as UAT, stage or even production. Provisioning full copies of production data for testing multiplies infrastructure costs and security risks from data sprawl.
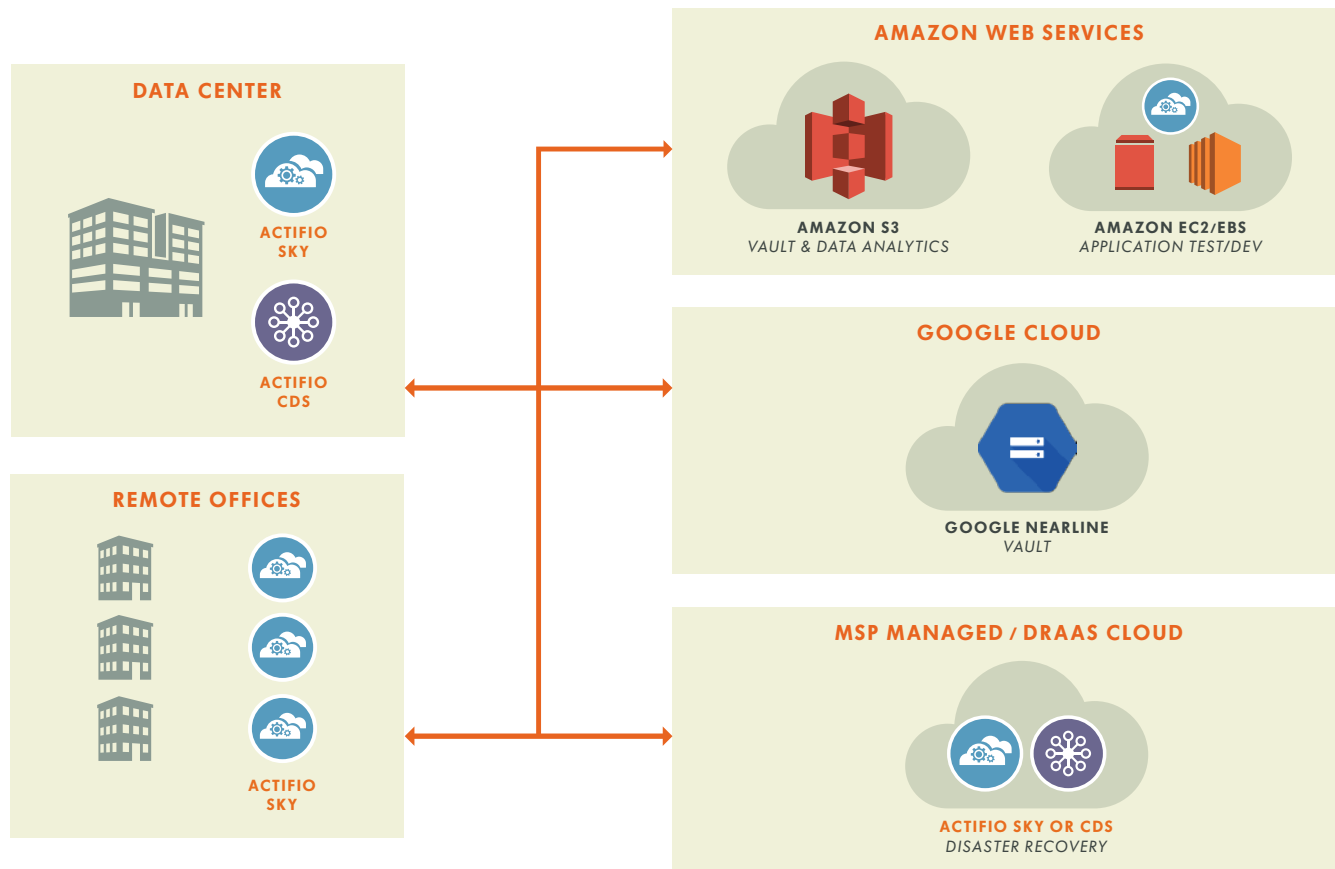
Actifio Sky delivers Test Data Management capabilities for DevOps, Agile or traditional application development and test teams that enable enterprises to build higher quality applications faster, responding to market needs and customers faster.

Key Capabilities that Actifio Delivers

• Up to 144x faster provisioning of 'personal' virtual copies of current production data sets to Test/Dev teams.

• Accelerate application release cycles by up to 25% from increased automation & productivity.

• Eliminate burdens on DBAs with fully automated virtual database provisioning.

• Improved developer & QA productivity by integrating familiar portal and DevOps tools with Actifio Sky RESTful APIs.

• The ability to "Shift Left" testing efforts to catch software defects much earlier in release cycles. This is enabled by using high-fidelity virtual data copies in increased, parallel, automated testing without extra storage.

• Increase customer satisfaction with faster issue resolution by production support teams using instant virtual copies of production data.

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1 https://www.youtube.com/watch?v=8f9XhwcJxYE

DATA CENTER

ACTIFIO SKY

ACTIFIO CDS

REMOTE OFFICES

ACTIFIO SKY

AMAZON WEB SERVICES

AMAZON S3
VAULT & DATA ANALYTICS

AMAZON EC2/EBS
APPLICATION TEST/DEV

GOOGLE CLOUD

GOOGLE NEARLINE
VAULT

MSP MANAGED / DRAAS CLOUD

ACTIFIO SKY OR CDS
DISASTER RECOVERY

- Massively reduce storage consumption with data virtualization. For example, creating 25 virtual copies of a 10 TB production dataset for dev/test teams needs ONLY 10-20 TB of storage, instead of 250 TB for physical copies.

- Shrink security risks and stay compliant through automated data masking processes and use of role-based access controls.

Key Features for DevOps, Test, Dev & 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, once authorized for self-service, can securely login and access multiple virtual database copies instantly without any manual processes.

- **Database Consistency:** Integration with popular databases automates the provisioning of virtual database copies for use.

- **High Fidelity:** Virtual copies with no data subsetting ensures better testing, QA, and better overall quality.

- **Bookmarks:** Testers can create point-in-time bookmarks during testing to easily rewind to any selected point.

- **Support for Cloud-based Testing:** Instantly provision virtual copies of multi-TB datasets in AWS, VMware- or Hyper-V-based clouds. Data deduplication minimizes replication bandwidth usage.

- **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.

Key Features for IT Operations Teams

- **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 for 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 (e.g. Microsoft SQL Server and Oracle). It incorporates hypervisor, OS and Cloud support, Oracle ASM and RAC, high-performance networking with Fibre Channel and iSCSI, and scalability for massive databases.

2 http://www.actifio.com/resources/demo-virtual-db-as-a-service-actifio-ansible-integration/

- No impact on production storage or applications, including no space consumption on costly production storage arrays.
- Integrated data protection & DR, increasing ROI.

Enabling the Enterprise Hybrid Cloud

Enterprise adoption of flexible cloud infrastructures have been hampered by the challenge of "data gravity." As a result, applications and services tend to be stuck where the mass of their data resides. When that data gets large enough, it becomes very difficult to move applications out of a traditional data center and into a Cloud. This contributes to continuing operation of complex infrastructure and high Capital Expenditures. The inability to break free from the data center contributes to vendor lock-in, inflexible deployment models, slowed schedules, and even security risks. Such inflexible infrastructures promote the emergence of 'Shadow IT,' as users and lines of business seek alternate solutions to meet their needs quickly.

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

KEY FEATURES

- **Infrastructure Agnostic:** Actifio Sky lets enterprises use data on-premises or in the cloud for any use case, instantly.
- **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 of each application's data according to business, governance or operational requirements.
- **Actifio Global Manager** delivering unified cloud-scale data management across clouds and data centers.
- **Multi-Cloud Support:** AWS, Google Cloud Platform, Oracle Coud including Sungard AS, Verizon, IBM Softlayer and other VMware-based clouds.
- Flexible data movement options. :

  Actifio StreamSnap Replication

  Actifio Dedup Async Replication (DAR), and the new

  Actifio OnVault to write data to AWS S3 and Google Nearline cloud storage object storage 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, delivered as an OVA, VHD, or AMI
- Platform: vSphere 5.1+, Microsoft Hyper-v on Windows 2008 R2, 2012, 2012 R2, or Amazon EC2
- Actifio Sky is available as virtual appliance licensed with 1 TB, 5 TB, 10 TB, 30 TB, or 50 TB dedup storage capacities, each with its own system requirements. See the Actifio Sky Specifications sheet for more details.

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**.

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Google Cloud Platform Partner

ORACLE Platinum Partner

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TECHNOLOGY ALLIANCE