

SUPPORT MATRIX

Applies to Actifio software version 8.x (8.1.0 – 8.1.6), 9.x (9.0.0 – 9.0.4, 9.0.6) and 10.x
(10.0.0 – 10.0.4)

Actifio Inc.

REVISION HISTORY

Version	Date	Changes
1.0	Jan 2019	Added support for <ul style="list-style-type: none">• External Snapshot Pools• NFS Datastore For Vmware• Full Data Migration To Aws, Gcp & Azure Cloud• RHEL 7.6
1.1	Feb 2019	Added support For RHEL 6.10 And OEL 6.10
1.2	Mar 2019	Added support for <ul style="list-style-type: none">• Oracle Cloud Object Storage• Oracle 18c• Vmware Vcenter 6.7 U1• SAP HANA
1.3	Mar 2019	Added support for Centos 7.5 & 7.6
1.4	Apr 2019	Added support for vSan 6.7 And vSan 6.7 U1
1.5	Apr 2019	Changed the latest Actifio software version To 9.0.1
1.6	May 2019	Added support for Windows Server 2019 OS
1.7	May 2019	Added support for <ul style="list-style-type: none">• Centos 7.5, 7.6 Cloud Mobility• OEL 7.4, 7.5 & 7.6• Vmware Vcenter 6.7 U2• SLES 12.4 & 15
1.8	June 2019	Added Support For Maxdb

1.9	June 2019	Added support for Oracle 19c on Linux Operating Systems
2.0	August 2019	Added support for Solaris 11 Update 4
2.1	August 2019	Added support for Hyper-V 2019
2.2	September 2019	Added support for IBM Db2 and SAP ASE
2.3	September 2019	Added support for Fujitsu's NIFCLOUD Object Storage
2.4	November 2019	Added support for RHEL7.7, OEL 7.7 and VMware vSphere 6.5 U3
2.5	December 2019	Added support for VMware 6.7 U3
2.6	January 2020	Added out-of-box support for MySQL. Added connector and CBT support for RHEL 7.7 and 8.0
2.7	March 2020	Changed Max supported VDP to 10.0.0. Added support for <ul style="list-style-type: none"> • MariaDB • SAP IQ • CDX Appliance • SLES 12SP on Power • RHEL 7.6 on Power
2.8	April 2020	Added support for following operating systems as part of VDP 9.0.6 release <ul style="list-style-type: none"> • RHEL 8.1 • CentOS 7.7, 8.0 and 8.1 • SLES 12 SP5 and SLES 15.1 • OEL 8.0 and 8.1
2.9	June 2020	Added support for <ul style="list-style-type: none"> • MaxDB & Sybase IQ (LVM) • RHEL 7.8 • IBM zLinux • NFS on IBM AIX • SLES 15.1 PPC

3.0	July 2020	Added support for <ul style="list-style-type: none"> • DDOS 7.1 • Pure Storage FlashBlade Object Storage
3.1	Aug 2020	Added support for vSAN 6.7 U2 and U3
3.2	Oct, 2020	Added support for DD OS 7.2 and 7.3
3.3	Nov, 2020	Added support for <ul style="list-style-type: none"> • RHEL 7.9, 8.2 & Cent OS 8.2 • OEL 7.8 and 8.2
3.4	June, 2021	Added support for <ul style="list-style-type: none"> • RHEL 8.3, Cent OS 8.3, OEL 7.9 & 8.3 and SLES 15 SP2 (and added cloud mobility support for some older versions).
3.5	Oct, 2021	Added basic connector support for RHEL 8.4
3.6	Dec, 2021	Added a note that cross platform recovery of data (from Big Endian machines to Little Endian machines or vice versa) is not supported.

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Deployment Information

Actifio VDP (Virtual Data Pipeline) technology is packaged in two form factors. Actifio CDS & CDX product line is the physical form factor and Sky product line is the virtual form factor.

1.1 Deploying Actifio

1.1.1 Supported configuration topologies

Actifio supports configuring the Actifio appliance in various topologies as mentioned below.

- **Out of Band:** This is the most common configuration. In this configuration, the Actifio appliance is not in the data path. Data flows from the production host to Actifio during data capture
- **In-band:** In this configuration, Actifio appliance is configured in the data path between the production host and the production storage
- **LAN-Free (also known as sideband):** In this configuration, the Actifio appliance is zoned into the production storage. However, the Actifio appliance is not in the data path. During the data capture process, the Actifio appliance reads the data directly from the production storage to the storage configured behind Actifio
- **External Snapshot Pools (ESP) In-place Capture:** This is similar to an “In-band” configuration with CDS in that the storage array does snapshots off of production volumes and tracks changes on production blocks, but is different in that no Actifio component is in the production data path. In this configuration, the data in the snapshot pool relies on the production volumes to be available
- **External Snapshot Pools (ESP) Out of Band:** This is similar to an “Out-of-Band” configuration with CDS/Sky/CDX in that Actifio tracks the changed production blocks and copies them into a staging disk in the ESP, but is different in that the snapshots

are managed externally. The production data can reside on the same array as the ESP or on different storage. A full copy is made into the ESP and then snapshots of that are incremental

Table 1.1: Supported topologies (data presented to host)

Topology	CDS	Sky	CDX
Out of Band	FC, IP ² and iSCSI	IP ² , iSCSI and NFS ^{3, 4}	FC, IP ² , iSCSI and NFS ^{3, 4}
In-band	FC Only	Not Supported	Not Supported
LAN-Free ¹	FC only	Not Supported	Not Supported
ESP In-place ⁵	Not supported	FC, iSCSI	FC, iSCSI
ESP Out of Band ⁵	Not supported	FC, iSCSI	FC, iSCSI

¹ Only VMware Virtual machines (excluding applications running in the VM which are captured with Actifio connector) can be configured to capture in sideband topology

² Supported for VMware Network Block Device (NBD) based data capture only

³ NFS support is available only for Actifio supported Linux & Solaris operating systems from VDP 8.1 onwards. NFS support for HP-UX is available from VDP 10.0.0 and for IBM AIX from VDP 10.0.1 onwards. Also note that only NFS version v3 is supported

⁴ Actifio software version 9.0 (and above) supports presenting NFS datastore to all the supported VMware vSphere servers

⁵ iSCSI needs to be configured between Sky and external storage array

1.1.2 Supported hypervisors for Sky Deployment

Below table list the supported hypervisors for deploying Actifio Sky Virtual Appliance.

Table 1.2: Supported Sky deployment configurations

VMware	vSphere 6.0 u2, 6.5, 6.5 u1, 6.5 u2, u3, 6.7, 6.7 u1, 6.7 u2 ¹ , u3, 7.0, 7.0 u1, 7.0 u2
Hyper-V	Windows 2012, 2012 R2, 2016, 2019
Cloud Hypervisors	AWS, Azure, Oracle Cloud, Google Cloud, Alibaba Cloud
Other	IBM SoftLayer while running in supported hypervisor on bare metal

¹ Deploying Actifio Sky OVA on VMware 6.7 u2 requires SHA1 hashing algorithm to be converted to SHA256 hashing algorithm using ovftool.exe provided by VMware. Get in touch with Actifio services team for more information if you want to deploy Sky appliance on VMware 6.7 u2.

1.2 SAN Switch support

Select models from the following vendors are supported

Vendor	CDS	CDX
Brocade	Yes	Yes
Cisco MDS, Nexus Lines	Yes	Yes
McData	Yes	No
Qlogic	Yes	No
Dell	No	Yes

1.3 Object Storage Compatibility for OnVault

Actifio OnVault supports the following S3 compatible object storage backends.

Note: “versioning” feature should be disabled on buckets used with OnVault for all the below supported object storage.

Table 1.3: Object storage support information

Vendor	Storage Type	Required Actifio Version	
		Min	Max
Amazon ¹	S3	V7.0.1	V10.0.4
	S3-IAS	V7.0.1	V10.0.4
Google	Nearline	V7.0.1	V10.0.4
	Coldline	V8.0.4	V10.0.4
IBM	IBM Cloud Object Storage (Cleversafe) ²	V7.0.2	V10.0.4
Microsoft	Azure-blob ⁴	V7.0.3	V10.0.4
Scality	Scality Object Storage	V7.0.7	V10.0.4
Hitachi ³	Hitachi Content Platform	V7.0.7	V10.0.4
EMC	ECS – Object Store	V7.1.5	V10.0.4
Wasabi	Wasabi Object Store	V7.1.5	V10.0.4
Western Digital	ActiveScale	V8.0.0	V10.0.4
Alibaba	Cloud Object Storage Service	V8.1.0	V10.0.4
NetApp ³	StorageGRID	V8.1.0	V10.0.4

Catalyst Cloud	Container Service (S3 buckets)	V8.1.2	V10.0.4
Oracle	Oracle Cloud Infrastructure Object Storage ^{4, 5}	V8.1.0	V10.0.4
SwiftStack	SwiftStack Storage	V8.1.4	V10.0.4
Huawei	FusionStorage	V9.0.0	V10.0.4
Fujitsu Cloud Technologies	NIFCLOUD Object Storage	V9.0.3	V10.0.4
iland	iland Secure Cloud Object Storage	V9.0.4	V10.0.4
Pure Storage ⁶	FlashBlade	V10.0.0	V10.0.4

¹ Amazon Glacier not supported

² Integration with the IBM COS retention feature requires Actifio VDP 8.1.1 or above

³ Actifio VDP release 9.0.2 and above is required for client side compression. However, you could activate target side compression for storage space savings when using versions earlier than 9.0.2

⁴ Archive object storage is not supported

⁵ Using S3 compatibility API

⁶ Requires FlashBlade Purity/FB v3.1 or higher

1.4 Storage Compatibility

1.4.1 Storage guidelines for Actifio dedup pool

The dedup pool is a critical part of the Actifio appliance. Sizing the dedup pool is critical to achieving the RPO/RTO as dictated by the business. This section contains the general guidelines for provisioning storage for the Actifio Dedup pool.

1. Best practice recommendation is to configure the dedup pool on a I shelf/shelves with dedicated I/O paths from the storage controller to the storage shelf/shelves on which the dedup pool is configured.
2. Actifio appliance should be presented with a storage pool configured with a minimum of RAID 5. Best practice recommendation is to present a pool configured with RAID 6.

3. Dedup performance is affected by the number of spindles in the dedup storage pool. Best practice recommendation is to use smaller capacity drives to increase the spindle count.
4. Best practice guidelines is to disable any storage Tiering functionality on the pools on which dedup is configured.
5. Dedup performance is affected by the type of drives used in the storage pool. Please refer to Table 1.4 for general guidelines on expected performance with different tiers of drives.

Table 1.5a: Dedup storage performance guideline

Disk Type	Max Ingest Rate (TB/day) ²			
	CDS	Sky-50TB	Sky-30TB	Sky-10TB
SSD Required IOPS (of 64KB): 15,000 random reads and 15,000 sequential reads with 50 threads; 15,000 random writes and 15,000 sequential writes with 100 threads Reference system: Pure Storage AFS	12	9	6	N/A
10k/15k SAS Required IOPS (of 64KB): 4,000 random reads and 15,000 sequential reads with 50 threads; 2,000 random writes and 10,000 sequential writes with 100 threads Reference system: NetApp E5600 30x800GB 10,000 rpm SAS drives, RAID-6 DDP	8	6	4	3 ¹
7.2k NL-SAS/SATA Required IOPS (of 64KB): 2,200 random reads and 4,000 sequential reads with 50 threads; 380 random writes and 2,800 sequential writes with 100 threads Reference system: IBM Storwize v3700 12x4TB 7200 rpm SAS drives, RAID 6	5	3	2	1.5 ¹

¹ All throughput numbers in this table include the use of SSD for dedup index acceleration. This is required for Sky 50TB and Sky 30TB, and optional for Sky models smaller than 30TB. If no SSD is used for dedup acceleration for these smaller models then throughput numbers will be lower than those listed here

² The above throughput numbers are for system-wide performance and assume that work can be sufficiently parallelized to leverage all system resources. In particular, each volume of each application is handled as a separate thread. For CDS and Sky 50, there are 7 cores that are available for concurrent dedup work (so 7 volumes can be deduplicated in parallel), while fewer cores are available in smaller Sky models.

1.4.2 Sky

Please refer to hypervisor's datastore compatibility guide for more information.

1.4.3 CDS

For support information about specific models of the following storage systems please contact your Actifio account manager for details. This is a partial list and subject to change.

Table 1.5b: Storage support information

Vendor	Family	Models
Bull	StoreWay Optima	For Specific models & firmware versions contact Actifio account manager
Dell	Compellent	SC8000, SC400 series
	MD	MD36xxf and MD38xxf series
EMC	Symmetrix	VMAX, DMX and 8000 series models
	Midrange	CLARiiON CX-series models and FC4700
	VNX	VNX 5x00, 7500 (Code level 05.31.xx)
	XtremelIO	Code levels 2.4.3.0 and 4.0
Fujitsu	Eternus	For Specific models & firmware versions contact Actifio account manager
HP	EVA	EVA P6000

	MSA	MSA1000, MSA 1500, MSA2000, MSA P2000 G3
	XP	For Specific models & firmware versions contact Actifio account manager
	3PAR	For Specific models & firmware versions contact Actifio account manager
	Nimble	For Specific models & firmware versions contact Actifio account manager
Hitachi Data Systems	Thunder Lightning Tagmstore AMS WMS Universal Storage Platform HUS HUS VM VSP Gxxxx	For Specific models & firmware versions contact Actifio account manager
Huawei	Oceanstor	For Specific models & firmware versions contact Actifio account manager
IBM	XIV	For Specific models & firmware versions contact Actifio account manager

	FlashSystem	For Specific models & firmware versions contact Actifio account manager
	TotalStorage Enterprise Storage Server	For Specific models & firmware versions contact Actifio account manager
	System Storage	DS3000, DS4000TM, DS5000, DS6000TM, DS8000
	N Series	For Specific models & firmware versions contact Actifio account manager
	Storwize	V7000, V5000, V3700
	SAN Volume Controller	6.3 or higher
Infinidat	F-Series	F2000, F4000, F6000
NEC	iStorage	Contact Actifio account manager
Netapp	E-Series	E5400, EF550, E2760, R2724, E2712, E2800
	FAS ¹	All models
	IBM N Series	For Specific models & firmware versions contact Actifio account manager
Nexsan	E-series	E18, E48, E60
Pillar Data	Axiom	For Specific models & firmware versions contact Actifio account manager
Pure Storage	FA-Series	FA-405, FA-420, FA-450

Sun Microsystems	StorEdge	For Specific models & firmware versions contact Actifio account manager
	StorageTek	For Specific models & firmware versions contact Actifio account manager
	FlexLine	For Specific models & firmware versions contact Actifio account manager
Texas Memory Systems	RAMSAN	For Specific models & firmware versions contact Actifio account manager
Toshiba	FL-Series	FL 6000
Violin Memory	All	For Specific models & firmware versions contact Actifio account manager
Xiotech	X-IO	For Specific models & firmware versions contact Actifio account manager

¹ Netapp cluster mode (CDOT) configurations are supported only with Actifio Sky and NAS Director and not with CDS

1.4.4 CDX

For support information about specific models of the following storage systems please contact your Actifio account manager for details. This is a partial list and subject to change.

Vendor	Family	Models
IBM	System Storage	DS5000
	Storwize	V3700, V5000
	FlashSystem	Contact Actifio account manager

	TotalStorage Enterprise Storage Server	Contact Actifio account manager
	XIV	Contact Actifio account manager
	N Series	Contact Actifio account manager
	SAN Volume Controller	Contact Actifio account manager
NetApp	E-Series	E2700, E2800
	FAS	Contact Actifio account manager
	IBM N Series	Contact Actifio account manager
Pure Storage	Flash Array	Contact Actifio account manager
Lenovo	ThinkSystem	Contact Actifio account manager
Dell/EMC	SC Series	Contact Actifio account manager
	Unity	Unity 300
	VPLEX	Contact Actifio account manager
	MD	MD3800

1.5 External Snapshot Pool

Actifio software version 9.0 (and above) supports External Snapshot pools (a.k.a ESP).

1.5.1 Supported Storage Arrays

With VDP 9.0.0, Actifio provided ESP support for the following storage arrays.

- IBM Storwize models and SAN Volume Controller with firmware 7.5 and later
- Pure Storage FlashArray models with Purity 4.8.8 or later

With VDP 10.0.1, Actifio has extended its ESP support to all the Dell EMC Unity storage arrays running UnityOS 4.5 (and above).

Actifio supports FC & iSCSI communication protocol between host and the array. However, iSCSI configuration needs to be in place for Actifio Sky appliance and the storage array.

Note: ESP is supported only on Windows and Linux versions of operating systems supported by Actifio connector.

1.5.2 Supported Application Types

VDP 9.0 release supported ESP with only Oracle, Microsoft SQL Server and File System applications.

With VDP 10.0.2 release, support for ESP has been extended to Db2 (on Linux and AIX), SAP HANA, SAP ASE, SAP IQ, SAP MaxDB, MySQL, MariaDB, and PostgreSQL databases.

Application	Versions & Limitations
Oracle	<p>For supported Oracle versions, see section 2.2.3 Oracle</p> <p>Limitations</p> <ul style="list-style-type: none"> • Logs are always copied in full regardless of whether the data capture topology is “Incremental Only” or “Full + Incremental” • Oracle databases running on ASM storage on Linux supports both “Incremental Only” and “Full + Incremental” data capture method. However, Oracle databases running on ASM on non-Linux only supports “Full + Incremental” • Oracle databases running on file systems does not support in-place restore, app-aware mount and consistency group creation when captured using “Incremental Only” scheme • In-place restore is supported if the mapped disk has only one filesystem containing a single database. In-place restore is not supported in case of multiple databases or multiple filesystem on a mapped disk

	<ul style="list-style-type: none"> • Oracle ASM in-place capture is not supported when ASM is using ASM Filter Devices (AFD).
SQL Server	<p>For supported SQL Server versions, see section 2.2.2.1 Microsoft SQL Server</p> <p>No Limitations</p>
Filesystems	<p>All the filesystems supported by Actifio connector are supported</p> <p>No Limitations</p>

Note: For application data capture, you can use either a regular snapshot pool or ESP but not both.

Application Data Virtualization with Actifio Connector

Actifio connector is a light weight executable that delivers advanced capabilities during the data capture and recovery processes. Actifio connectors deliver the following advanced capabilities

- **Application Discovery:** Actifio connectors enable deep discovery of databases and file systems configured on a production host
- **API integration:** Where possible, Actifio connectors integrate with the native API's for efficient capture of application data
- **Change Block Tracking:** In situations where the production applications do not have a built-in change block tracking, Actifio connector introduces change block tracking on select platforms
- **Application aware recovery/mount:** Actifio connectors have built in application awareness. The connector enables users of Actifio to leverage this awareness to instantiate usable instances of applications during recovery mount operations thereby eliminating the need for performing manual/scripted actions post mount.
- **Generic Application Data Capture framework:** Actifio Connectors provide a generic framework to capture data from any application running on a supported platform. This framework provides hooks to call custom scripts to achieve application consistent data capture and application instantiation from backup data.

In order to understand the advanced capabilities as it relates to an application type, follow the steps recommended below in sequence

1. Determine the Processor architecture, Operating system and application version in context
2. Verify if the processor architecture and the operation system version is supported by the Actifio connector
3. Verify if the advanced capability is supported for the application type in context

2.1 Actifio Connector Operating System Support

The Actifio connector supports the following operating systems and configurations.

2.1.1 Microsoft Windows

CDS: ✓ SKY: ✓ CDX: ✓

Table 2.1: Microsoft Windows support information

OS Version	Supported Versions	
	Min	Max
Windows Server 2012 ^{1, 2, 3} , 2012 R2 ^{1, 2, 3}	V6.2	V10.0.4
Windows Server 2016 ^{1, 2, 3}	V7.1	V10.0.4
Windows Server 2019 ⁴	V8.1.4	V10.0.4 ⁵

¹ Actifio software version 8.0.0 and above is required for cloud mobility to VMWare & AWS infrastructure.

For cloud mobility to Azure and GCP Actifio software version 8.1.0 and above is required

² This version of OS is eligible for cloud mobility to AWS, Azure or GCP only if it's supported by the respective cloud platform

³ CSV configurations only supported on these versions

⁴ Cloud mobility is not supported

⁵ Minimum Actifio software version required is 9.0.1 when on 9.x releases

⁶ Not supported on Actifio CDX appliance

2.1.2 Linux

CDS: ✓ SKY: ✓ CDX: ✓

This section provides detailed information about the Linux operating systems supported on x86 and Power PC architecture by the Actifio connector.

Note: For Linux operating systems supported on Power PC, please refer [table 2.3b \(Linux CBT support for PowerPC architecture\)](#).

Table 2.2: Linux support for x86

Vendor	Version	Supported Connector Versions	
		Min	Max
RHEL ^{1, 2, 4, 5}	V6.0-6.9 ¹²	V6.0	V10.0.4
	V6.10 ^{9, 12}	V8.1.3	V10.0.4
	V7.0-7.4	V7.0	V10.0.4
	V7.5	V8.0.7	V10.0.4
	V7.6	V8.1.3	V10.0.4
	V7.7	V8.1.6	V10.0.4
	V7.8	V10.0.1	V10.0.4
	V7.9	V10.0.2	V10.0.4
	V8.0 ¹¹	V9.0.4	V10.0.4
	V8.1 ¹¹	V9.0.6	V10.0.4
	V8.2	V10.0.2	V10.0.4
	V8.3	V10.0.4	V10.0.4
	V8.4	V10.0.4	V10.0.4
SLES ^{1, 3, 4, 5}	V11 SP1-4 ¹²	V6.2	V10.0.4
	V12 SP0-1	V7.0	V10.0.4
	V12 SP2-3	V8.0.4	V10.0.4
	V12 SP4	V8.1.5	V10.0.4 ¹⁰
	V12 SP5	V9.0.6	V10.0.4 ¹⁰
	V15	V8.1.5	V10.0.4 ¹⁰

	V15.1	V9.0.6	V10.0.4 ¹⁰
	V15.2	V10.0.4	V10.0.4
CentOS ^{1, 2, 4, 5}	V6.0-6.8 ¹²	V6.2	V10.0.4
	V6.9 ¹²	V8.0.4	V10.0.4
	V6.10 ^{6, 9, 12}	V8.1.2	V10.0.4
	V7.0-7.4	V8.0.4	V10.0.4
	V7.5-V7.6	V8.1.5	V10.0.4 ⁸
	V7.7	V9.0.6	V10.0.4 ¹⁰
	V7.8	V10.0.2	V10.0.4
	V7.9	V10.0.4	V10.0.4
	V8.0-V8.1 ¹¹	V9.0.6	V10.0.4 ¹⁰
	V8.2	V10.0.2	V10.0.4
	V8.3	V10.0.4	V10.0.4
	Ubuntu ¹³	V16.04 LTS	V8.1.2
V18.04 LTS		V8.1.2	V10.0.4
V20.04 LTS ⁷		V10.0.4	V10.0.4
Oracle Enterprise Linux ^{1, 2, 4, 5}	V6.0-6.8	V6.2	V10.0.4
	V6.9	V8.1.2	V10.0.4
	V6.10 ⁹	V8.1.3	V10.0.4
	V7.0-7.3	V8.0.4	V10.0.4
	V7.4, V7.5, V7.6	V8.1.5	V10.0.4 ⁸
	V7.7	V9.0.3	V10.0.4

	V7.8	V10.0.2	V10.0.4
	V7.9	V10.0.4	V10.0.4
	V8.0-8.1	V9.0.6	V10.0.4 ¹⁰
	V8.2	V10.0.2	V10.0.4
	V8.3	V10.0.4	V10.0.4
	V8.4 ⁷	V10.0.4	V10.0.4
Amazon Linux ⁷	2017.09 & 2018.03	V8.1.1	V10.0.4
IBM zLinux ⁷	RHEL 7.5-7.7	V10.0.1	V10.0.4

¹ Symantec (Veritas) Dynamic Multi Pathing (DMP) is NOT supported

² When Actifio connector is deployed on RHEL/CentOS/OEL 4.x-5.8,6.0, the "Do Not unmap" advanced SLA setting should be set

³ Protection of BTRFS file systems requires VDP version 10.0.2 or above

⁴ Actifio software version 8.0.0 and above is required for cloud mobility to VMWare & AWS infrastructure. For cloud mobility to Azure and GCP Actifio software version 8.1.0 and above is required

⁵ Eligible for cloud mobility to AWS, Azure or GCP only if it's supported by the respective cloud platform

⁶ Supports repoline compliant kernels

⁷ Cloud Mobility (System State) feature is not supported

⁸ Actifio software version 9.0.2 and above is required when on 9.x release

⁹ Cloud Mobility is supported on 8.1.5 (and above) on 8.1.x release and 9.0.1 (and above) on 9.0.x release

¹⁰ Supported from Actifio VDP release 9.0.3 and above when on VDP 9.x release and 10.0.1 and above when on VDP 10.x release

¹¹ In rare cases, LVM snapshot command on this OS version may cause the VDP backups to hang. This is a known Red Hat issue. Internal bug ID for this bug as maintained by Red Hat is **1758605**. Actifio recommends that you upgrade the Linux kernel to the latest available one on RHEL/CentOS 8.1 release. For more information, visit <https://access.redhat.com/solutions/5049041>. Alternatively, customers can contact Red Hat / CentOS support team for further assistance.

¹² Not supported on Actifio CDX appliances

¹³ SystemState recoveries are not supported if home folder or disk is encrypted

2.1.2.1 Linux Change Block Tracking support

CDS: ✓ SKY: ✓ CDX: ✓

Actifio supports an optional methodology to protect applications running on the Linux operating system using the out of band generic app framework. This method leverages the Actifio Linux Change Block Tracking (CBT) driver, which tracks block level changes to application volumes. The solution requirements for this method are

- The volumes used by the Linux application are managed by the Linux LVM
- The Linux LVM snapshotting is enabled
- The LVM volume group from which the application volumes are provisioned has at least 20% free space
- The volume being protected is NOT the boot volume
- The host is running a supported version of the Linux operating system as documented in the table below

Table 2.3a: Linux CBT support for x86 architecture

Vendor	Supported Configurations	Supported Connector Versions	
		Min	Max
RHEL	V6.8 ^{1,5} – 6.9 ⁵	V7.1.10	V10.0.4
	V6.10 ⁵	V8.1.3	V10.0.4
	V7.0 – 7.3	V7.1.10	V10.0.4
	V7.4	V7.1.10	V10.0.4
	V7.5	V8.0.7	V10.0.4
	V7.6	V8.1.3	V10.0.4
	V7.7	V8.1.6 ³	V10.0.4 ^{2,3}
	V7.8	V10.0.1	V10.0.4
	V7.9	V10.0.2	V10.0.4
	V8.0 ⁴	V9.0.4	V10.0.4

	V8.1 ⁴	V9.0.6	V10.0.4 ²
	V8.2	V10.0.2	V10.0.4
	V8.3	V10.0.4	V10.0.4
SLES	11 SP3-4 ⁵	V7.1.10	V10.0.4
	12 SP0-1	V7.1.10	V10.0.4
	12 SP2-3	V8.0.4	V10.0.4
	12 SP4	V8.1.5	V10.0.4 ²
	12 SP5	V9.0.6	V10.0.4 ²
	15	V8.1.5	V10.0.4 ²
	15 SP1	V9.0.6	V10.0.4 ²
	15 SP2	V10.0.4	V10.0.4
CentOS	6.9 ⁵	V8.0.4	V10.0.4
	6.10 ⁵	V8.1.2	V10.0.4
	7.0-7.4	V8.0.4	V10.0.4
	7.5-7.6	V8.1.4	V10.0.4
	7.7	V9.0.6	V10.0.4 ²
	7.8	V10.0.2	V10.0.4
	7.9	V10.0.4	V10.0.4
	8.0-8.1 ⁴	V9.0.6	V10.0.4 ²
	8.2	V10.0.2	V10.0.4
	8.3	V10.0.4	V10.0.4

¹ Requires kernel version 2.6.32-642.3.1 or above

² Supported from Actifio VDP release 9.0.3 (and above) when on VDP 9.x release and from 10.0.1 (and

above) when on VDP release 10.x

³ Requires running a command to manually enable CBT on 8.1.6 and 9.0.3 versions. Get in touch with Actifio support team for more information.

⁴ In rare cases, LVM snapshot command on these OS versions may cause the VDP backups to hang. This is a known Red Hat issue. Internal bug ID for this bug as maintained by Red Hat is **1758605**. Actifio recommends to upgrade the Linux kernel to the latest available one on RHEL/CentOS 8.1 release. Alternatively, customers can contact Red Hat / CentOS support team for further assistance.

⁵ Not supported on Actifio CDX appliances

Table 2.3b: Linux CBT support for PowerPC architecture

Vendor	Supported Configurations	Supported Connector Versions	
		Min	Max
RHEL	V7.6	V10.0.0	V10.0.4
SLES	12 SP3 – SP4	V10.0.0	V10.0.4
	15.1	V10.0.1	V10.0.4

Actifio generic application framework when coupled with the Linux CBT provides a powerful mechanism for protecting applications running on the Linux operating system. Below is the list of all the applications that have been qualified by Actifio using this mechanism.

Table 2.4: Linux CBT validated databases

Database	Supported Versions	Supported Connector Versions	
		Min	Max
SAP ASE ¹ (formerly Sybase ASE)	15.7, 16.0.x	V8.0.4	V10.0.4
IBM Db2 ¹	9.7, 10.1.5, 10.5, 11.1	V8.0.4	V10.0.4
MySQL ²	5.x	V8.0.4	V10.0.4
PostgreSQL	9.x, 10.x	V8.0.4	V10.0.4
	11.x	V8.1.4	V10.0.4

MaxDB	7.7-7.9	V8.1.4	V10.0.4
MongoDB ³	3.4.x, 3.6.x	V8.0.4	V10.0.4
	4.0, 4.2.3	V8.1.1	V10.0.4

¹ VDP 9.0.3 release (and above) provides improved usability and enhanced out-of-the-box data management support for SAP ASE and IBM Db2 applications. Actifio Global Manager 9.0.4 (and above) is required to realize the enhanced out-of-the-box data management support for these applications. Note: Prior versions of VDP 9.0.3 release only supports protecting these database applications as Generic applications.

² VDP 9.0.4 release (and above) provides improved usability and enhanced out-of-the-box data management support for MySQL database applications. Actifio Global Manager 9.0.4 (and above) is required to realize the enhanced out-of-the-box data management support for these applications. Note: Prior versions of VDP 9.0.4 release only supports protecting these database applications as Generic applications.

³ MongoDB support limited to replica set based configurations only. MongoDB clusters in sharded configuration not supported

Table 2.5: CBT support for Linux file systems

File System ¹	Supported Connector Versions	
	Min	Max
EXT2	V8.0.4	V10.0.4
EXT3	V8.0.4	V10.0.4
EXT4	V8.0.4	V10.0.4
XFS	V8.0.4	V10.0.4
ReiserFS	V8.0.6	V10.0.4
BTRFS	10.0.2	V10.0.4

¹Catalog functionality is unavailable on Linux file systems protected through CBT

2.1.3 IBM AIX

CDS: ✓ SKY: ✓ CDX: ✗

Actifio Connectors can be installed on supported version of the IBM AIX operating system.

The connector enables transfer of data to Actifio over iSCSI and Fibrechannel protocols. Additionally, for LPAR based configurations, Actifio connectors also enable discovery of AIX hosts (Physical or LPARs) through IBM HMC V7R7.6.0.1 (Version 7.6.0, Service Pack 1).

Note: AIX does not support MPIO with iSCSI. Also, External Snapshot Pool (ESP) is not supported on AIX.

Table 2.6: IBM AIX support information

OS Version	Config Types ¹	Supported Connector Versions	
		Min	Max
V 7.1 (TL1-4)	Standalone	V6.1.2	V10.0.4
	LPAR (dedicated and VIOS)	V6.1.2	V10.0.4
V 7.1 (TL5)	Standalone	V8.1.5	V10.0.4 ²
	LPAR (dedicated and VIOS)	V8.1.5	V10.0.4 ²
V 7.2 (TL2)	Standalone	V8.0.4	V10.0.4
	LPAR (dedicated and VIOS)	V8.0.4	V10.0.4
V 7.2 (TL3)	Standalone	V8.1.5	V10.0.4 ²
	LPAR (dedicated and VIOS)	V8.1.5	V10.0.4 ²

¹ VDP release 10.0.1 and above is needed to use NFS protocol

² Supported from Actifio VDP release 9.0.3 (and above) on 9.0.x releases

2.1.4 HP-UX

CDS: ✓ SKY: ✓ CDX: ✗

HP-UX support is limited to the versions and configurations mentioned below. Actifio connector supports provisioning the staging LUN (during data capture process) using LVM version 1 only. As a result, the maximum size of the application protectable by Actifio is limited to 16TB unless the target disk is formatted with ASM.

Note: VDP release 10.0.0 and above support for NFS protocol.

Table 2.7: HP-UX support information

HP-UX ^{1, 2} Version	Storage Config	Supported Connector Version					
		Non-Virtualized or nPAR		vPAR		IVM	
		Min	Max	Min	Max	Min	Max
V11.23 ³	NPIV ²	V6.2	V10.0.4	V6.2	V10.0.4	V6.2	V10.0.4
	Non-NPIV ²	V6.2	V10.0.4	Not Supported		Not Supported	
	iSCSI ²	V6.2	V10.0.4	V6.2	V10.0.4	V6.2	V10.0.4
	NFS ²	V10.0.0	V10.0.4	V10.0. 0	V10.0.4	V10.0.0	V10.0.4
V11.31	NPIV	V6.2	V10.0.4	V6.2	V10.0.4	V6.2	V10.0.4
	Non-NPIV	V6.2	V10.0.4	Not Supported		Not Supported	
	iSCSI ²	V6.2	V10.0.4	V6.2	V10.0.4	V6.2	V10.0.4
	NFS ²	V10.0.0	V10.0.4	V10.0. 0	V10.0.4	V10.0.0	V10.0.4

¹ Actifio Connector support limited to Itanium (ia64) architecture only

² Only Fibre channel connectivity to Actifio CDS is supported. For Actifio Sky & CDX, iSCSI & NFS protocol is supported

³ This version supports up to 8 paths to a volume. Ensure the SAN zoning is configured to have utmost 8 paths per staging LUN and/or in-band disks

2.1.5 Oracle Solaris

CDS: ✓ SKY: ✓ CDX: ✗

Solaris support is limited to the versions and configurations mentioned below. Actifio connectors support deployments on SPARC and x86 based servers. **iSCSI protocol is not supported for use with Solaris systems and Actifio CDS.** However, iSCSI can be used with Actifio Sky & CDX and Solaris V11 systems after applying Solaris patch 11.3.21.5.0.

Note: Actifio does not support recreation of Solaris LDOM and Zones configuration. Applications running on LDOM and Zones configuration are protected using Actifio connector.

Table 2.8: Oracle SUN Solaris support information

Solaris ¹ Version	Config Type	Storage Protocol	Supported Connector Version	
			Min	Max
V10 Updates 7- 11	Standalone	Block	V6.0	V10.0.4
		NFS ²	V8.1.0	V10.0.4
	LDOM	Block	Not supported	
		NFS ²	V8.1.0	V10.0.4
	Zones	Block	Not supported	
		NFS ²	V8.1.0	V10.0.4
V11 Updates 1- 3 ³	Standalone	Block	V6.0	V10.0.4
		NFS ²	V8.1.0	V10.0.4
	LDOM	Block	V7.0.4	V10.0.4
		NFS ²	V8.1.0	V10.0.4

	Zones	Block	Not supported	
		NFS ²	V8.1.0	V10.0.4
V11 Update 4 ⁵	Standalone	Block	V8.1.6	V10.0.4 ⁶
		NFS ²	V8.1.6	V10.0.4 ⁶
	LDOM	Block	V8.1.6	V10.0.4 ⁶
		NFS ²	V8.1.6	V10.0.4 ⁶
	Zones	Block	Not supported	
		NFS ²	V8.1.6	V10.0.4 ⁶

¹ ZFS/UFS encryption is NOT supported

² NFS support is limited to Actifio Sky & CDX only. Also, only v3 of NFS protocol is supported

³ Use of iSCSI is supported with Actifio Sky & CDX and Solaris V11 only and requires Solaris patch 11.3.21.5.0 to be installed

⁴ LDOM support is limited to SR-IOV (NPV) configurations when deployed with Actifio CDS appliance

⁵ Only SPARC based servers are supported

⁶ Supported from Actifio VDP release 9.0.3 and above when on 9.x release

2.1.6 Host Multipath Software Support

The following Host Multipath software are supported by Actifio

- IBM System Storage Multipath Subsystem Device Driver (SDD)
- Symantec/Veritas Volume Manager 5.1, 6.0, 6.0.1, 6.1
- PVLinks for HP-UX (pre 11.31 v1), HP-UX native
- MPIO for Windows and IBM AIX
- MpxIO for Solaris
- Native Vmware multipathing driver for Vmware ESX 4.X and later
- Native multipathing drivers for OpenVMS and Linux(DM-MPIO)

2.1.7 Actifio Global Catalog

8.0 introduced the Actifio Global Catalog and supported

- Windows VMs running on Vmware (ESX 5.5 and above) with NTFS, CIFS and ReFS file systems and captured as a VM using VMWare VADP APIs. For supported Windows OS, refer table [2.1](#).
- Windows based file systems captured using Actifio connector

With 8.1.0 Actifio extended the Global Catalog support for Linux based file systems captured using Actifio connector. For supported Linux file systems, refer table [2.5](#)

With 8.1.1, Actifio further enhanced the Catalog functionality to support indexing of images captured with Direct2OnVault backup policies.

Note: Indexing of images captured using DAR (Dedup Async Replication) and system state isn't supported yet.

2.2 Application aware data management

Actifio connectors deliver application awareness to data capture and virtual copy provisioning processes. The following sections describe the advanced capabilities that the connector enables for the following application types

2.2.1 Cloud Mobility (System State)

Below table captures the supported cloud service providers and the minimum required Actifio software version for Cloud Mobility functionality.

Capability	Min Required Actifio Software Version			
	Vmware	AWS	Azure	GCP
System State Capture ¹	8.0	8.0	8.1	8.1

System State Recovery ^{2, 4, 5, 6}	8.0	8.0	8.1	8.1
System State Migration ^{3, 4, 5}	8.0 ⁷	9.0	9.0	9.0

¹ Capturing system state is supported on all Windows and Linux systems supported by the Actifio connector. Please refer section “[Actifio Connector Operating System Support](#)” to know more details about supported Windows & Linux operating system. Also, System state captured over NFS (staging disk preference set to NFS) are ineligible for Cloud mobility

² System state recovery to cloud copies only the boot volume to the cloud native storage and mounts all the data volume from the Actifio appliance over iSCSI

³ System state migration copies all the data volumes (along with boot volume) to the cloud native storage thus enabling the instance run independent of Actifio in the cloud

⁴ System state recovery (or migration) requires the use of Actifio connector and hence recoveries (or migration) is limited to Windows and Linux operating systems supported by the Actifio connector

⁵ System state recovery (or migration) to AWS, GCP & Azure is limited to Windows, RHEL, CentOS, SUSE & OEL operating system versions supported by these respective cloud service providers. Please refer to the Amazon AWS/GCP/Azure support matrix for more information on supported operating system versions

⁶ Recovery of a machine that is configured to use UEFI (Unified Extensible Firmware Interface) is supported only on VMWare and not supported on AWS/GCP/Azure. Note that Generation 2 Hyper-V VMs use UEFI by default

⁷ System state migration to Vmware is supported by performing system state recovery and using Vmotion to migrate the disks to local datastore

2.2.2 Microsoft Enterprise Applications

2.2.2.1 Microsoft SQL Server

Actifio connectors enable database consistent data capture from MS SQL Server configured in Inband and Out-Of Band topologies.

Table 2.9: SQL Server Support Information

Version	Supported Configurations	Supported Connector Version	
		Min	Max

2019	Standalone	V7.1.7	V10.0.4
	AAG	V7.1.7	V10.0.4
	Failover Instance ¹	V7.1.7	V10.0.4
2017	Standalone	V7.1.7	V10.0.4
	AAG	V7.1.7	V10.0.4
	Failover Instance ¹	V7.1.7	V10.0.4
2016	Standalone	V7.1	V10.0.4
	AAG	V7.1	V10.0.4
	Failover Instance ¹	V7.1	V10.0.4
2014	Standalone	V6.1.2	V10.0.4
	AAG	V6.2	V10.0.4
	Failover Instance ¹	V6.2	V10.0.4
2012, 2012 R2	Standalone	V6.0	V10.0.4
	AAG	V6.1.2	V10.0.4

	Failover Instance ¹	V6.1.2	V10.0.4
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¹ No support for app-aware mounts into a SQL Server Instance running on a Microsoft Failover Cluster if any of its nodes have been discovered as a virtual machine

2.2.2.2 Microsoft Exchange

Table 2.10: Microsoft Exchange Support Information

Version	Supported Configuration	Supported Connector Version	
		Min	Max
2019	Standalone	V8.1.4	V10.0.4
	DAG	V8.1.4	V10.0.4
2016	Standalone	V7.1	V10.0.4
	DAG	V7.1	V10.0.4
2013	Standalone	V6.1.2	V10.0.4
	DAG	V6.1.2	V10.0.4

2.2.2.3 Microsoft SharePoint

Microsoft SharePoint is supported only in standalone configurations. SharePoint deployments in farm topologies are not supported.

Table 2.11: Microsoft SharePoint Support Information

Version	Supported Configurations	Supported Connector Version	
		Min	Max
2016	Standalone	V7.1	V10.0.4
2013	Standalone	V6.1	V10.0.4

2.2.3 Oracle

Actifio connectors enable database consistent data capture from Oracle in In-band and Out-of-Band topologies. Oracle must be run in ARCHIVELOG mode. Data capture supports capturing data to staging disks formatted as file system or presented as ASM disk group targets. Data can also be captured from Oracle Non Active Datagaurd and Active Datagaurd configurations. Data capture from Oracle databases using ASM disk group running on HP-UX requires a connector version 7.1.2 or later.

Table 2.12: Oracle Support Information

Oracle Family	Versions	Config Types	Supported Connector Versions	
			Min	Max
Oracle 19c ⁷	All Versions	Standalone	V9.0.2	V10.0.4
		RAC ⁸	V9.0.2	V10.0.4
		Exadata ³	V9.0.2	V10.0.4
		Non Active Data Guard ⁴	V9.0.2	V10.0.4
		Active Data Guard ⁴	V9.0.2	V10.0.4
Oracle 18c ¹	All Versions	Standalone	V8.1.4	V10.0.4
		RAC ⁸	V8.1.4	V10.0.4
		Exadata ³	V8.1.4	V10.0.4
		Non Active Data Guard ⁴	V8.1.4	V10.0.4
		Active Data Guard ⁴	V8.1.4	V10.0.4
Oracle 12c ^{2,5,6}	12c R1, R2	Standalone	V7.1.0	V10.0.4
		RAC ⁸	V7.1.0	V10.0.4
		Exadata ³	V7.1.0	V10.0.4
		Non Active Data	V7.1.0	V10.0.4

		Guard ⁴		
		Active Data Guard ⁴	V7.1.0	V10.0.4
Oracle 11g	11g R1-R2	Standalone	V6.0	V10.0.4
		RAC ⁸	V6.2	V10.0.4
		Exadata ³	V6.2	V10.0.4
		Non Active Data Guard ⁴	V6.1.2	V10.0.4
		Active Data Guard ⁴	V6.2	V10.0.4

¹ Oracle 18c is not supported on HP-UX

² App aware mounts require a minimum version of 12.1.0.2 with patch 19404068

³ Oracle Exadata system is supported with iSCSI and NFS

⁴ Oracle database CBT is enabled on ActiveDG only by Oracle

⁵ Capturing databases in pdb configuration requires Actifio connector 7.1.5 or above

⁶ Data capture of Oracle 12c is at container level (that include all PDBs). App-aware mount on a target is at Container level. Virtual PDB's to an existing container is supported using custom scripts

⁷ Supported on Linux from VDP release 9.0.2 onwards. On AIX, it is supported from VDP release 9.0.4 onwards

⁸ RAC databases in a "policy managed" configuration are not supported

2.2.3.1 Exadata Support

Actifio supports the following configurations of Oracle Exadata starting from VDP 8.1.0 and above.

- Exadata Database Machine versions: X4 and higher
- Oracle versions: 11g, 12c, 18c and 19c

Please note that Actifio support is limited to Exadata machines running the Oracle Enterprise Linux version 6.0 and above (refer table 2.2 in "[Linux](#)" section) and Solaris version 11 and above (see table 2.8 in "[Solaris](#)" section).

Note: Actifio VDP version 8.1.0 and above is needed for Oracle Exadata.

2.2.3.2 Supported Data Capture and Data presentation methods

Actifio supports a variety of capture and presentation methods for Oracle databases under various configurations. This includes backup, recovery and Appaware mount operations of Oracle database with TDE (Transparent Data Encryption). For Oracle databases with TDE, the wallet for TDE can be captured by setting the Oracle Configuration file location advanced setting for the Oracle app. App aware mounts for TDE enabled databases requires the wallet to be copied to the appropriate location on the mount host.

Note: Cross platform presentation of Oracle images captured over NFS is not supported. For example, Oracle data captured from Solaris system cannot be presented on a Linux system. Also, recovery of Oracle data captured from a Big endian machine on to a Little endian machine (or vice versa) is not supported.

Also note that dNFS with Oracle is supported on Linux and Solaris operating systems.

Table 2.13: Supported Data Capture and presentation methods

Production DB Configuration	Capture Format^{1, 5}	Presentation Format^{2, 4}
DB files on filesystem/raw devices	Filesystem (Block Device)	Standalone Filesystem
	Filesystem (NFS)	Standalone Filesystem (NFS)
	ASM Disk Group ^{3, 6, 7}	Standalone ASM
	ASM Disk Group ^{3, 6, 8}	ASM RAC (one or more nodes)
DB files on ASM/RAC	Filesystem (Block Device)	Standalone Filesystem
	Filesystem (NFS)	Standalone Filesystem (NFS)
	Filesystem (NFS)	RAC Filesystem (NFS)
	ASM Disk Group ^{3, 7}	Standalone ASM
	ASM Disk Group ^{3, 8}	ASM RAC (one or more nodes)

¹ For databases using ASM diskgroups running on AIX and HP-UX OS, if iSCSI is being used, data will be captured from one node only

² While performing app aware mounts using ASM diskgroups to AIX and HP-UX hosts over iSCSI protocol, the

mounts can be done to one host only

³ Capture from ASM to ASM and presentation of backups in ASM format not supported on Windows operating systems

⁴ App aware mounts of Oracle 12c PDB backup images to Windows hosts is not supported

⁵ Capture Format is the resulting format of the copy managed by Actifio

⁶ Oracle ASM instance required on the source system for this capture method

⁷ The combination of ASM Disk (capture format) and Standalone ASM (presentation format) is not supported when data is captured over NFS

⁸ The combination of ASM Disk (capture format) and ASM RAC (presentation format) is not supported when data is captured over NFS

Table 2.14: Supported Data Capture and presentation methods for Oracle Exadata

Supported Data Capture formats	Using File System
	Using ASM Disk Group
Backup support	HCC or Non HCC Data
Traditional Recovery using RMAN	HCC or non HCC
App-Aware Mount ¹	Exadata to Exadata
	Exadata to non Exadata

¹ Accessing data from virtual copies of HCC compressed data will require the data to be uncompressed before access

2.2.4 File Systems

Actifio connectors discover each volume/network mount point as a protectable application. For each of these discovered applications, Actifio connector orchestrates the process of achieving consistency (through VSS/LVM snapshots), presents a staging disk which will be formatted with a file system of the same type as source or a compatible file system type as documented below.

Table 2.15: Filesystem Support Information

Operating System	Source FS	Staging Disk FS	Supported Connector Version	
			Min	Max

Windows	NTFS	NTFS	V6.0	V10.0.4
	CIFS	NTFS	V6.0	V10.0.4
	ReFS	ReFS	V6.2	V10.0.4
Linux ¹	EXT2	EXT2 or NFS ⁴	V6.0	V10.0.4
	EXT3	EXT3 or NFS ⁴	V6.0	V10.0.4
	EXT4	EXT4 or NFS ⁴	V6.0	V10.0.4
	XFS	XFS or NFS ⁴	V6.0	V10.0.4
	ReiserFS	ReiserFS or NFS ⁴	V6.0	V10.0.4
	NFS	EXT3 or NFS ⁴	V6.0	V10.0.4
	BTRFS	EXT3 or NFS ⁴	V10.0.2	V10.0.4
AIX	JFS ³	JFS ³	V6.0	V10.0.4
	JFS2 ³	JFS2 ³	V6.0	V10.0.4
HP-UX	HFS	HFS	V6.0	V10.0.4
	VxFS ²	VxFS ²	V6.0	V10.0.4
	NFS	EXT3	V6.0	V10.0.4
Solaris ¹	UFS ³	UFS ³ or NFS ⁴	V6.0	V10.0.4
	ZFS ³	ZFS ³ or NFS ⁴	V6.0	V10.0.4
	NFS	EXT or NFS ⁴	V6.0	V10.0.4

¹ LVM snapshot is used as source, if present. LVM mount back to same server is supported

² Built in versions only

³ Encryption not supported

⁴ NFS is supported only with Actifio Sky 8.1.0 (and above) and CDX 10.0 (and above). Only V3 of NFS protocol is supported. Actifio CDS do not support NFS

2.2.5 SAP

Actifio supports SAP on the all the databases covered/supported in this document.

2.2.6 SAP HANA

Supported Configuration	Recommended Capture Mode	Supported Connector Version	
		Min	Max
Single Container System ¹	HANA Storage Snapshot API ²	V8.1.4	V10.0.4 ⁸
MDC: Multiple-Container Systems (HANA 2.0) with one tenant database ¹	HANA Storage Snapshot API ²	V8.1.4	V10.0.4 ⁸
MDC: Multiple-Container Systems (HANA 2.0) with more than one tenant database ¹	HANA Storage Snapshot API ^{2,7}	V8.1.4	V10.0.4 ⁸
Scale-out MDC: Multiple-Container Systems (HANA 2.0) with one or more tenant database ^{4,6}	HANA File-based (HDBSQL) API ^{3,5}	V8.1.4	V10.0.4 ⁸
Scale-out MDC Local HA (N active host + 1 or more standby nodes) ^{4,6}	HANA File-based (HDBSQL) API ^{3,5}	V8.1.4	V10.0.4 ⁸

¹ Supports both Actifio block and NFS disk mapping options

² HANA storage snapshot API leverages Actifio CBT and supports incremental-forever and app-aware instant mount feature with log roll forward option. Actifio supports CBT with HANA on RHEL 7.2 and above & SLES 11 SP3 and above. For full list of CBT qualified RHEL & SLES versions see table 2.3

³ HANA File-based (HDBSQL) API only supports weekly full with daily incremental. Supports traditional recovery using HANA HDBSQL commands

⁴ Supports only Actifio NFS disk mapping option. NFS disk is always mapped to all HANA nodes

⁵ App-aware instant mount capability is not supported with HANA File-based (HDBSQL) API

⁶ Is supported only with HANA File-based API

⁷ Requires SAP HANA 2.0 SPS 04

⁸ Requires Actifio software version 9.0.2 at the minimum when on 9.0.x releases

Note: HANA log backup is integrated with database backup policies and is handled automatically in all the above configurations.

2.2.6.1 SAP HANA – Supported Operating Systems & Architectures

Below table captures VDP support for SAP HANA supported operating systems on different architectures.

OS	Supported Architecture	Supported Backup Type	
		HANA Storage Snapshot API (Leverages Actifio CBT) ¹	HANA File-based (HDBSQL) API ²
RHEL	x86	>= RHEL 7.2 ¹	>= RHEL 7.2 ²
	PowerPC	RHEL 7.6	RHEL 7.6
SLES	X86	>= SLES 11 SP3 ¹	>= SLES 11 SP3 ²
	PowerPC	SLES 12 SP3 – SP4, SLES 15.1	SLES 12 SP3 – SP4, SLES 15.1

¹ For the full list of CBT qualified RHEL & SLES versions and minimum required VDP versions, see table 2.3

² For Non-CBT qualified RHEL & SLES versions, see table 2.2

2.2.7 IBM Db2

With VDP 9.0.3 release, Actifio enhanced its out-of-the-box support for data management of IBM Db2 database applications and supports the following data capture methods:

- Db2 on Linux can be captured at the volume level in an incremental-forever fashion with instant access and virtual clone creation for Test Data Management (TDM). This leverages Linux LVM and Actifio's Changed Block Tracking capabilities and is the recommended alternative.

- For customers not using LVM or who cannot use volume level capture, Db2 on Linux can alternatively be captured using full + incremental backup. This uses the databases traditional dump-based backup and typically run as a weekly full and daily incremental. Recovery involves reconstructing the incrementals on top of the latest full backup.
- Db2 on AIX can be captured at the volume level in an incremental-forever fashion with instant access and virtual clone creation for TDM. This leverages GPFS or JFS snapshots and synthesizes the incremental captures by running a full scan of the database to look for changed blocks. This alternative is recommended for TDM.
- For customers not using GPFS or JFS or who cannot use volume level capture, Db2 on AIX can alternatively be captured using full + incremental backup. This uses the databases' traditional dump-based backup and typically run as a weekly full and daily incremental. Recovery involves reconstructing the incrementals on top of the latest full backup and therefore is not recommended for TDM.

Table 2.17: Supported Db2 Versions

Database	Supported Versions	Supported Connector Versions	
		Min	Max
Db2 ¹	10.5, 11.1, 11.5	V9.0.3	V10.0.4

¹ Note: Actifio Global Manager 9.0.4 and above is required to manage DB2 database applications

2.2.8 SAP ASE (formerly Sybase ASE)

With VDP 9.0.3 release, Actifio enhanced its out-of-the-box support for data management of SAP ASE database applications and supports the following data capture methods:

- SAP ASE on Linux can be captured at the volume level in an incremental-forever fashion with instant access and virtual clone creation for TDM. This leverages Linux LVM and Actifio's Changed Block Tracking capabilities and is the recommended alternative.
- For customers not using LVM or who cannot use volume level capture, SAP ASE on Linux can alternatively be captured using full + incremental backup. This uses the databases traditional dump-based backup and typically run as a weekly full and daily

incremental. Recovery involves reconstructing the incrementals on top of the latest full backup.

Table 2.18: Supported SAP ASE Versions

Database	Supported Versions	Supported Connector Versions	
		Min	Max
SAP ASE ¹ (formerly Sybase ASE)	15.7, 16.0.x	V9.0.3	V10.0.4

¹ Note: Actifio Global Manager 9.0.4 and above is required to manage Sybase database applications

2.2.9 MySQL

With VDP 9.0.4 release, Actifio enhanced its out-of-the-box support for data management of MySQL database applications and supports the following data capture methods:

- MySQL on Linux can be captured at the volume level in an incremental-forever fashion with instant access and virtual clone creation for TDM. This leverages Linux LVM and Actifio's Changed Block Tracking capabilities and is the recommended alternative.
- For customers not using LVM or who cannot use volume level capture, MySQL on Linux can alternatively be captured using full + incremental backup. This uses the databases traditional dump-based backup and typically run as a weekly full and daily incremental. Recovery involves reconstructing the incrementals on top of the latest full backup.

Table 2.19: Supported MySQL Versions

Database	Supported Versions	Supported Connector Versions	
		Min	Max
MySQL	5.7, 8.0	V9.0.4	V10.0.4

¹ Note: Actifio Global Manager 9.0.4 and above is required to manage MySQL database applications

2.2.10 MariaDB

VDP 10.0.0 release provides enhanced out-of-the-box support for data management of MariaDB database applications and supports the following data capture methods:

- MariaDB on Linux can be captured at the volume level in an incremental-forever fashion with instant access and virtual clone creation for TDM. This leverages Linux LVM and VDP Changed Block Tracking capabilities and is the recommended alternative.
- For customers not using LVM or who cannot use volume level capture, MariaDB on Linux can alternatively be captured using full + incremental backup. This uses the databases traditional dump-based backup and typically run as a weekly full and daily incremental. Recovery involves reconstructing the incrementals on top of the latest full backup.

Table 2.20: Supported MariaDB Versions

Database	Supported Versions	Supported Connector Versions	
		Min	Max
MariaDB	10.3.9 and above	V10.0.0	V10.0.4

¹ Note: Actifio Global Manager 10.0.0 and above is required to manage MariaDB database applications

2.2.11 SAP IQ (formerly Sybase IQ)

VDP 10.0.0 release provided enhanced out-of-the-box support for data management of SAP IQ database applications using full + incremental capture method. This used the databases traditional dump-based backup and typically run as a weekly full and daily incremental. Recovery involved reconstructing the incrementals on top of the latest full backup.

With 10.0.1 release, VDP supports capturing SAP IQ at the volume level in an incremental-forever fashion with instant access and virtual clone creation for TDM. This leverages Linux LVM and VDP Changed Block Tracking capabilities and is the recommended alternative.

Table 2.21: Supported SAP IQ Versions

Database	Supported Versions	Supported Connector Versions	
		Min	Max
SAP IQ (Full + Incremental)	16.1 and above	V9.0.4	V10.0.4
SAP IQ (LVM + CBT) ¹	16.1 and above	V10.0.1	V10.0.4

¹ Note: Actifio Global Manager 10.0.1 and above is required to manage SAP IQ database applications

2.2.12 SAP MaxDB

VDP 10.0.1 release provides enhanced out-of-the-box support for data management of SAP MaxDB database applications and supports the following data capture methods:

- SAP MaxDB on Linux can be captured at the volume level in an incremental-forever fashion with instant access and virtual clone creation for TDM. This leverages Linux LVM and VDP Changed Block Tracking capabilities and is the recommended alternative.
- For customers not using LVM or who cannot use volume level capture, MaxDB on Linux can alternatively be captured using full + incremental backup. This uses the databases traditional dump-based backup and typically run as a weekly full and daily incremental. Recovery involves reconstructing the incrementals on top of the latest full backup.

Table 2.22: Supported SAP MaxDB Versions

Database	Supported Versions	Supported Connector Versions	
		Min	Max
MaxDB	7.9 and above	V10.0.1	V10.0.4

¹ Note: Actifio Global Manager 10.0.1 and above is required to manage SAP MaxDB database applications

2.2.13 PostgreSQL

With VDP 10.0.2 release, Actifio enhanced its out-of-the-box support for data management of PostgreSQL database applications and supports the following data capture methods:

- PostgreSQL on Linux can be captured at the volume level in an incremental-forever fashion with instant access and virtual clone creation for TDM. This leverages Linux LVM and Actifio's Changed Block Tracking capabilities and is the recommended alternative.
- For customers not using LVM or who cannot use volume level capture, PostgreSQL on Linux can alternatively be captured using full + incremental backup. This uses the databases traditional dump-based backup and typically run as a weekly full and daily incremental. Recovery involves reconstructing the incrementals on top of the latest full backup.

Table 2.19: Supported PostgreSQL Versions

Database	Supported Versions	Supported Connector Versions	
		Min	Max
PostgreSQL	9.6.x, 10.x, 11.x & 12.x	V10.0.2	V10.0.4

¹ Note: Actifio Global Manager 10.0.2 and above is required to manage PostgreSQL database applications

2.2.14 NAS

NAS Director is a specialized Actifio solution targeted at capturing unstructured data from large NAS filers from Netapp and EMC Isilon. The following support matrix lists the supported NAS filer firmware versions in Actifio NAS Director version V8.1.1

Table 2.22: NAS Director Support

Vendor	Configuration	Firmware Version
Netapp	7-mode	ONTAP 7.x, 8.x
	Cluster Mode	ONTAP 8.x, 9.0, 9.1, 9.2, 9.7 ¹
EMC	Isilon	OneFS 7.1.x, 7.2.x, 8.0

¹ Supported from NASD 10.0.1 onwards

2.2.15 Test Data Management with Containers

VDP 10.0.1 leverages Kubernetes NFS volumes to make application data captured with VDP available as NFS shares to one or more containers. This allows for creating virtual clones of supported databases that's easily accessible from within the containerized environment.

VDP supported databases on Linux platforms captured in Table 2.4 [here](#) are eligible for Test Data Management with containers.

2.3 Data Management with Actifio Generic Apps

Actifio Generic Apps makes the Virtual Data Pipeline(VDP) platform capability available for a large number of application types and operating systems. Generic Apps are compatible with Actifio CDS appliances ONLY.

2.3.1 Generic Apps with Actifio Connector

CDS: ✓ SKY: ✗ CDX: ✗

When deployed in this configuration with Actifio Connector, the Actifio connector provides well defined integration points where existing or custom scripts can be integrated into the data capture and mount workflows of the VDP. After the one time integration³, applications configures as Generic Apps can be managed using Actifio management tools. Generic Apps are supported on CDS platform only and requires the CDS to be configured in an inband topology.

The operation systems supported for deploying Generic Apps with a connector is the same as mentioned in section "[Actifio Connector Operating System Support](#)".

³ Maintenance of the scripts used in the Generic Apps framework is the responsibility of the customer

2.3.2 Generic Apps OS support without Actifio connector

CDS: ✓ SKY: ✗ CDX: ✗

Deploying Actifio CDS without a connector enables crash consistent data capture. In this

configuration, Actifio CDS is in the data path between the production host and the production storage. Actifio acts as a snapshot manager of the production volumes and enables efficient movement of the production data to other storage pools (dedup/OnVault).

The operating systems supported for configuration in this mode are listed below.

- Windows 2008 Server using MPIO Fibre Channel
- Windows 2008 Direct Attach Fibre Channel
- Windows 2012 Server using MPIO Fibre Channel
- Windows 2012 Direct Attach Fibre Channel
- Red Hat EL 5.0 Fibre Channel
- Red Hat EL 5.0 Fibre Channel IBM Power Systems
- Red Hat EL 5.0 Fibre Channel IBM z Systems
- Red Hat EL 6.0 Fibre Channel
- Red Hat EL 6.0 Fibre Channel IBM Power Systems
- Red Hat EL 6.0 Fibre Channel IBM z Systems
- Red Hat EL 6.0 Direct Attach Fibre Channel
- Red Hat EL 7.0 Fibre Channel
- SLES11 Fibre Channel
- SLES11 Fibre Channel IBM Power Systems
- SLES11 Fibre Channel IBM z Systems
- SLES11 SP2 Direct Attach Fibre Channel
- HP-UX 11i v1 Fibre Channel
- HP-UX 11i v2 Fibre Channel
- HP-UX 11i v3 Fibre Channel
- Sun Solaris 8, 9, 10, 11
- Oracle Linux Fibre Channel
- Vmware Fibre Channel
- Vmware 5.0/5.1 Direct Attach Fibre Channel
- Vmware 5.5 Direct Attach Fibre Channel
- Vmware 6.0 Direct Attach Fibre Channel

- OpenVMS 8.2, 8.3, 8.4

Data Virtualization for Virtual Environments

Actifio supports capturing data from VMware and Microsoft Hyper-V based virtual environments.

3.1 VMware

CDS: ✓ SKY: ✓ CDX: ✓

With software version 9.0, Actifio supports NFS protocol (in addition to FC and iSCSI protocol) to present datastore to all the Actifio supported vCenter servers. What this means is that you can now present a captured vDisk from VMware over NFS to an ESX server or present staging disk to a VM through ESX over NFS.

Note: Actifio CDX appliances only support VMware vSphere 7.0 and above.

Table 3.1: VMware support Info

vCenter	<ul style="list-style-type: none"> • 5.5 • 6.0 U1¹, 6.0 U2, 6.0 U3² • 6.5, 6.5 U1, 6.5 U2, 6.5 U3 • 6.7, 6.7 U1, 6.7 U2, 6.7 U3 • 7.0⁹, 7.0 U1⁹, 7.0 U2⁹
Server	<ul style="list-style-type: none"> • ESXi 5.5 • 6.0 U1¹, 6.0 U2, 6.0 U3² • 6.5, 6.5 U1, 6.5 U2, 6.5 U3 • 6.7, 6.7 U1, 6.7 U2, 6.7 U3 • 7.0, 7.0 U1, 7.0 U2
Virtual Hardware	7 to 13 ⁷ , 14 ⁷ , 15 ⁷ , 17 ⁷ , 18 ⁷ , 19 ⁷
Guest OS	All VMware supported OS's

Quiesce applications ⁵	Yes, based on VMware Tools
vSAN Support ^{3, 8}	vSAN 6.0-6.6, vSAN 6.7, vSAN 6.7 U1, vSAN 6.7 U2 ¹⁰ & U3 ¹⁰ , 7.0 U1, 7.0 U2
Change Block Tracking ⁶	Leverages VMware VADP API

¹ Minimum version of ESX required is 6.0 Update 1 with a build number 3247720

Note: Protection of VMware view virtual machines not supported

² vSphere/ESX 6.0 u3 requires Actifio software version 7.0.3 or higher

³ vSAN 6.0-6.6 requires a minimum Actifio CDS/Sky version 7.0.2

⁴ Actifio connector not required for Out Of Band capture

⁵ Capability applicable to any application with a VSS Writer or pre/post scripts to achieve application consistent capture

⁶ Not supported for disks presented to production VM's as pRDM

⁷ NVMEController types are not supported on Virtual Hardware version 13 (found on ESX 6.5 and above). Virtual hardware version 14 and 15 are supported only with Actifio software version 8.1.4 (and above) with ESX 6.7 U2

⁸ Since VMware vSAN does not support RDM device access features, mounting of a VM is not supported by Actifio when using RDMs. Restores and Clones of VMs are supported. However, mounting of a VM is supported on Actifio Sky & CDX when using the NFS transport instead of RDM.

⁹ Leverages VMware VDDK version 6.7.3

¹⁰ Supported with VDP 9.0.6, 10.0.1 and above versions

Table 3.2: VMware vCenter/ESX servers supported by Actifio CDS/Sky/CDX versions

vCenter/ESX Versions ¹	Minimum Required Actifio CDS/Sky/CDX Version				
	7.1.x	8.0.x	8.1.x	9.0.x	10.0.x
5.5	7.1.0	8.0.0	8.1.0	9.0.0	10.0.0
6.0 U1	7.1.0	8.0.0	8.1.0	9.0.0	10.0.0
6.0 U2	7.1.0	8.0.0	8.1.0	9.0.0	10.0.0
6.0 U3	7.1.0	8.0.0	8.1.0	9.0.0	10.0.0
6.5	7.1.0	8.0.0	8.1.0	9.0.0	10.0.0
6.5 U1	7.1.6	8.0.0	8.1.0	9.0.0	10.0.0

6.5 U2	X	8.0.7	8.1.0	9.0.0	10.0.0
6.5 U3	X	X	8.1.6	9.0.3	10.0.0
6.7	X	X	8.1.4	9.0.0	10.0.0
6.7 U1	X	X	8.1.4	9.0.1	10.0.0
6.7 U2	X	X	8.1.4	9.0.1	10.0.0
6.7 U3	X	X	8.1.6	9.0.3	10.0.0
7.0	X	X	X	9.0.4	10.0.1
7.0 U1	X	X	X	X	10.0.2
7.0 U2	X	X	X	X	10.0.4

¹ Actifio CDX appliances only support VMware vSphere 7.0 and above.

3.2 VMware Virtual Volumes

Actifio backup and Mount operations are transparent to VMware VVOLs. Therefore, the backup of a VM, the Mount of a backup as a new VM, and the Mount of volumes from a backup into an existing VM are fully supported with Actifio software version 8.1 and above. These are the most common customer operations. A Mount of a backup as a new VM is the fastest way to recover a VM, typically followed by a Storage vMotion operation to move the data online into the desired storage.

The Actifio Restore operation to a VMware VVOL datastore cannot be supported at this time. This operation overwrites the volumes of a backed-up VM with volumes from a point-in-time backup, thereby restoring the original VM to how it was in the past. Actifio has found that although all VVOL implementations by storage vendors are correct for the support of backup and mount operations, some implementations do not fully or correctly support the restore operation.

While most customers typically recover a VM with a Mount as new VM operation, this operation does create a new VM with a new UUID, MAC address, path within VMware, resource group, and similar settings. If that is unacceptable, and the original VM is still available, a workaround is to perform the following:

- Mount all the volumes from a backup to the existing, original VM (the one to be recovered).
- Use VMware edit settings to remove all the original drives.
- Reboot the VM
- Once the VM is up, use Storage vMotion to move the data back to production storage.

This will maintain all the original VM's settings.

3.3 Microsoft Hyper-V

CDS: ✓ SKY: ✓ CDX: ✓

This section applies to all the VDP (CDS/Sky/CDX) appliances

Table 3.3: Hyper-V support Info

Hyper-V servers	<ul style="list-style-type: none"> • Windows 2019² (leveraging 2019 SCVMM), • Windows 2016² (leveraging 2016 SCVMM), • Windows 2012, 2012 R2, including Server Core installations (leveraging 2012 R2 or SCVMM), • Windows 2008 R2 (leveraging 2008 R2 SCVMM)
VM Type	<p>Gen 1 VMs on Windows 2008 R2, 2012, 2012 R2</p> <p>Gen 2 VMs on Windows 2012 R2</p>
Guest OS	All Hyper-V supported OS's
Quiesce applications ¹	Yes, based on VSS, See application discovery and protection section below
Change Block Tracking	Requires Actifio Connector

¹ Requires Hyper-V Integration Services. Capability applicable to any application with a VSS Writer or pre/post scripts to achieve application consistent capture

² Actifio uses Windows Resilient Change Tracking (RCT) to perform backup operations if cluster and the Hyper-V hosts on it are running Windows 2016 at the minimum and the VM version is 6.2 and above. Actifio CBT mechanism is leveraged otherwise for the backup operations.

Note:

- iSCSI is supported on Windows 2012, 2012 R2 starting with CDS 6.1
- Pre and post scripting within Guest VM is not supported
- Incremental backups supported for CSV volumes on Hyper-V servers running Windows 2019, 2016, 2012 and Windows 2012 R2 only
- Actifio connector required for Out of Band capture
- Functionality to capture specific individual disks for Hyper-V based VM's is not supported

Table 3.4: Hyper-V servers supported by Actifio CDS/Sky/CDX versions

Hyper-V Versions	Minimum Required Actifio CDS/Sky/CDX Version				
	7.1.x	8.0.x	8.1.x	9.0.x	10.0.x
Windows 2019 (leveraging 2019 SCVMM)	X	X	8.1.5	9.0.2	10.0.0
Windows 2016 (leveraging 2016 SCVMM)	X	8.0.0	8.1.0	9.0.0	10.0.0
Windows 2012, 2012 R2, including Server Core installations (leveraging 2012 R2 or SCVMM)	7.1.0	8.0.0	8.1.0	9.0.0	10.0.0
Windows 2008 R2 (leveraging 2008 R2 SCVMM)	7.1.0	8.0.0	8.1.0	9.0.0	10.0.0

Miscellaneous Support

4.1 Tapeout

Actifio Tapeout Support Note

Tapeout support limited to existing Actifio Tapeout deployments. Tapeout deployments after January 1st 2017 require RPQ (Request for Product Qualification) from Actifio.

Actifio Tape Out is based on Amanda Enterprise 3.3.6 installed on a physical server (referred to as Tape Out Server) running CentOS 6.5. Actifio Tapeout requires a proxy server¹ to mount the backup images. Amanda server in turn captures data from the backup images stored in Actifio appliance through the proxy server. The following table details additional information about Actifio Tapeout support.

¹ Tape Out Server acts as a proxy for Linux clients

Table 4.1: Actifio Tapeout Support Information

OS Family	Versions	Supported Connector Versions	
		Min	Max
Windows ¹	2003	V6.0	V8.0.3
	2008	V6.0	V8.0.3
	2012	V6.1.2	V8.0.3

Linux ²	RHEL	V6.1.2	V8.0.3
	CentOS	V6.1.2	V8.0.3
	SLES	V6.1.2	V8.0.3
VMWare	Supported Versions ³	V6.0	V8.0.3

¹ Please refer to Table 2.1 for exact versions of supported windows operating system

² Please refer to Table 2.2 for exact versions of supported linux operating system

³ For supported VMware versions, please refer to table 3.1

Actifio product interoperability

5.1 Replication

CDS: ✓ SKY: ✓ CDX: ✓

Actifio replication guarantees backward compatibility between Sky, CDS & CDX appliances running N and N-1 major revisions. An Actifio appliance (CDS/Sky/CDX) running V8.1.1 is compatible to replicate to another appliance running V8.x or V7.x. Actifio best practice recommendation is to upgrade the source and target clusters to the same version of firmware for best performance.

5.2 Actifio Global Manager

CDS: ✓ SKY: ✓ CDX: ✓

Table 5.1: Actifio Global Manager Interop Information

VDP Version	AGM Version	
	Minimum Compatability ¹	Max
V10.0.x	V10.0.x	V10.x
V9.0.x ²	V9.0.x	V10.x
V8.1.x ³	V8.1.x ⁴	V9.x
V8.0.x	V8.0.x	V9.x
V7.1.x	V7.1.0	V8.1.x
V7.0.x	V6.2.5	V8.1.x

¹ Minimum compatibility: Access to certain features may require Actifio Desktop and/or upgrade to recommended version

² Actifio CDS & Sky appliances on 9.0.1 (and above) needs AGM 9.0.4 if Catalog functionality is enabled

³ Actifio CDS & Sky appliances on 8.1.5 (and above) needs AGM 9.0.4 if Catalog functionality is enabled

⁴ Global workflows dashboard available in AGM 8.1 will list workflows only if the CDS/Sky appliance is running Actifio software version 7.0.12 and higher, 7.1.8 and higher & 8.0.3 and higher

Note: Starting with v8.0.4, the Actifio Global Manager can also be deployed in AWS, Google and Azure cloud platform with or without support for catalog component.

5.3 Actifio Report Manager

CDS: ✓ SKY: ✓ CDX: ✓

Table 5.2: Actifio Report Manager Interop Information

VDP Version	Report Manager Version	
	Minimum Compatibility ¹	Max
V10.0.x	V10.0.x	V10.x
V9.0.x	V8.0	V10.x
V8.1.x	V8.0	V8.x
V8.0.x	V7.1.3	V8.x
V7.1.x	V7.0.1	V8.x
V7.0.x	V6.2.0	V8.x

¹ Minimum compatibility: Reporting on a few advanced features may require upgrade to recommended version

5.4 Actifio Resiliency Director

CDS: ✓ SKY: ✓ CDX: ✓

Table 5.3: Actifio Resiliency Director Interop Information

VDP Version	RD Version	
	Minimum Compatibility	Max

V10.0.x	V8.0.3	V10.x
V9.0.x	V8.0	V10.x ²
V8.1.x	V7.1.3	V8.x
V8.0.x	V7.1.2	V8.x ¹
V7.1.x	V7.1.0	V8.x ¹
V7.0.x	V7.0.0	V7.1.3

¹ Database and file system recoveries requires CDS/Sky/CDX to be running Actifio software version 8.1 or above

² Recovery into cloud environments requires VDP version 9.0.4 or higher

5.5 Actifio NAS Director

The Big Data Director (BDD) product has been rebranded as part of 8.0 to NAS Director. In addition to this NAS Director will be available as a virtual version and will support Sky as the backend. The following sections capture the support matrix for the physical and virtual appliances.

5.5.1 Actifio NAS Director - Virtual appliance

CDS: X SKY: ✓ CDX: X

Version of Actifio virtual NAS Director appliance should be the same as the Sky appliance version used in the backend.

5.5.2 Actifio NAS Director - Physical appliance

CDS: ✓ SKY: X CDX: X

Version of Actifio physical NAS Director appliance should be the same as the CDS appliance version used in the backend.

5.5.3 Actifio vSphere Webclient

CDS: ✓ SKY: ✓ CDX: ✗

Actifio vSphere Webclient plugin version V6.2.2 is compatible with releases Actifio CDS/Sky versions V7.1.x, V7.0.x and V6.2.x. Please note that Actifio vSphere Webclient does not support vSphere versions 6.0 update 2 or higher (including vSphere 6.5)