



Support Matrix

IBM InfoSphere Virtual Data Pipeline 8.1.1.3

(IVGM 9.0.7, VDP Appliance 9.0.6)



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 VDP 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	<p>Added</p> <ul style="list-style-type: none"> • Support for out-of-the-box support for MySQL Connector and CBT support for RHEL 7.7 and 8.0
2.7	May 2020	<p>Added support for following operating systems as part of VDP 9.0.6 release</p> <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 • Added support for vSphere 7.0

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Deployment Information

1.1 Deploying IBM InfoSphere Virtual Data Pipeline

1.1.1 Supported storage protocols

IBM InfoSphere Virtual Data Pipeline supports the following storage protocol to capture and access data.

- IP (supported for VMware Network Block Device based data capture only)
- iSCSI and
- NFS (NFS support is available for Linux and Solaris operating systems only. See table 2.2 and 2.8 for supported versions)

1.1.2 Supported configuration topologies

- **Out of Band:** This is the most common configuration. In this configuration, the InfoSphere VDP appliance is not in the data path. Data flows from the production host to InfoSphere during data capture
- **External Snapshot Pools (ESP) In-place Capture:** This is similar to an “In-band” configuration with InfoSphere in that the storage array does snapshots off of production volumes and tracks changes on production blocks, but is different in that no InfoSphere 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 InfoSphere VDP appliance in that InfoSphere 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	InfoSphere VDP Appliance
Out of Band	IP ¹ , iSCSI and NFS ^{2, 3}
ESP Incremental ⁴	FC, iSCSI
ESP Full + Incremental ⁴	FC, iSCSI

¹ Supported for VMware Network Block Device (NBD) based data capture only

² InfoSphere VDP 8.1 (and above) supports NFS. NFS support is available only for InfoSphere supported Linux and Solaris operating systems. Also note that only NFS version v3 is supported

³ InfoSphere VDP software version 9.0 (and above) supports presenting NFS datastore to all the supported VMware vSphere servers

⁴ iSCSI needs to be configured between InfoSphere VDP appliance and external storage array

1.1.3 Supported hypervisors for InfoSphere VDP Deployment

Below table list the supported hypervisors for deploying InfoSphere Virtual Data Pipeline virtual appliance.

Table 1.2: Supported Hypervisors for InfoSphere VDP appliance deployment

VMware	vSphere 5.1 - 6.0 u3, 6.5, 6.5 u1, 6.5 u2, 6.7, 6.7 u1, 6.7 U2 ¹ , 6.7 U3, 7.0
Hyper-V	Windows 2008 R2, 2012, 2012 R2, 2016, 2019
Other	IBM Softlayer while running in supported hypervisor on bare metal

¹ Deploying InfoSphere VDP 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 IBM services team for more information if you want to deploy InfoSphere VDP appliance on VMware 6.7 u2.

1.2 Object Storage Compatibility for OnVault

InfoSphere VDP 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 InfoSphere VDP Version	
		Min	Max
Amazon ¹	S3	V7.0.1	V9.0.6
	S3-IAS	V7.0.1	V9.0.6
Google	Nearline	V7.0.1	V9.0.6
	Coldline	V8.0.4	V9.0.6
IBM	IBM Cloud Object Storage (Cleversafe) ²	V7.0.2	V9.0.6
Microsoft	Azure-blob ⁴	V7.0.3	V9.0.6
Scality	Scality Object Storage	V7.0.7	V9.0.6
Hitachi ³	Hitachi Content Platform	V7.0.7	V9.0.6
EMC	ECS - Object Store	V7.1.5	V9.0.6
Wasabi	Wasabi Object Store	V7.1.5	V9.0.6
Western Digital	ActiveScale	V8.0.0	V9.0.6
Alibaba	Cloud Object Storage Service	V8.1.0	V9.0.6
NetApp	StorageGRID	V8.1.0	V9.0.6

Catalyst Cloud	Container Service (S3 buckets)	V8.1.2	V9.0.6
Oracle	Oracle Cloud Object Storage ^{4, 5}	V8.1.0	V9.0.6
SwiftStack	SwiftStack Storage	V8.1.4	V9.0.6
Huawei	FusionStorage	V9.0.0	V9.0.6
Fujitsu Cloud Technologies	NIFCLOUD Object Storage	V9.0.3	V9.0.6
iLand	iLand Secure Cloud Object Storage	V9.0.4	V9.0.6

¹ Amazon Glacier not supported

² Integration with the IBM COS retention feature requires InfoSphere VDP virtual appliance 8.1.1 or above

³ InfoSphere 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

1.3 Storage Compatibility

1.3.1 Storage Guidelines for VDP Dedup Pool

The dedup pool is a critical part of the InfoSphere VDP 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 InfoSphere VDP Dedup pool.

1. Best practice recommendation is to configure the dedup pool on a separate shelf/shelves with dedicated I/O paths from the storage controller to the storage shelf/shelves on which the dedup pool is configured.
2. InfoSphere VDP 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 1.4: Dedup storage performance guideline

Disk Type	Max Ingest Rate (TB/day) ²		
	InfoSphere Virtual Appliance -50TB	InfoSphere Virtual Appliance -30TB	InfoSphere Virtual Appliance -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 Sample configuration: All-flash array	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 Sample configuration: 30x800GB 10,000 rpm SAS drives, RAID-6 DDP	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 Sample configuration: IBM Storwize v3700 12x4TB 7200 rpm SAS drives, RAID 6	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 InfoSphere VDP virtual appliance 50TB and 30TB, and optional for VDP virtual appliance 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 InfoSphere VDP virtual appliance 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 VDP virtual appliance models.

1.3.2 InfoSphere VDP Virtual Appliance

Please refer to VMware Datastore compatibility guide for more information.

1.4 InfoSphere VDP Virtual Appliance Configuration Limits

Configuration	VDP Appliance Limit
Volumes (virtual disks) per VDP appliance	<ul style="list-style-type: none"> • 1000 for VDP appliance with 1TB, 5TB & 10TB dedup capacity • 3000 for VDP appliance with 30TB dedup capacity • 5000 for VDP appliance with 50TB dedup capacity • 10000 for dedup-less models
Virtual disk size for dedup ingestion	8TB, but not more than half the dedup pool capacity

1.5 External Snapshot Pool

InfoSphere VDP software version 9.0 (and above) supports External Snapshot pools.

1.5.1 Supported Storage Arrays

Support for ESP with InfoSphere VDP 9.0 is provided for all

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

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

1.5.2 Supported Application Types

Following application types are supported with ESP as part of 9.0 release.

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
SQL Server	<p>For supported SQL Server versions, see section 2.2.2.1 Microsoft SQL Server</p>

	No Limitations
Filesystems	All the filesystems supported by VDP connector are supported
	No Limitations

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

Application Data Virtualization with VDP Connector

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

- **Application Discovery:** VDP connectors enable deep discovery of databases and file systems configured on a production host
- **API integration:** Where possible, VDP 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, VDP connector introduces change block tracking on select platforms
- **Application aware recovery/mount:** VDP connectors have built in application awareness. The connector enables users of VDP 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:** VDP 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

Note: VDP connectors are not supported on Power processor based platforms running Operating systems other than AIX.

2. Verify if the processor architecture and the operating system version is supported by the VDP connector

3. Verify if the advanced capability is supported for the application type in context

2.1 VDP Connector - Operating System Support

The VDP connector supports the following operating systems and configurations.

2.1.1 Microsoft Windows

Table 2.1: Microsoft Windows support information

OS Version	Supported Versions	
	Min	Max
Windows Server 2003 SP1+ ^{1,2}	V6.0	V9.0.6
Windows Server 2008 ^{1,2} , 2008 R2 ^{1,2}	V6.0	V9.0.6
Windows Server 2012 ^{1,2,3} , 2012 R2 ^{1,2,3}	V6.2	V9.0.6
Windows Server 2016 ^{1,2,3}	V7.1	V9.0.6
Windows Server 2019 ⁴	V8.1.4	V9.0.6 ⁵

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

For cloud mobility to Azure and GCP InfoSphere VDP 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 VDP software version required is 9.0.1 when on 9.x releases

2.1.2 Linux

This section provides detailed information about the Linux operating systems supported by the VDP connector.

Table 2.2: Linux support information

Vendor	Version	Supported Connector Versions	
		Min	Max
RHEL ^{1, 2, 4, 5}	V5.0-5.11	V6.0	V9.0.6
	V6.0-6.9	V6.0	V9.0.6
	V6.10 ⁹	V8.1.3	V9.0.6
	V7.0-7.4	V7.0	V9.0.6
	V7.5	V8.0.7	V9.0.6
	V7.6	V8.1.3	V9.0.6
	V7.7 ⁷	V8.1.6	V9.0.6
	V8.0 ⁷	V9.0.4	V9.0.6
	V8.1 ^{7,11}	V9.0.6	V9.0.6
SLES ^{1, 3, 4, 5}	V10 SP1-4	V6.0	V9.0.6
	V11 SP1-4	V6.2	V9.0.6
	V12 SP0-1	V7.0	V9.0.6
	V12 SP2-3	V8.0.4	V9.0.6
	V12 SP4 ⁷	V8.1.5	V9.0.6 ¹⁰
	V12 SP5 ⁷	V9.0.6	V9.0.6

	V15 ⁷	V8.1.5	V8.1.6
	V15.1 ⁷	V9.0.6	V9.0.6
CentOS ^{1, 2, 4, 5}	V4.2-4.9 ⁷	V6.0	V9.0.6
	V5.0-5.11	V6.0	V9.0.6
	V6.0-6.8	V6.2	V9.0.6
	V6.9	V8.0.4	V9.0.6
	V6.10 ^{6, 9}	V8.1.2	V9.0.6
	V7.0-7.4	V8.0.4	V9.0.6
	V7.5-V7.6	V8.1.4	V9.0.6 ⁸
	V7.7	V9.0.6	V9.0.6
	V8.0-8.1 ^{7, 11}	V9.0.6	V9.0.6
Ubuntu ⁷	V16.04	V8.1.2	V9.0.6
	V18.04	V8.1.2	V9.0.6
Oracle Enterprise Linux ^{1, 2, 4, 5}	V5.0-5.11 ⁷	V6.0	V9.0.6
	V6.0-6.8	V6.2	V9.0.6
	V6.9	V8.1.2	V9.0.6
	V6.10 ⁹	V8.1.3	V9.0.6
	V7.0-7.3	V8.0.4	V9.0.6
	V7.4, V7.5 ⁷ , V7.6	V8.1.5	V9.0.6
	V7.7 ⁷	V9.0.3	V9.0.6
	V8.0-8.1 ⁷	V9.0.6	V9.0.6
Amazon Linux ⁷	2017.09 & 2018.03	V8.1.1	V9.0.6

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

² When VDP 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 not supported

⁴ InfoSphere VDP software version 8.0.0 and above is required for cloud mobility to VMWare & AWS infrastructure. For cloud mobility to Azure and GCP VDP 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 retpoline compliant kernels

⁷ Cloud Mobility (System State) feature is not supported

⁸ VDP version 9.0.2 and above is required

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

¹⁰ Supported from VDP release 9.0.3 and above

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**. InfoSphere 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.

2.1.2.1 Linux Change Block Tracking support

InfoSphere VDP 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 InfoSphere 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 2.3: Linux CBT support

Vendor	Supported Configurations	Supported Connector Versions	
		Min	Max
RHEL	V6.8 ¹ – 6.9	V7.1.10	V9.0.6
	V6.10	V8.1.3	V9.0.6
	V7.0 – 7.3	V7.1.10	V9.0.6
	V7.4	V7.1.10	V9.0.6
	V7.5	V8.0.7	V9.0.6
	V7.6	V8.1.3	V9.0.6
	V7.7	V8.1.6 ³	V9.0.6 ^{2,3}
	V8.0	V9.0.4	V9.0.6
	V8.1 ⁴	V9.0.4	V9.0.6
SUSE	11 SP3-4	V7.1.10	V9.0.6
	12 SP0-1	V7.1.10	V9.0.6
	12 SP2-3	V8.0.4	V9.0.6
	12 SP4	V8.1.5	V9.0.6 ²
	12 SP5	V9.0.6	V9.0.6
	15	V8.1.5	V9.0.6
	15 SP1	V9.0.6	V9.0.6
CentOS	6.9	V8.0.4	V9.0.6
	6.10	V8.1.2	V9.0.6
	7.0-7.4	V8.0.4	V9.0.6

	7.5-7.6	V8.1.4	V9.0.6
	7.7	V9.0.6	V9.0.6
	8.0-8.1 ⁴	V9.0.6	V9.0.6

¹ Requires kernel version 2.6.32-642.3.1 or above

² Supported from VDP release 9.0.3 and above

³ Requires running a command to manually enable CBT on VDP versions 8.1.6 and 9.0.3. Get in touch with 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**. InfoSphere 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.

InfoSphere VDP 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 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	V8.0.4	V9.0.6
IBM Db2 ¹	9.7, 10.1.5, 10.5, 11.1	V8.0.4	V9.0.6
MySQL ²	5.x	V8.0.4	V9.0.6
Postgres	9.x, 10.x	V8.0.4	V9.0.6
	11.x	V8.1.4	V9.0.6
MaxDB	7.7-7.9	V8.0.4	V9.0.6
MongoDB ³	3.4.x, 3.6.x	V8.0.4	V9.0.6
	4.0, 4.2.3	V8.1.1	V9.0.6

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. InfoSphere VDP 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. InfoSphere 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	V9.0.6
EXT3	V8.0.4	V9.0.6
EXT4	V8.0.4	V9.0.6
XFS	V8.0.4	V9.0.6
ReiserFS	V8.0.6	V9.0.6

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

2.1.3 IBM AIX

VDP Connectors can be installed on supported version of the IBM AIX operating system. The connector enables transfer of data to InfoSphere VDP over iSCSI protocol. Additionally, for LPAR based configurations, VDP 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: MPIO with iSCSI is not supported on AIX.

Table 2.6: IBM AIX support information

OS Version	Config Types	Supported Connector Versions
------------	--------------	------------------------------

		Min	Max
V 6.1 (TL7+)	Standalone	V6.1.2	V9.0.6
	LPAR (dedicated and VIOS)	V6.1.2	V9.0.6
V 7.1 (TL1-4)	Standalone	V6.1.2	V9.0.6
	LPAR (dedicated and VIOS)	V6.1.2	V9.0.6
V 7.1 (TL5)	LPAR (dedicated and VIOS)	V8.1.5	V9.0.6 ¹
	Standalone	V8.1.5	V9.0.6 ¹
V 7.2 (TL2)	Standalone	V8.0.4	V9.0.6
	LPAR (dedicated and VIOS)	V8.0.4	V9.0.6
V 7.2 (TL3)	Standalone	V8.1.5	V9.0.6 ¹
	LPAR (dedicated and VIOS)	V8.1.5	V9.0.6 ¹

¹ Supported from VDP release 9.0.3 (and above) on 9.0.x releases

2.1.4 HP-UX

HP-UX support is limited to the versions and configurations mentioned below. VDP 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 InfoSphere is limited to 16TB unless the target disk is formatted with ASM.

Table 2.7: HP-UX support information

HP-UX ¹ Version	Storage Config	Supported Connector Version					
		Non-Virtualized		vPAR		IVM	
		Min	Max	Min	Max	Min	Max
V11.23 ²	NPIV	V6.2	V9.0.6	V6.2	V9.0.6	V6.2	V9.0.6
	non-NPIV	Not supported					
V11.31	NPIV	V6.2	V9.0.6	V6.2	V9.0.6	V6.2	V9.0.6
	non-NPIV	Not supported					

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

² 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

Solaris support is limited to the versions and configurations mentioned below. VDP connectors support deployments on SPARC and x86 based servers.

Note: iSCSI can be used with InfoSphere VDP and Solaris V11 systems after applying Solaris patch 11.3.21.5.0.

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	V9.0.6
		NFS ²	V8.1.0	V9.0.6
	LDOM	Block	Not supported	

		NFS ²	V8.1.0	V9.0.6
	Zones	Block	Not supported	
		NFS ²	V8.1.0	V9.0.6
V11 Updates 1-3 ³	Standalone	Block	V6.0	V9.0.6
		NFS ²	V8.1.0	V9.0.6
	LDOM	Block	V7.0.4	V9.0.6
		NFS ²	V8.1.0	V9.0.6
	Zones	Block	Not supported	
		NFS ²	V8.1.0	V9.0.6
V11 Update 4 ⁵	Standalone	Block	V8.1.6	V9.0.6 ⁵
		NFS ²	V8.1.6	V9.0.6 ⁵
	LDOM	Block	V8.1.6	V9.0.6 ⁵
		NFS ²	V8.1.6	V9.0.6 ⁵
	Zones	Block	Not supported	
		NFS ²	V8.1.6	V9.0.6 ⁵

¹ ZFS/UFS encryption is NOT supported

² Only v3 of NFS protocol is supported

³ Use of iSCSI is supported with InfoSphere VDP virtual appliance and Solaris V11 only and requires Solaris patch 11.3.21.5.0 to be installed

⁴ Only SPARC based servers are supported

⁵ Supported from 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 VDP

- 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)

2.2 Application aware data management

VDP 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 InfoSphere VDP software version for Cloud Mobility functionality.

Capability	Min Required InfoSphere VDP 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 VDP connector. Please refer section "[VDP Connector Operating System Support](#)" to know more details about supported Windows & Linux operating system

² System state recovery to cloud copies only the boot volume to the cloud native storage and mounts all the data volume from the VDP virtual 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 InfoSphere in the cloud

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

VDP connectors enable database consistent data capture from MS SQL Server.

Table 2.9: SQL Server Support Information

Version	Supported Configurations	Supported Connector Version	
		Min	Max
2019	Standalone	V9.0.4	V9.0.6
	AAG	V9.0.4	V9.0.6
	Failover Instance ¹	V9.0.4	V9.0.6
2017	Standalone	V7.1.7	V9.0.6

	AAG	V7.1.7	V9.0.6
	Failover Instance ¹	V7.1.7	V9.0.6
2016	Standalone	V7.1	V9.0.6
	AAG	V7.1	V9.0.6
	Failover Instance ¹	V7.1	V9.0.6
2014	Standalone	V6.1.2	V9.0.6
	AAG	V6.2	V9.0.6
	Failover Instance ¹	V6.2	V9.0.6
2012, 2012 R2	Standalone	V6.0	V9.0.6
	AAG	V6.1.2	V9.0.6
	Failover Instance ¹	V6.1.2	V9.0.6
2008, 2008 R2	Standalone	V6.0	V9.0.6
	Failover Instance ¹	V6.0	V9.0.6

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	V9.0.6
	DAG	V8.1.4	V9.0.6
2016	Standalone	V7.1	V9.0.6
	DAG	V7.1	V9.0.6
2013	Standalone	V6.1.2	V9.0.6
	DAG	V6.1.2	V9.0.6
2010	Standalone	V6.0	V9.0.6
	DAG	V6.1.2	V9.0.6
2007	Standalone	V6.0	V9.0.6
	CCR	V6.0	V9.0.6
2003	Standalone	V6.0	V9.0.6
	CCR	V6.0	V9.0.6

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	V9.0.6
2013	Standalone	V6.1	V9.0.6
2010	Standalone	V6.0	V9.0.6
2007	Standalone	V6.0	V9.0.6

2003	Standalone	V6.0	V9.0.6
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2.2.3 Oracle

VDP connectors enable database consistent data capture from Oracle. 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 VDP connector version 8.1.0 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	V9.0.6
		RAC	V9.0.2	V9.0.6
		Exadata ³	V9.0.2	V9.0.6
		Non Active Data Guard ⁴	V9.0.2	V9.0.6
		Active Data Guard ⁴	V9.0.2	V9.0.6
Oracle 18c ¹	All Versions	Standalone	V8.1.4	V9.0.6
		RAC	V8.1.4	V9.0.6
		Exadata ³	V8.1.4	V9.0.6
		Non Active Data Guard ⁴	V8.1.4	V9.0.6
		Active Data Guard ⁴	V8.1.4	V9.0.6

Oracle 12c ^{2,5,6}	12c R1, R2	Standalone	V7.1.0	V9.0.6
		RAC	V7.1.0	V9.0.6
		Exadata ³	V7.1.0	V9.0.6
		Non Active Data Guard ⁴	V7.1.0	V9.0.6
		Active Data Guard ⁴	V7.1.0	V9.0.6
Oracle 11g	11g R1-R2	Standalone	V6.0	V9.0.6
		RAC	V6.2	V9.0.6
		Exadata ³	V6.2	V9.0.6
		Non Active Data Guard ⁴	V6.1.2	V9.0.6
		Active Data Guard ⁴	V6.2	V9.0.6
Oracle 10g	10g R2	Standalone	V6.0	V9.0.6
		RAC	V6.0	V9.0.6

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 systems supported only with iSCSI

⁴ Oracle database CBT is enabled on ActiveDG only by Oracle

⁵ Capturing databases in pdb configuration requires VDP 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

2.2.3.1 Exadata Support

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

- Exadata Database Machine versions: X4, X5, X6 and X7
- Oracle versions: 11g, 12c, 18c and 19c

Please note that InfoSphere 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: InfoSphere VDP version 8.1.0 and above is needed for Oracle Exadata.

2.2.3.2 Supported Data Capture and Data presentation methods

InfoSphere 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 note that VDP supports dNFS with Oracle on supported 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
	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 InfoSphere

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

VDP connectors discover each volume/network mount point as a protectable application. For each of these discovered applications, VDP 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	V9.0.6
	CIFS	NTFS	V6.0	V9.0.6
	ReFS	ReFS	V6.2	V9.0.6
Linux ¹	EXT2	EXT2 or NFS ⁴	V6.0	V9.0.6
	EXT3	EXT3 or NFS ⁴	V6.0	V9.0.6
	EXT4	EXT4 or NFS ⁴	V6.0	V9.0.6
	XFS	XFS or NFS ⁴	V6.0	V9.0.6
	ReiserFS	ReiserFS or NFS ⁴	V6.0	V9.0.6
	NFS	EXT3 or NFS ⁴	V6.0	V9.0.6
AIX	JFS ³	JFS ³	V6.0	V9.0.6
	JFS2 ³	JFS2 ³	V6.0	V9.0.6
HP-UX	HFS	HFS	V6.0	V9.0.6
	VxFS ²	VxFS ²	V6.0	V9.0.6
	NFS	EXT3	V6.0	V9.0.6
Solaris ¹	UFS ³	UFS ³ or NFS ⁴	V6.0	V9.0.6
	ZFS ³	ZFS ³ or NFS ⁴	V6.0	V9.0.6
	NFS	EXT or NFS ⁴	V6.0	V9.0.6

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 VDP software version 8.1.0 and above. Also, only V3 of NFS protocol is supported.

2.2.5 SAP

InfoSphere provides two options to protect SAP deployments.

- With BRTools: Capturing data from SAP deployments with BRTools is supported when the underlying database is running on Oracle versions supported as per table 2.12 in “[Oracle](#)” section
- Database Optimized (No BRTools): Capturing data from SAP deployments without BRTools is supported on SQLserver and Oracle databases. Refer table 2.9 in “[Microsoft SQL Server](#)” section for supported SQLServer versions and table 2.12 in “[Oracle](#)” section for supported Oracle versions

2.2.5.1 SAP HANA

Supported Configuration	Recommended Capture Mode	Supported Connector Version	
		Min	Max
Single Container System ¹	HANA Storage Snapshot API ²	V8.1.4	V9.0.6 ⁸
MDC: Multiple-Container Systems (HANA 2.0) with one tenant database ¹	HANA Storage Snapshot API ²	V8.1.4	V9.0.6 ⁸
MDC: Multiple-Container Systems (HANA 2.0) with more than one tenant database ^{1,6}	HANA Storage Snapshot API ^{2,7}	V8.1.4	V9.0.6 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	V9.0.6 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	V9.0.6 ⁸

¹ Supports both InfoSphere block and NFS disk mapping options

² HANA storage snapshot API leverages InfoSphere CBT and supports incremental-forever and app-aware instant mount feature with log roll forward option. InfoSphere 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 InfoSphere 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 VDP 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 IBM Db2

With InfoSphere VDP 9.0.3 release, IBM 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 VDP'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 incremental 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	V9.0.6

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

2.2.7 SAP ASE (formerly Sybase ASE)

With VDP 9.0.3 release, IBM 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 VDP'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	V9.0.6

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

2.2.8 MySQL

VDP 9.0.4 release provides enhanced 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 VDP 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	V9.0.6

¹Note: IVGM 9.0.4 and above is required to manage MySQL database applications

Data Virtualization for Virtual Environments

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

3.1 VMware

With VDP software version 9.0, InfoSphere supports NFS protocol (in addition to iSCSI protocol) to present datastore to all the InfoSphere supported vCenter servers.

Table 3.1: VMware support Info

vCenter	<ul style="list-style-type: none"> • 5.0 – 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
Server	<ul style="list-style-type: none"> • ESXi 5.0 – 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
Virtual Hardware	7 to 13 ⁷ , 14 ⁷ , 15 ⁷ and 17 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

Change Block Tracking ⁶	Leverages Vmware VADP API
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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 Requires InfoSphere software version 7.0.3 or higher

³ vSAN 6.0-6.6 requires a minimum InfoSphere software version 7.0.2

⁴ VDP 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 (found on ESX 6.5 and above)

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

⁹ Leverages VDDK version 6.7.3

Table 3.2: VMware vCenter/ESX servers supported by InfoSphere VDP versions

vCenter/ESX Versions	Minimum Required InfoSphere VDP Version				
	7.0.x	7.1.x	8.0.x	8.1.x	9.0.x
5.0, 5.5	7.0.0	7.1.0	8.0.0	8.1.0	9.0.0
6.0 U1	7.0.2	7.1.0	8.0.0	8.1.0	9.0.0
6.0 U2	7.0.2	7.1.0	8.0.0	8.1.0	9.0.0
6.0 U3	7.0.3	7.1.0	8.0.0	8.1.0	9.0.0
6.5	7.0.11	7.1.0	8.0.0	8.1.0	9.0.0
6.5 U1	X	7.1.6	8.0.0	8.1.0	9.0.0
6.5 U2	X	X	8.0.7	8.1.0	9.0.0
6.5 U3	X	X	X	8.1.6	9.0.3
6.7	X	X	X	8.1.4	9.0.0

6.7 U1	X	X	X	8.1.4	9.0.1
6.7 U1	X	X	X	8.1.4	9.0.1
6.7 U2	X	X	X	8.1.4	9.0.1
6.7 U3	X	X	X	8.1.6	9.0.3
V7.0	X	X	X	X	9.0.4

3.3 VMware Virtual Volumes

InfoSphere 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 InfoSphere 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 InfoSphere 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. InfoSphere 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

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),
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	<ul style="list-style-type: none"> Windows 2012, 2012 R2, including Server Core installations (leveraging 2012 R2 or SCVMM), Windows 2008 R2 (leveraging 2008 R2 SCVMM)
VM Type	Gen 1 VMs on Windows 2008 R2, 2012, 2012 R2 Gen 2 VMs on Windows 2012 R2
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 VDP 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 VDP 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. VDP CBT mechanism is leveraged otherwise for the backup operations.

Note:

- Pre and post scripting within Guest VM is not supported
- Incremental backups supported for CSV volumes on Hyper-V servers running Windows 2016, 2012 and Windows 2012 R2 only
- VDP 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 InfoSphere VDP versions

Hyper-V Versions	Minimum Required InfoSphere VDP Version				
	7.0.x	7.1.x	8.0.x	8.1.x	9.0.x

Windows 2019 (leveraging 2019 SCVMM)	X	X	X	8.1.5	9.0.2
Windows 2016 (leveraging 2016 SCVMM)	X	X	8.0.0	8.1.0	9.0.0
Windows 2012, 2012 R2, including Server Core installations (leveraging 2012 R2 or SCVMM)	7.0.0	7.1.0	8.0.0	8.1.0	9.0.0
Windows 2008 R2 (leveraging 2008 R2 SCVMM)	7.0.0	7.1.0	8.0.0	8.1.0	9.0.0

InfoSphere VDP Product Interoperability

4.1 Replication

InfoSphere VDP replication guarantees backward compatibility between VDP appliances running N and N-1 major revisions. An InfoSphere VDP appliance running V8.1.2 is compatible to replicate to another appliance running VDP version V7.x or V8.x. InfoSphere best practice recommendation is to upgrade the source and target clusters to the same version of software for best performance.

4.2 InfoSphere VDP Global Manager

Table 4.1: InfoSphere Global Manager Interop Information

VDP Appliance Version	InfoSphere VDP Global Manager Version	
	Minimum Compatability ¹	Max
V9.0.x ²	V9.0	V9.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 Access to certain features may require VDP Desktop and/or upgrade to recommended version

² VDP appliances on 9.0.1 (and above) needs AGM 9.0.4 if Catalog functionality is enabled

³ VDP appliances on 8.1.5 (and above) needs AGM 9.0.4 if Catalog functionality is enabled

⁴ Global workflows dashboard available in IVGM 8.1 will list workflows only if the VDP appliance is running VDP

software version 7.0.12 and higher, 7.1.8 and higher & 8.0.3 and higher

4.3 InfoSphere Report Manager

Table 4.2: InfoSphere Report Manager Interop Information

VDP Appliance Version	InfoSphere VDP Report Manager Version	
	Minimum Compatibility ¹	Max
V9.0.x	V8.0	V8.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