HPE Data Protector 9.0x
Virtualization Support Matrix

Version: 2.5   Date: January 2018

Note: The combinations of Data Protector components with operating systems and/or application versions are supported by Data Protector if the associated operating system and/or application versions are supported by respective vendors.

All guest operating systems supported by the respective vendors are supported with Data Protector if they are listed as supported on physical hosts in the *HPE Data Protector 9.0x Platform and Integration Support Matrix*.

Updates/changes to individual fields within the Matrix will be highlighted in RED.

What's New
Updated "Table 7: Virtualization application integration support" with Microsoft Hyper-V Server 2008, 2008 R2

The following table lists various Data Protector components supported on the guest operating systems:

Table 1: Supported components inside virtual machines

Supported components inside virtual machines	
Virtualization application	Supported Data Protector components
VMware[7]	- Cell Manager/Installation Server - Manager of Managers - Disk Agent - Media Agent [1] - Graphical User Interface - Online Extension Agents[2] - StoreOnce Software Deduplication - HPE P9000 XP, SSEA Agent[3] - HPE P6000 EVA, SMI-S Agent[4] , HPE 3PAR SMI-S Agent[8] - VSS Agent [5]
Microsoft Hyper-V[9]	- Cell Manager/Installation Server - Manager of Managers - Disk Agent - Media Agent - Graphical User Interface - Online Extension Agents[2] - StoreOnce Software Deduplication - HPE P9000 XP, SSEA Agent[3] - HPE P6000 EVA, SMI-S Agent[4] - VSS Agent [5]
HPE Integrity Virtual Machines (IVM)	- Cell Manager/Installation Server - Disk Agent - Media Agent[6] - Manager of Managers - Online Extension Agents[2] - HPE P9000 XP, SSEA Agent[3]
Solaris Zones	- Disk Agent (Global and Local Zones) - Media Agent (Global Zone) - Oracle Online Agent (Global and Local Zones)
Oracle VM	- Cell Manager/Installation Server - Manager of Managers

	• Disk Agent • Media Agent • Graphical User Interface • Online Extension Agents[2] • StoreOnce Software Deduplication • HPE P9000 XP, SSEA Agent[3] • HPE P6000 EVA, SMI-S Agent[4] • VSS Agent [5] • Oracle Online Agent
Red Hat, KVM	• Cell Manager/Installation Server • Manager of Managers • Disk Agent • Media Agent • Online Extension Agents[2] • StoreOnce Software Deduplication • HPE P9000 XP, SSEA Agent[3] • HPE P6000 EVA, SMI-S Agent[4]

[1] Supported for HPE StoreOnce Backup Systems with iSCSI and Catalyst, file devices, HPE StoreOnce B6200 Backup System using Catalyst, HPE Store Once Software, and file libraries only.
[2] Valid for all applications that are listed as supported in *HPE Data Protector 9.0x Platform and Integration Support Matrix* and are supported by respective vendors inside a virtual machine
[3] Includes application integrations listed in the *HPE Data Protector 9.0x Zero Downtime Backup and Instant Recovery Support Matrix for HPE P9000 XP Disk Array Family*
[4] Includes application integrations listed in the *HPE Data Protector 9.0x Zero Downtime Backup and Instant Recovery Support Matrix for HPE P6000 EVA Disk Array Family Using SMI-S Agent.*
[5] In case of VSS backups, the application host can be a virtual host, but the backup host for FC based arrays (EVA, XP, etc) must be a physical server. For details of the supported VSS configurations, see the *HPE Data Protector 9.0x VSS Integration Support Matrix*
[6] Support includes attached AVIO Devices.
[7] Includes support for Virtual Infrastructure and vSphere components like vMotion, HA, DRS.
[8] Includes application integrations listed in the *HPE Data Protector 9.0x 3PAR Support Matrix* for *HPE 3PAR Disk Array Family Using SMI-S Agent.* For more information on instant recovery, see *HPE Data Protector Zero Downtime Backup Integration Guide.*
[9] Individual disk restores are only supported for Windows Hyper-V Server 2012 or later.

Table 2: Data Protector Virtual Environment Agent platform support

Supported platforms for Data Protector and VMware VDDK component[1,2,8]		
Data Protector versions	VMware VDDK component	Supported backup / mount proxy operating systems
9.00, 9.01	• VDDK 5.5.0	Windows Server 2003 R2 (x64) Windows Server 2008, 2008 R2 (x64) Windows Server 2012 (x64) RHEL 5.9 (x64)[3,4] RHEL 6.2, 6.3 (x64) [3,4] SLES 10.4 (x64) [3,4] SLES 11 (x64) [3,4]
9.02, 9.03	• VDDK 5.5.3	Windows Server 2003 R2 (x64) Windows Server 2008, 2008 R2 (x64) Windows Server 2012 (x64) RHEL 5.9 (x64) [3,4] RHEL 6.2, 6.3, 6.4 (x64) [3,4] SLES 10.4 (x64) [3,4] SLES 11 (x64) [3,4]
9.04	• VDDK 6.0	Windows Server 2008 R2 (x64) Windows Server 2012, 2012 R2 (x64) RHEL 6.6, 7.0 (x64) [3,4] SLES 11.3, 12 (x64) [3,4]
9.05	• VDDK 6.0 U1 [7]	Windows Server 2008 R2 (x64) Windows Server 2012, 2012 R2 (x64) RHEL 6.6, 7.0 (x64) [3,4] SLES 11.3, 12 (x64) [3,4]

9.06	• VDDK 6.0 U2[9]	Windows Server 2008 R2 (x64) Windows Server 2012, 2012 R2 (x64) RHEL 6.6, 7.0 (x64) [3,4] SLES 11.3, 12 (x64) [3,4]
9.07, 9.08, 9.09	• VDDK 6.0 U2[9]	Windows Server 2008 R2 (x64) Windows Server 2012, 2012 R2 (x64) RHEL 6.6[5], 7.0 (x64) [3,4, 6] SLES 11.3, 12 (x64) [3,4, 6]
9.09 [10]	• VDDK 6.0 U3	Windows Server 2008 R2 (x64) Windows Server 2012, 2012 R2 (x64) RHEL 6.6[5], 7.0 (x64) [3,4, 6] SLES 11.3, 12 (x64) [3,4, 6]

1   Data Protector supports guest operating systems that are supported by the respective operating system vendor and are supported as a guest operating system by VMware.
2   GPT disks are supported for Backup and Restore.
3

File System	Mount proxy Operating system				
	RHEL 5	RHEL 6	RHEL 7	SLES 11	SLES 12
ext2	✓	✓	✓	✓	✓
ext3	✓	✓	✓	✓	✓
ext4	-	✓	✓	-	✓
reiserfs	-	-	-	✓	✓
xfs	-	✓	✓	✓	✓
ntfs[6]	✓	✓	✓	✓	✓

4   Supported partition type for GRE: Linux partition (ID 83), Linux LVM partition (ID 8E).
5   RHEL 6.6 does not support Power On and Live Migrate operation.
6   Linux mount proxy does not support granular recovery of ownership, ACLs, file attributes, and alternate data streams for files and folder in Windows guest virtual machine.
7   The VM backups does not use SAN transport mode on vSphere 5.1, 5.5 (and its updates) environment and falls back to NBDSSL/NBD. This is because of VDDK 6.0 U1 issue. For more information, see VMware Knowledge Base.

	DP 9.04 (VDDK 6.0)*		DP 9.05 (VDDK 6.0U1)	
	vCenter 5.5 and below	vCenter 6.0 and above	vCenter 5.5 and below	vCenter 6.0 and above
VEPA Online backups – SAN Mode	√	√	X - Falls back to NBD/Hotadd **	√
VEPA ZDB backups -- SAN Mode	X - Falls back to NBD/Hotadd [1]	X - Falls back to NBD/Hotadd **	X - Falls back to NBD/Hotadd **	√

* Fallback to NBD/HotAdd occurs only for VMs which have duplicate UUID in the vCenter. For all other VMs, it will go via SAN Mode.
**NBD backups are 40-50% slower than SAN backups. HotAdd is 90% faster than SAN backups.
8   Data Protector does not support backup of SATA disks.
9   VMware VDDK 6.0 U2 patch EP 6 and above is not compatible with Power On and Live Migrate feature.
10   VDDK 6.0 U3 is supported only from DP 9.09 Patch Bundle (PB) 2 onwards.

Table 3: VMware vCenter support

VMware vCenter support for Data Protector 9.0x[1,2,3]
VMware vCenter Server 6.0[4], 6.0 U1[4], 6.0 U2[4],6.0 U3[4,5], 6.5[4,5]
VMware vCenter Server 5.5 U1, 5.5 U2, 5.5 U3
VMware vCenter Server 5.1 U3, 5.1 U2
VMware Virtual Server Appliance 5.5, 5.5 U1, 5.5 U2, 5.5 U3, 6.0[4], 6.0 U1[4], 6.0 U2[4], 6.0 U3[4,5], 6.5[4,5]

1   Data Protector supports only the above mentioned VMware vCenter versions .
     The ESXi Servers supported by these VMware vCenter versions are supported as Data Protector Application clients.
2   For the respective ESX Server support, refer to the VMware Product Interoperability Matrix using the following link:
     https://partnerweb.vmware.com/comp_guide2/sim/interop_matrix.php.
3   Data Protector does not support free ESXi licenses.
4   VMware VVol (Virtual Volumes) are supported for VMs that are hosted on 3PAR VVol only.
5   Datastores formatted with VMFS 6 are not supported. vCenter version 6.5 and 6.0 U3 is supported only from DP 9.09 PB2 onwards.

Table 4: Data Protector Virtual Environment Agent platform support

Data Protector Virtual Environment Agent platform support[1,2]		
Data Protector components	Platforms	Supported backup / mount proxy operating systems
Virtual Environment Agent (vStorage API support for Data Protection)[3] Virtual Environment Agent (vStorage API + Cloud method)	• VMware vCloud Director 1.5.1, 5.1.x, 5.5.0 • HPE Helion OpenStack 2.14	Windows Server 2008 (x64) Windows Server 2008 R2 (x64) Windows Server 2012 (x64) Windows Server 2008 R2 (x64) Windows Server 2012, 2012 R2 (x64) RHEL 6.6, 7.0 (x64) SLES 11.3, 12 (x64)

1　Data Protector supports guest operating systems that are supported by the respective operating system vendor and are supported as a guest operating system by VMware.
2　GPT disks are supported for Backup and Restore.
3　Raw Disk Mappings is supported with VADP based backups in virtual mode but not supported in physical mode.
4　Backup and restore of Nova Instance VMs and Cinder Volume disks (Shadow VMs) are supported in vCenter context.

Table 5: Supported MS applications for Quiescence enabled backups

Supported MS applications for Quiescence enabled backups		
Environment	Supported applications	Supported operating systems
Standalone	• Microsoft SQL Server 2008 R2 • Microsoft SQL Server 2012 R2 • Microsoft SQL Server 2014 • Microsoft Office SharePoint Server 2010 • Microsoft Office SharePoint Server 2013 • Microsoft Exchange 2010 • Microsoft Exchange 2013 • Oracle 11g R2 • Oracle 12c R1	Windows Server 2008 R2 (x64) Windows Server 2008 R2 (x64) Windows Server 2008 R2 (x64) Windows Server 2012 R2 (x64) Windows Server 2008 R2 (x64) Windows Server 2008 R2 (x64) Windows Server 2008 R2 (x64) Windows Server 2012 (x64) Windows Server 2008 R2 (x64) Windows Server 2008 R2 (x64) Windows Server 2008 R2 (x64) Windows Server 2012 R2 (x64)
Cluster	• Microsoft Exchange 2010 • Microsoft Exchange 2013	Windows Server 2008 R2 (x64) Windows Server 2012 R2 (x64)

Table 6: Granular Recovery Extension for VMware vSphere

Granular Recovery Extension (GRE) for VMware vSphere [3, 4, 5]		
Data Protector component	VMware component	Supported VMware versions
Granular Recovery Extension for VMware vSphere Web Client [1]	• VMware vCenter Server[2] 5.5 U1**, 5.5 U2** , 5.5 U3** • VMware Server Appliance (VSA)[1] U2**, 5.5 U3**	6.5**, 6.0 U3**, 6.0**, 6.0 U1**, 6.0 U2** 5.1 U2*, 5.5*, 6.5**,6.0 U3**,6.0**, 6.0 U1**, 6.0 U2**, 5.5 U1** , 5.5

1　VMware Virtual Server Appliance is not supported for vCenter releases prior to 5.5.1. For the supported mount proxy operating systems, see Table 3.
2　Supported only for vSphere Web Client 5.1, 5.5, 6.0, 6.5. vCenter 6.5 and 6.0 U3 is supported only from DP 9.09 PB2 onwards.
3　GPT disks on guest VMs are supported for Backup and Restore, and not for GRE. This applies to DP 9.03 release. From DP 9.04 onwards, GPT disks on guest VMs are supported for Backup, Restore, and GRE.
4　For Cached GRE using Smart Cache, mount proxy and backup server should be the same host (for NAS devices).
5　Cached GRE is supported for 3PAR snapshots with Advanced GRE Web Plug-in on Windows vCenter and Linux VSA.

　* Data Protector GRE Web Plug-in is supported only on vCenter Server versions upto 5.5.0 and not higher versions.
　**Data Protector Advanced GRE Web Plug-in is supported only on Vcenter Server / VSA version 5.5.1 or higher.

Data Protector supports the following virtualization application-specific features, which enable VSS snapshots for instant recovery without an agent inside the VMs.

Table 7: Virtualization application integration support

Virtualization application integration support		
Virtualization application	Data Protector component	Supported application components
Microsoft Hyper-V Server 2008, 2008 R2[1]	MS Volume Shadow Copy Integration	• VSS based snapshots of VMs
Microsoft Hyper-V Server 2008, 2008 R2[1]	Virtual Environment Agent	• VSS based snapshots of VMs (cluster aware)
Microsoft Hyper-V Server 2012[1], 2012 R2[1]	Virtual Environment Agent	• VSS based snapshots of VMs (cluster aware)
Microsoft Hyper-V Server 2016	Virtual Environment Agent	• VSS based snapshots of VMs (cluster aware)

1   Instant recovery for Hyper-V VSS snapshots is done using the SMIS-A agent.

The zero downtime backup and instant recovery feature in virtual environments is enabled by installing the respective array and application agents inside the virtual machines running the applications. The supported array types are *HPE P6000 EVA Disk Array Family* and *HPE P9000 XP Disk Array Family*. For all supported ZDB/IR configurations, refer to the respective ZDB/IR support matrices.

The VSS transportable backups are supported by installing the respective array and VSS agents inside the virtual machines running the applications. For all supported VSS configurations for virtual environments (inside virtual machines), refer to the rexpective *HPE Data Protector 9.0x VSS Integration Support Matrix.* [1,2,3]

1   For VMware application on HPE P6000 EVA Disk Array Family, HPE P9000 XP Disk Array Family and HPE 3PAR Storage Systems, only the FC Protocol and the RDM configuration are supported.
2   For Microsoft Hyper-V application on HPE P6000 EVA Disk Array Family and HPE 3PAR Storage Systems, only the FC Protocol and the Hyper-V pass through configuration are supported.
3   For VMware application on HPE 3PAR Storage Systems, IR is not supported.