

# Catalogic DPX 4.7.0 Compatibility Guide

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# Compatibility Overview

Catalogic DPX can protect several different operating systems, databases, and applications. This table provides an at-a-glance view of the different operating systems, applications, and databases that can be protected at both block-level and file-level or file-level only.

<a href="#">Virtual Systems Compatibility</a>	<a href="#">VMware Agentless Backup</a>	<a href="#">Microsoft Hyper-V Agentless Backup</a>		
<a href="#">Operating System Compatibility</a>	Block-level and file-level features are available for major versions of the following operating systems.			
	<a href="#">Microsoft Windows</a>	<a href="#">CentOS</a>	<a href="#">Red Hat Enterprise Linux (RHEL)</a>	<a href="#">SUSE Linux Enterprise (SLES)</a>
	<a href="#">Oracle Enterprise Linux (OEL)</a>			
	File-level features are available for major versions of the following operating systems.			
	<a href="#">Canonical Ubuntu</a>	<a href="#">Debian GNU/Linux</a>	<a href="#">Micro Focus (Novell) Open Enterprise Server (OES)</a>	<a href="#">FreeBSD</a>
	<a href="#">IBM AIX</a>			
<a href="#">Application and Database Compatibility</a>	Block-level and file-level features are available for major versions of the following databases/applications.			
	<a href="#">Microsoft Exchange</a>	<a href="#">Microsoft SharePoint</a>	<a href="#">Microsoft SQL Server</a>	<a href="#">Oracle</a>
	File-level features are available for major versions of the following databases/applications.			
	<a href="#">Micro Focus (Novell) GroupWise</a>	<a href="#">IBM Lotus Notes / Domino</a>	<a href="#">SAP HANA</a>	<a href="#">SAP R/3</a>
	<a href="#">IBM Db2</a>			

# General Information

## Revision

This reference applies to Catalogic DPX 4.7.0. Compatibility Guide last revised on 01/20/2020. If you are using an earlier release of DPX, see the Compatibility Guide for that release, available on Catalogic Software's MySupport page.

## Scope

The Catalogic DPX Compatibility Guide contains the latest system requirements and compatibility details regarding supported hardware, file systems, applications, operating systems, and service packs.

## Terms

- **Master Server (Appliance):** A server that contains the DPX product, including the catalog and modules that control media management, scheduling, and distributed processing. This is deployed in the form of an VMware OVA or Hyper-V template and may be referenced as the DPX Master, DPX Master Server virtual appliance, or DPX virtual appliance.
- **Device Server:** A node to which one or more storage devices (tape, VTL, disk) are attached.
- **Management Console:** A graphic user interface with visual methods for performing product functions.
- **Basic Client:** A computer that contains the data, applications, and operating systems that are protected at file-level.
- **DPX Block Data Protection (Block Backup):** A protection and recovery model that comprehensively backs up open systems such as Windows and Linux to disk-based storage using Catalogic Software's block-level agent. Features include block-level incremental snapshot technology, Instant Access and Instant Virtualization, source and target side data reduction, Bare Metal Recovery, and application recovery. DPX Block Data Protection supports the following features:
  - **DPX Open Storage Server (OSS; formerly called AROS or DOSS):** A computer that can store protected data on local or attached disk storage. This is one destination for Block backups. This feature applies to DPX 4.2 and later.
  - **DPX Client:** A computer that contains the data, applications, volumes, and operating systems that are protected with Block backup.
  - **Bare Metal Recovery (BMR):** A feature that provides point-in-time server recovery of a DPX Client using Block backups.
  - **Application Recovery:** A DPX Block Protection feature that rapidly recovers data from Microsoft SQL Server, Microsoft Exchange, and Oracle.
  - **Instant Access (IA):** A feature that provides instantly writable access to data and application recovery points. A Block backup snapshot is mapped to a target server where it can be accessed, copied, or put immediately into production use as needed.
  - **Instant Virtualization (IV):** A feature that enables customers to create a virtual machine in an ESXi server from any recovery point on any Windows and Linux physical or virtual server. IV creates a virtual machine in the virtual machine host without restoring data from the selected recovery point. This operation does not physically transfer data to the virtual machine and makes it possible to complete a disaster recovery operation of a physical or virtual server in minutes, without recovery storage requirements.
  - **Full Virtualization (FV):** A feature that enables customers to create a virtual machine in an ESXi server from any recovery point on any Windows and Linux physical or virtual backed up instance. FV creates a virtual machine in the virtual machine host that contains a clone of the backed up server. If the backed up server is physical, FV performs a physical-to-virtual (P2V) operation.
  - **VMware Backup:** A feature that exploits VMware vStorage application programming interface for data protection and Change Block Tracking to enable off-host backup of vSphere virtual machines through DPX proxy servers, eliminating the need to install and run a backup agent on virtual machines or ESXi servers.
  - **Hyper-V Backup:** A feature that allows for the off-host backup and the restoration of Microsoft Hyper-V virtual machines to a primary backup destination such as the vStor Server.
- **vStor Server:** A physical or virtual appliance that can serve as your DPX primary backup destination. vStor servers can store with Block, Hyper-V or VMware backups.

- **SAN Device Server:** A device attached to Storage Area Network. Catalogic Software supports any combination of UNIX, Windows, NetWare/OES, Linux, and NDMP/NAS in a SAN.
- **Image Backup for seeding:** A technology used to transfer a Block Backup base to a remote location via tape. This is useful for initiating the Block Backup relationship when nodes exist across low bandwidth WAN links.
- **Application Interfaces:** A set of features that interface with Microsoft Exchange, Microsoft SQL Server, Microsoft SharePoint, Oracle, IBM DB2, IBM Lotus Notes, Novell (Micro Focus) GroupWise, and SAP R/3.
- **NDMP Backup:** A feature that uses Network Data Management Protocol (NDMP) to coordinate backup and restore operations between NDMP compliant devices using vendor-specific data formats. NetApp supports DUMP and SMTAPE data formats. Other vendors may support TAR or other data formats. Vendor data formats are proprietary, thus restore operations must be performed to systems similar to the backup source.

## Backward Compatibility

Master server, device server, Open Storage Server and all nodes operating as proxy servers for NDMP communication and for Virtualization functions must be on the same release version.

DPX 4.7 Master Server supports clients running DPX 4.7, DPX 4.5, and DPX 4.4. Backward compatibility is available to help ease Enterprise migrations.

To assure the most reliable operation and enable the most efficient support, it is strongly recommended that clients be upgraded to the same version as the master server as soon as it is practical and that all components (servers and clients) are kept current to the latest patch level for their release version.

New features or enhancements to features in a new release will not be available for prior versions. New technical issues found with older client software may require upgrade to correct or continue troubleshooting.

DPX Master Version	Compatible Client Versions			
4.7	4.6	4.5	4.4	
4.6	4.6	4.5	4.4	
4.5	4.5	4.4	4.3	
4.4 [1]		4.4	4.3	4.2
4.3		4.3	4.2	4.1

### Note:

1. To facilitate use of NetApp ONTAP 8.3.1, clients must be at DPX 4.4.

## DPX Master Server and Requirements

The DPX Master Server can be deployed as a VMware or Hyper-V template. The default deployment template will include the following configuration.

System Component	Specification
Processor	Recommended: 4 CPUs
Memory	Recommended: 16GB
OS	CentOS 7.7
Data Disk Subsystem	Required: 270GB HDD space
Network Adapter	Recommended: 10Gbps Minimum: 1Gbps

## DPX Device Server Requirements

System Component	Specification
Processor	Recommended: 4 CPUs
Memory	Recommended: 16GB
OS	Linux or Microsoft Windows
Network Adapter	Recommended: 10Gbps Minimum: 1Gbps

## vStor Server Requirements

For a quick, safe, complete, and versatile data protection and recovery strategy, Catalogic has developed the vStor server. The vStor server, connected to disk storage pools, is a reliable streamlined tool that can serve as your DPX primary backup destination.

- vStor servers can be installed on a physical machine or deployed as virtual appliances in a VMware or Hyper-V environment.
- For backups to and recoveries from a vStor server, both Block backups and Agentless backups are supported. File, NDMP, or archive backups are supported if DPX is installed on the vStor server and scanned in as a DPX node.
- BMR recovery is supported for Windows and Linux Block backup to vStor servers. Linux client node requires kernel 3.10 or later.
- For Block backups to vStor, the Backup client must be running DPX 4.5.2 or later. For Agentless backups to vStor, the virtualization proxy server must be running DPX 4.5.2 or later.
- Disk to vStor to media archiving is supported for Block and Agentless backups.

The recommended hardware specifications for a virtual vStor server is shown below.

System Component	Specification
Processor	Minimum: 4 CPUs
Memory	Minimum: 32GB (no deduplication) Minimum: 64GB (with deduplication)
OS	CentOS 7.7
Data Disk Subsystem	Recommended: DAS; Prefer pRDM over standard VMDK Minimum sustained rate: 120 MB/s
Log Disk	Recommended: 2x10GB LUNs Improves general write performance and resilience
Cache Disk	Minimum: 100GB Required when using deduplication
Network Adapter	Recommended: 10Gbps Minimum: 1Gbps

The recommended hardware specifications for a physical vStor server is shown below.

System Component	Specification
Processor	Minimum: Quad Core x64
Memory	Minimum: 32GB (no deduplication) Minimum: 64GB (with deduplication)
OS	Recommended: CentOS 7.7
Data Disk Subsystem	Recommended: DAS Minimum sustained rate: 120 MB/s
Log Disk	Recommended: 2x10GB LUNs Improves general write performance and resilience
Cache Disk	Minimum: 100GB Required when using deduplication
Network Adapter	Recommended: 10Gbps Minimum: 1Gbps

The following Linux operating systems are supported for physical vStor installations:

CentOS Linux 7.7 (x86_64) Minimal Server
CentOS Linux 7.5.1804 (x86_64) Minimal Server
CentOS Linux 7.4.1708 (x86_64) Minimal Server
CentOS Linux 7.3.1611 (x86_64) Minimal Server
RedHat Enterprise Linux 7.4 (x86_64) Minimal Server
RedHat Enterprise Linux 7.3 (x86_64) Minimal Server

## Support Lifecycle Schedule

The Support Lifecycle Schedule provides advanced notification of planned changes in product support. This information helps customers and partners with product planning and information technology decisions. Catalogic regularly reviews system and application popularity and will include and exclude various features on a regular basis.

Full support includes software maintenance updates, content updates, software fixes, knowledge base support and access to Catalogic support engineers per terms of the maintenance agreement. DPX releases typically reach General Availability (GA) approximately once a year.

The extended support starts when full support has ended and includes access to Catalogic support engineers per terms of the maintenance agreement, access to already existing software updates/fixes and knowledge base support but excludes new software maintenance and new content updates. The investigation of new issues is limited and does not include any software development.

Catalogic support of operating systems and applications parallels that of the third-party vendors: when third-party vendor products go into extended support, self-serve support, or end of life, Catalogic generally does the same.

### End-of-Support Schedule for DPX Versions

Release	GA Date	End of Full Support	End of Extended Support
4.7	11/30/2020	11/30/2022	11/30/2024
4.6	11/11/2019	11/11/2021	11/11/2023
4.5	04/28/2017	06/25/2019	06/25/2021
4.4	08/03/2015	08/03/2017	08/03/2019

Release	GA Date	End of Full Support	End of Extended Support
4.3	05/30/2014	05/30/2016	05/30/2018

## End-of-Support Schedule for DPX Feature Support

DPX features listed in the table below are not available for sale. Extended support for these features will be available through the dates shown.

The extended support includes access to Catalogic support engineers per terms of the maintenance agreement, access to already existing software updates/fixes and knowledge base support but excludes new software maintenance and content updates. The investigation of new issues is limited and will not include any software development.

Any support requests for the releases beyond their extended support dates are handled on a case by case basis by Catalogic support engineers.

The end of support is due to the vendor no longer supporting the operating system.

DPX Features	End of Extended Support
<b>Virtual Systems</b>	
VMware vSphere 6.0	03/31/2021
<b>Operating Systems</b>	
IBM AIX 6.x	06/30/2021
RHEL/CENTOS/OEL 6.x	06/30/2021
NetApp DATA ONTAP 7-mode	06/30/2021
NetApp Clustered Data ONTAP (CDOT) 9.1 or older	06/30/2021
Microsoft Windows 2008 R2	09/30/2020
Microsoft Windows 2008	09/30/2020
Microsoft Windows (x86)	04/30/2017
RHEL/Centos 5.x	04/30/2017
Canonical Ubuntu 12 [1]	04/26/2017
32-bit Linux (x86)	12/31/2016
SUSE Linux Enterprise Server 10 [1]	07/31/2016
HP-UX 11i v2 (B.11.23) [1]	12/31/2015
Microsoft Windows 2003 and Applications on Windows 2003 [2]	12/31/2015
<b>Databases and Applications</b>	
Oracle 11g (64-bit)	06/30/2021
Microsoft SQL Server 2005 [1]	04/12/2016
Oracle 11g R1 [1]	08/31/2015

**Note:**

1. These operating systems and applications are no longer supported by their respective vendors.
2. Microsoft support for Windows 2003 ended on 07/14/2015. DPX 4.4 master supports Windows 2003 as a DPX 4.3 client.

## Cloud Compatibility

Cloud Storage	Backup Type	DPX Destination Device
AltaVault	File level backup, NDMP level backup	Disk Directory
Amazon Web Services (AWS) [1]	File level backup, NDMP level backup	Disk Directory and VTL (Virtual Tape Library)
Microsoft Azure	File level backup, NDMP level backup	Disk Directory and VTL (Virtual Tape Library)
MinIO	Agentless archive, Block archive, NDMP level backup	AWS S3 cloud device
NetApp StorageGRID	Agentless archive, Block archive, NDMP level backup	AWS S3 cloud device
Cloudian HyperStore	Agentless archive, Block archive, NDMP level backup	AWS S3 on-prem/cloud device
Amazon S3	Agentless archive, Block archive, NDMP level backup	AWS S3 cloud device

### Note:

1. AWS Storage gateway and virtual tape libraries are support. For NDMP and agentless archive are supported on Catalogic vStor via S3 API.

## NetApp Compatibility

DPX supports NetApp storage systems, running Data ONTAP. DPX supports the following features with NetApp:

- Block backup
- NetApp OSSV backup
- SnapVault management

Data ONTAP Versions	NetApp Software	Supported Agents	Requirements
9.7 [8], 9.6 [8], 9.5 [8], 9.4 [8], 9.3 [8], 9.2 [8], 9.1 [8], 9.0 [8], 8.3.0 or later, 8.2.3 or later [1]	Clustered Data ONTAP (CDOT)	<ul style="list-style-type: none"> <li>▪ Catalogic DPX Agentless [9]</li> <li>▪ Catalogic DPX Agent for Windows [6]</li> <li>▪ Catalogic DPX Agent for Linux [7,9]</li> </ul>	<ul style="list-style-type: none"> <li>▪ FlexClone license is required</li> <li>▪ iSCSI license is required.</li> <li>▪ NFS license is required only for DPX Agent for Windows</li> </ul>



Data ONTAP Versions	NetApp Software	Supported Agents	Requirements
8.2.0 or later, 8.1.0 or later, 8.0.1 or later, 7.3.1 or later [1,2,3]	Data ONTAP 7-mode	<ul style="list-style-type: none"> <li>▪ Catalogic DPX Agentless [5][9]</li> <li>▪ Catalogic DPX Agent for Window and Linux [9]</li> <li>▪ NetApp OSSV Agent for Solaris and AIX [4]</li> <li>▪ Data ONTAP SnapVault Primary to Secondary (controller to controller) [4]</li> </ul>	<ul style="list-style-type: none"> <li>▪ SnapVault Secondary license is required</li> <li>▪ FlexClone license is required</li> <li>▪ iSCSI license is required</li> </ul>

**Note:**

1. Compression is supported for Data ONTAP 8.0.1P4 or later; NetApp's Advanced Single Instance Storage (A-SIS) deduplication is supported for Data ONTAP 7.3.1 or later.
2. NetApp ONTAP Edge-T is supported as a data protection target.
3. vFiler use (MultiStore licensing) for NDMP and Block backup is only supported for Data ONTAP 8.2.1 and later.
4. SnapVault support is limited to 7-mode. SnapVault backup between 7-mode and Clustered Data ONTAP is not supported.
5. DPX Agentless supports Data ONTAP 8.1 and later.
6. Backup of Oracle on Windows to a NetApp CDOT target is not supported.
7. Uses iSCSI transport protocol. Support for remote locations is limited.
8. Supported with compatibility mode only. DPX does not support new features specifically introduced in ONTAP 9.x release.
9. BMR recovery for machines using GPT disk is now supported for Linux. Instant Virtualization and Full Virtualization for machines using GPT disk are now supported for Linux.

## NDMP Backup Support

All NetApp supported versions of Data ONTAP are supported for NDMP Backup SMTAPE incremental is not supported. NAS devices from other vendors that fully support NDMP V3 or V4 can be supported for NDMP backups.

# Encryption Compatibility

## DPX Software Encryption Compatibility

The requirements for DPX Device Servers in the table below must be met for software encryption. Encryption support is limited to DPX Basic clients. The following Device Servers support software encryption compatibility:

- Windows 2019
- Windows 2016
- Windows 2012 R2 (x64)
- Windows 2012 (x64)
- SLES 15 (x64) or later
- SLES 12 (x64) or later
- SLES 11 SP1 (x64) or later
- RHEL and CentOS 7 (x64) or later
- RHEL and CentOS 6 (x64) or later
- Solaris 11 and 10 SPARC (64-bit)
- AIX 6 (64-bit) (RISC) or later

## DPX Hardware Encryption Compatibility

Device Server (File support) / Proxy Server (NDMP support)	IBM LTO[1,2]	HP LTO[1,3]	Quantum LTO[1,4]
Windows 2012 R2 (x64)	Y	N	N
Windows 2012 (x64)	Y	N	N
SLES 11 SP1 (x64) or later	Y	Y	Y
RHEL and CentOS 6 (x64) or later	Y	Y	Y
Solaris 11 and 10 SPARC (64-bit) or later	Y	N	N
AIX 6 (64-bit) (RISC) or later	Y	Y	Y
NetApp [5]	Y	Y	Y

### Note:

1. Encryption support is limited to DPX Basic clients.
2. IBM Drives with IBM driver.
3. HP Drives with BEXSPTAPE interface.
4. Quantum Drives with BEXSPTAPE interface.
5. NDMP hardware encryption requires that the tape device be connected to a NetApp Storage System. Clustered Data ONTAP Vserver support is available in DPX 4.2.0 and later with Data ONTAP 8.2 and later. Tape Drive is local or connected to another NetApp controller.

## NDMP Encryption Compatibility

The requirements for DPX proxy servers in the table below must be met. NDMP hardware encryption requires that the tape device be connected to a NetApp Storage System. Clustered Data ONTAP SVM support is available in DPX 4.2 and later with Data ONTAP 8.2 and later. The following platforms are supported for NDMP Proxy servers:

- Windows 2016

- Windows 2012 and 2008 R2 (x64)
- SLES 11 SP1 (x64) or later
- RHEL and CentOS 6 (x64) or later

## Hardware Compatibility

### Tape Library / Virtual Tape Library / Standalone Tape Device

Catalogic Software supports tape devices that are compliant with the SCSI-2 standard. Tape drives must support variable length records and allow a minimum transfer size of 32 KB.

Catalogic Software supports media changers that are compliant with the SCSI-2 standard. Additionally, media changer support on Windows requires Windows NT SCSI Pass-Through support from the HBA driver or a vendor-supplied media changer driver supporting Windows NT SCSI Pass-Through.

Unless otherwise advised by Catalogic Data Protection Technical Support, the operating system of the Device Server that connects the tape or tape library device should have properly installed drivers that are recommended by the device manufacturer.

No troubleshooting or bug fix support is offered for devices that are no longer supported by the hardware vendor. Minimal troubleshooting and no new development will be done for devices connected to operating systems that are no longer supported by the vendor.

DPX treats a Virtual Tape Library (VTL) device as a regular tape library and supports it the same way it does for tape libraries.

Tape library and tape drive support includes, but is not limited to, the following:

- HP LTO8
- HP LTO7
- HP LTO6
- HP LTO5
- IBM LTO7
- IBM LTO6
- IBM LTO5
- HPE MSL 3040
- HPE MSL 6480
- Oracle SL150
- Dell TL2000
- Overland NEOxl 80
- Quantum i500
- Quantum Scalar i6000

## Java Requirements for Management Console

Each release of the management console has specific requirements for the Oracle Java JRE. The following Java versions are required for DPX Management Console operations:

- JRE 1.8 TLS protocol must be enabled on NetApp targets.

**Note:** Oracle has changed their licensing model for JRE. An alternative to JRE is OpenJDK. If using OpenJDK, version 8, 9, or 10 has to be installed on a Windows or Linux node. Information on OpenJDK may be found here: <https://adoptopenjdk.net/releases.html>.

It is strongly suggested to access the appliance with the management console that came packaged with it. Accessing the DPX appliance with an older management console is not supported. Accessing a master server with a newer console may not work as expected.

# Virtual Systems Compatibility

DPX provides the following types of protection for VMs:

- Agent-based Block Backup
- Agentless Backup

## Agent-based Block Backup

Agent-based Block Backup for Virtualization is a Virtual Machine (VM) backup solution in which DPX client software is installed on each VM you want to protect. DPX supports agent-based Block Backup for Virtualization with VMware vApps, vFolders and resource pools.

Agent-based Block Backup is recommended for protecting applications such as Microsoft Exchange, Microsoft SharePoint, and Microsoft SQL Server residing on a virtual machine, assuring application consistent backups and proper transaction log truncation. Additionally, Kroll tools provide granular application object recovery support. Kroll Ontrack tool provides for granular search and recovery of individual mailbox items (emails, calendar, contacts, etc.), and provides for search and recovery of entire Microsoft SharePoint sites or individual Microsoft SharePoint server objects such as documents, lists, libraries, and folders. Kroll SQL tool provides the ability to preview table contents and to restore SQL tables without restoring the entire database.

The current version supported by DPX is Kroll OnTrack PowerControls 9.0.

## VMware Agentless Backup

Agentless VMware Backup eliminates the overhead of installing and maintaining a backup agent on each VM. DPX backs up the VMs through the vCenter and DPX virtualization proxy server, each of which must be added to the DPX Enterprise. The DPX virtualization proxy server handles VMware snapshot processing and communicates with the storage destination and master server. Agentless VMware Backup supports auto-discovery and protection of new and modified VMs. For a complete list of OS versions, please refer to [VMware Compatibility Guide](#) at VMware website.

Using Agentless VMware Backup to protect VMs has significant advantages, including simplified administration and tight integration with VMware vCenter. Users have a wide range of recovery options available. These include the same Instant Virtualization and Full Virtualization features available with DPX agent-based backups. In addition, "Instant VMDK" allows rapid mapping of VMDK (Virtual Machine Disk) images back to the same VM or an alternate VM. VMDKs can also be mapped to physical servers to share data across physical/virtual boundaries.

DPX supports crash-consistent backup of all guest operating systems that are supported by vSphere 6.0 and later using the VADP interface and DPX's agentless feature. Please refer to VMware's compatibility website (<http://www.vmware.com/resources/compatibility/search.php>) for a complete list of OS versions.

DPX supports application-consistent backup using DPX's Agentless feature. Refer to the Agentless VMware Backup Chapter in DPX Users Guide.

Supported vSphere Versions
7.0 (vSphere) [1, 2, 3]
6.7 (vSphere) [1, 2, 3]
6.5 (vSphere) [1, 2, 3]
6.0 and later (vSphere) [1, 2, 3]

### Note:

1. DPX supports Virtual Volume (VVOL) datastores for Agentless VMware backup to NetApp and vStor storage. VMware Virtual SAN (vSAN), a network-based storage solution with direct attached disks, does not support the SAN transport mode for VADP backup. Because vSAN uses modes that are incompatible with SAN transport mode, if the virtual

disk library detects the presence of vSAN, VADP SAN transport modes are automatically disabled. The other transport modes for VADP backup will continue to operate.

2. Rapid Return to Production (RRP) requires a Storage vMotion and valid ESXi license on vSphere. See the "Rapid Return to Production" section in the DPX User's Guide.
3. Ensure the latest version of VMware Tools is installed for your vCenter version.

## Microsoft Hyper-V Agentless Backup

Catalogic Software provides DPX Block and Agentless data protection for virtualization to protect Microsoft Hyper-V environments. The DPX agent must be installed on each guest virtual machine that is protected by DPX. Both hosts and clusters are supported.

Agentless Hyper-V Backup eliminates the overhead of installing and maintaining a backup agent on each VM. DPX backs up the VMs through the Hyper-V host by using an agent installed on each Hyper-V host or cluster which must be added to the DPX Enterprise. The agent handles Hyper-V snapshot processing and communicates with the storage destination and master server. Agentless Hyper-V Backup supports auto-discovery and protection of new and modified VMs. For a complete list of OS versions, please refer to the [Microsoft](#) website.

DPX supports crash-consistent backup of all guest operating systems that are supported by Microsoft Windows 2016 and later using the DPX agentless feature.

<b>Supported Microsoft Hyper-V Versions</b>
Windows 2019
Windows 2016

# Operating System Compatibility

## Microsoft Windows

OS	Master Server / OVA Appliance	Device / SAN Device Server	DPX Open Storage Server	Basic Client	DPX Client	Mgmt Console	Open File Management	Image Backup for Seeding	BMR	NDMP Proxy	Cluster Support	Supported File Systems for Block Backup
Windows Server 2019	Y [16]	Y	Y[14]	Y[2,6]	Y[5,9]	Y	Y[6]	Y[11,12]	N[16,17]	Y[7]	Y[4,15]	NTFS[1,11], ReFS[12], DFS[13]
Windows Server 2016	Y [16]	Y	Y[14]	Y[2,6]	Y[5,9]	Y	Y[6]	Y[11,12]	Y[3,17]	Y[7]	Y[4,15]	NTFS[1,11], ReFS[12], DFS[13]
Windows 2016 core x64		Y		Y[2]	Y		Y[6]	Y	Y[3,17]	Y[7]		NTFS[1]
Windows 2012 R2 x64	Y [16]	Y	Y[14]	Y[2,6]	Y[5,9]	Y	Y[6]	Y[11,12]	Y[3,17]	Y[7]	Y[4,10,15]	NTFS[1,11], ReFS[12], DFS[13]
Windows 2012 R2 core x64	Y [16]	Y		Y[2]	Y		Y[6]	Y	Y[3,17]	Y[7]	Y[4,10]	NTFS[1]
Windows 2012 x64	Y [16]	Y	Y[14]	Y[2,6]	Y[5,9]	Y	Y[6]	Y[11,12]	Y[3,17]	Y[7]	Y[4,10,15]	NTFS[1,11], ReFS[12], DFS[13]
Windows 2012 core x64	Y [16]	Y		Y[2]	Y		Y[6]	Y	Y[3,17]	Y[7]	Y[4,10]	NTFS[1]
Windows 10 x64				Y[2,6]	Y[5]	Y	Y[6]	Y	Y[3,17]	Y[7]		NTFS[1]
Windows 8.1 x64 (Professional, Enterprise, Ultimate) [8]				Y[2,6]	Y[5]	Y	Y[6]	Y	Y[3,17]	Y[7]		NTFS[1]

### Note:

1. a) Extended file system attributes are supported; b) FAT file system is not supported by Block backup.
2. File-level backup supports most OS supported file systems including extended file system attributes support for NTFS.
3. a) Recovery to dissimilar hardware is supported; c) BMR is supported for GPT drives, including clusters; e).
4. a) Master server installation on cluster is not supported; b) Active directory on cluster or application node is not supported; c) Device / SAN device servers on physical nodes are supported, but device servers are not cluster-aware and will not follow failover. Please refer to the Cluster Support documentation.
5. Active Directory can be backed up.
6. Can be used as a proxy for NDMP backup.
7. Supported only when the OS is used as a server.
8. System level restore (IV/FV/BMR) has one limitation: Storage space configuration will not be restored.
9. Failover cluster is supported where resources are owned by one node at a time.

10. NTFS deduplication is supported with Block Backup: a) File History is not supported and disabled; b) Image Backup is not supported. Deduplication should be disabled on the server or volume for the duration of Image backup for seeding; c) Volume restore is optimized and selective file restore is not optimized; d) Do not enable deduplication on a DPX product volume for master and OSS, except the deduplication support for OSS; e) DPX Archive (sometimes refer to as Double protection) is not supported for client source volumes with deduplication set and OSS backup.
11. Windows ReFS is supported for Exchange 2016 and SQL 2016 and later on ReFS volumes.b) File History is not supported and disabled; c) Image Backup is not supported; d) DPX Archive is not supported.
12. Windows DFS support: a) Recovery to original location is supported; b) Restore to alternate location requires user intervention; c) DFS is not supported on Windows Cluster.
13. DPX open storage server supports direct attached storage, SAN, or iSCSI-attached storage devices. a) A minimum of 4 GB of available memory and a dual core CPU or two CPUs must be available; b) A highly reliable configuration such as RAID 5 with hot spares is recommended; c) This server is not supported on Windows Domain Controller machines; e) Backup data can be migrated from one DPX open storage server to another. See [KB 46746](#) for details on setup and implementation;
14. Windows 2012 R2 with Cluster Shared Volumes (CSV) configuration has limited support. For SQL Server support, refer to Microsoft SQL Server table.
15. When restoring from a Block Archive, only files and folders can be recovered. Bare metal recovery, instant virtualization, and full virtualization are not supported when restoring from Block Archive.
16. DPX Master Server can no longer be installed on Windows Servers. Users using DPX 4.5.4 can still upgrade DPX 4.5.4 to the most recent version. For new deployments, use the DPX Master Server virtual appliance.
17. DPX Data Protection does not support Veritas volume management and Veritas cluster.

## CentOS

OS	Master Server	Device / SAN Device Server	File Level	Block Level	Management Console	Open File Management	Image Backup for Seeding	BMR	NDMP Proxy	Cluster Support	Supported File Systems for Block Backup
CentOS 8.2 x64 [12]		Y	Y	Y		Y[5]		N	Y	None	Ext3, Ext4, XFS[9]
CentOS 8.1 x64 [12]		Y	Y	Y		Y[5]		N	Y	None	Ext3, Ext4, XFS[9]
CentOS 8.0 x64 [12]		Y	Y	Y		Y[5]		N	Y	None	Ext3, Ext4, XFS[9]
CentOS 7.8 x64		Y	Y	Y		Y[5]		Y [4]	Y	None	Ext3, Ext4, XFS[9]
CentOS 7.7 x64		Y	Y	Y		Y[5]		Y [4]	Y	None	Ext3, Ext4, XFS[9]
CentOS 7.6 x64		Y	Y	Y		Y[5]		Y [4]	Y	None	Ext3, Ext4, XFS[9]
CentOS 7.5 x64	Y	Y	Y	Y	Y	Y [5]		Y [4]	Y	None	Ext3, Ext4, XFS[9]

**Note:**

1. Extended file system attributes are supported.



2. DPX file-level backup is supported with most OS supported file systems. Extended file system attributes are supported with EXT4/3/2, and XFS. File-level backup for XFS file system is not supported for partitions above 1 TB; use block level backup technology to back up XFS partitions more than 1 TB.
3. LVM2 is required. Only the default uniprocessor or SMP kernel packages provided by the Linux vendor for the distribution are supported.
4. For BMR: a) Restoring to IDE or GPT disks on the target machine is not supported, however DPX 4.5.1 and later supports RHEL/Centos 7.3 and 7.4 using UEFI boot with GPT disk; b) Recovery to dissimilar hardware is supported but manual driver installation may be needed; d) The physical disk size on the target machine must be less than 2 TB; e) Linux BMR support when the whole system is on multipath device is not supported. BMR for Linux using UEFI boot is unsupported.
5. Open file management is supported for block-level backup only.
6. Only base backup is supported (for seeding purpose).
7. Can be used as a proxy for NDMP backup.
8. File-level support qualified up to V6.7 with DPX 4.4.0 and later. Agentless protection qualified.
9. XFS BLI support requires V7.2 or later; 64-bit inodes are not supported.
10. When restoring from a Block Archive, only files and folders can be recovered. Bare metal recovery, instant virtualization, and full virtualization are not supported when restoring from Block Archive.
11. Libnsl library must be installed for DPX client support.

## Red Hat Enterprise Linux (RHEL)

OS	Master Server	Device / SAN Device Server	File Level	Block Level	Management Console	Open File Management	Image Backup for Seeding	BMR	NDMP Proxy	Cluster Support	Supported File Systems for Block Backup
RHEL 8.2 x64 [12]		Y	Y	Y		Y[5]		N	Y	None	Ext3, Ext4, XFS[9]
RHEL 8.1 x64 [12]		Y	Y	Y		Y[5]		N	Y	None	Ext3, Ext4, XFS[9]
RHEL 8.0 x64 [12]		Y	Y	Y		Y[5]		N	Y	None	Ext3, Ext4, XFS[9]
RHEL 7.8 x64		Y	Y	Y		Y[5]		Y [4]	Y	None	Ext3, Ext4, XFS[9]
RHEL 7.7 x64		Y	Y	Y		Y[5]		Y [4]	Y	None	Ext3, Ext4, XFS[9]
RHEL 7.6 x64	Y	Y	Y	Y	Y	Y[5]		Y [4]	Y	None	Ext3, Ext4, XFS[9]
RHEL 7.5 x64	Y	Y	Y	Y	Y	Y[5]		Y [4]	Y	None	Ext3, Ext4, XFS[9]
RHEL 7.0 - 7.4 x64 [9,12]	Y	Y	Y[2]	Y[3,11]	Y	Y[5]	Y[6]	Y[4]	Y[7]		Ext3, Ext4 [1], XFS[9]
RHEL 6.7 – 6.9 x64	Y	Y	Y[2]	Y[3]	Y	Y[5]		Y[4]	Y[7]		Ext3, Ext4 [1]

**Note:**

1. Extended file system attributes are supported.
2. DPX file-level backup is supported with most OS supported file systems. Extended file system attributes are supported with EXT4/3/2, and XFS. File-level backup for XFS file system is not supported for partitions above 1 TB; use block level backup technology to back up XFS partitions more than 1 TB.
3. LVM2 is required. Only the default uniprocessor or SMP kernel packages provided by the Linux vendor for the distribution are supported.
4. For BMR: a) Restoring to IDE or GPT disks on the target machine is not supported, however DPX 4.5.1 and later supports RHEL/Centos 7.3 and 7.4 using UEFI boot with GPT disk; b) Recovery to dissimilar hardware is supported but manual driver installation may be needed; d) The physical disk size on the target machine must be less than 2 TB; e) Linux BMR support when the whole system is on multipath device is not supported. BMR for Linux using UEFI boot is unsupported.
5. Open file management is supported for block-level backup only.
6. Only base backup is supported (for seeding purpose).
7. Can be used as a proxy for NDMP backup.
8. File-level support qualified up to V6.7 with DPX 4.4.0 and later. Agentless protection qualified.
9. XFS BLI support requires V7.2 or later; 64-bit inodes are not supported.
10. When restoring from a Block Archive, only files and folders can be recovered. Bare metal recovery, instant virtualization, and full virtualization are not supported when restoring from Block Archive.
11. Libnsd library must be installed for DPX client support.

## SUSE Linux Enterprise (SLES)

OS	Master Server	Device / SAN Device Server	File Level	Block Level	Mgm't Console	Open File Management	Image Backup for Seeding	BMR	NDMP Proxy	Cluster Support	Supported File Systems for Block Backup
SUSE Linux Enterprise Server 15 SP1		Y	Y[2]			N[5]					Ext4[1], Ext3[1], ReiserFS[1, 8], XFS[11]
SUSE Linux Enterprise Server 15		Y	Y[2]			N[5]					Ext4[1], Ext3[1], ReiserFS[1, 8], XFS[11]
SUSE Linux Enterprise Server 12 x64 SP3 [14,15,16]	Y	Y	Y[2]	Y[3]	Y	Y		Y[4]	Y		Ext4[1], Ext3[1], ReiserFS[1,8], XFS[11]
SUSE Linux Enterprise Server 12 x64 SP2	Y	Y	Y[2]	Y[3]	Y	Y	Y[6]	Y[4]	Y		Ext4[1], Ext3[1], ReiserFS[1,8], XFS[11]
SUSE Linux Enterprise Server 12 x64 SP1	Y	Y	Y[2]	Y[3]	Y	Y			Y		Ext4[1], Ext3[1], ReiserFS[1,8], XFS[11]
SUSE Linux Enterprise	Y[10]	Y	Y[2]	Y[3,10]	Y[10]	Y			Y		Ext4[1], Ext3[1], ReiserFS[1,8], XFS[11]

OS	Master Server	Device / SAN Device Server	File Level	Block Level	Mgm't Console	Open File Management	Image Backup for Seeding	BMR	NDMP Proxy	Cluster Support	Supported File Systems for Block Backup
Server 12 x64											
SUSE Linux Enterprise Server 11 x64 SP4	Y[9]	Y	Y[2]	Y[3,9]	Y[9]	Y	Y[6]	Y[4]	Y		Ext3[1], ReiserFS[1,8]
SUSE Linux Enterprise Server 11 x64 SP3	Y	Y	Y[2]	Y[3]	Y	Y	Y[6]	Y[4]	Y		Ext3[1], ReiserFS[1,8]

**Note:**

1. Extended file system attributes are supported.
2. File-level backup supports most OS supported file systems. Extended file system attributes are supported for EXT3/4, ReiserFS, and XFS. Extended file system attributes are supported for EXT4 for V11 SP2 and later.
3. LVM2 is required. Only the default uniprocessor or SMP kernel packages provided by the Linux vendor for the distribution are supported.
4. Open file management is supported for block-level backup only.
5. For BMR: a) Restoring to IDE or GPT disks on the target machine is not supported, however DPX 4.5.1 and later supports RHEL/Centos 7.3 and 7.4 using UEFI boot with GPT disk; b) Recovery to dissimilar hardware is supported but manual driver installation may be needed; d) The physical disk size on the target machine must be less than 2 TB; e) Linux BMR support when the whole system is on multipath device is not supported. BMR for Linux using UEFI boot is unsupported.
6. Only base backup is supported (for seeding purpose).
7. ReiserFS as data file system is supported. ReiserFS as /boot is not supported.
8. Block level support for Linux hosts using Linux Native Multipath.
9. Block level support for Linux hosts using UEFI boot is supported.
10. When restoring from a Block Archive, only files and folders can be recovered. Bare metal recovery, instant virtualization, and full virtualization are not supported when restoring from Block Archive.
11. 64-bit INODES are not supported for the XFS filesystem.

## Oracle Enterprise Linux (OEL)

OS	Master Server	Device / SAN Device Server	File Level	Block Level	Mgm't Console	Open File Mgm't	BMR	NDMP Proxy	VADP Proxy
Oracle Linux 8.2 x64 [3]			Y[1,2]	Y[8]		Y[9]			
Oracle Linux 8.1 x64 [3]		Y	Y[1,2]	Y		Y[9]			
Oracle Linux 8.0 x64 [3]		Y	Y[1,2]	Y[7]		Y[9]			
Oracle Linux 7.9 x64			Y[1,2]	Y[6]		Y[9]			
Oracle Linux 7.8 x64		Y	Y[1,2]	Y[5]		Y[9]	Y		Y
Oracle Linux 7.7 x64		Y	Y[1,2]	Y[5]		Y[9]		Y	Y
Oracle Linux 7.6 x64			Y[1,2]	Y[5]		Y[9]		Y	Y

OS	Master Server	Device / SAN Device Server	File Level	Block Level	Mgm't Console	Open File Mgm't	BMR	NDMP Proxy	VADP Proxy
Oracle Linux 7.5 x64			Y[1,2]	Y[5]		Y[9]		Y	Y
Oracle Linux 7.4 x64		Y	Y[1,2]	Y		Y[9]			
Oracle Linux 7.3 x64	Y	Y	Y[1,2]	Y		Y[9]			
Oracle Linux 7.2 x64		Y	Y[1,2]			Y[9]			
Oracle Linux 7.1 x64 [3,4]		Y	Y[1,2]			Y[9]			
Oracle Linux 6.9 x64		Y	Y[1,2]			Y[9]			
Oracle Linux 6.8 x64		Y	Y[1,2]			Y[9]			

**Note:**

**Unify all columns for every section. This needs to match the previous sections.**

1. Extended file system attributes are supported.
2. Only the default uniprocessor or SMP kernel packages provided by the Linux vendor for the distribution are supported.
3. Block level support for Linux hosts using UEFI boot is supported.
4. **Libnsl library must be installed for DPX client support.**
5. Block backup, IA mapping, selective restore, volume restore, and Instant Virtualization are supported.
6. Block backup, IA mapping, selective restore, and Instant Virtualization are supported.
7. Block backup, IA mapping, selective restore, and volume restore are supported.
8. Block backup, IA mapping, and selective restore are supported.
9. Open file management is supported for block-level backup only.

## Canonical Ubuntu

OS	Master Server	Device / SAN Device Server	File Level	Block Level	Open File Management
Ubuntu 16.04 LTS (Xenial) [2,3]			Y[1]	Y	Y[4]
Ubuntu 16.x x64 [2,3]			Y[1]	Y	Y[4]
Ubuntu 15.x x64 [2,3]			Y[1]	Y	Y[4]

**Note:**

1. File-level backup supports most OS supported file systems except extended file system attributes.
2. **Libnss3 library must be installed for DPX client support.**
3. **Libnsl library must be installed for DPX client support.**
4. Open file management is supported for block-level backup only.

## Debian GNU/Linux

DPX Block Data Protection is **not** available for Debian GNU/Linux platforms.

OS	Master Server	Device / SAN Device Server	File Level	Management Console
Debian GNU/Linux 10.0 – 10.7 x64			Y[1]	
Debian GNU/Linux 9.x x64			Y[1]	
Debian GNU/Linux 8.x x64			Y[1]	
Debian GNU/Linux 7.x x64			Y[1]	

**Note:**

1. File-level backup supports most OS supported file systems except extended file system attributes.

## Micro Focus (Novell) Open Enterprise Server (OES)

OS	Master Server	Device / SAN Device Server	File Level	Management Console	Cluster Support
OES 2018 (Linux) 64-bit		Y	Y[1]		Y[2,3]
OES 2015 (Linux) SP1 64-bit		Y	Y[1]		Y[2,3]
OES 2015 (Linux) 64-bit		Y	Y[1]		Y[2,3]
OES 11 (Linux) SP3 64-bit		Y	Y[1]		Y[2,3]
OES 11 (Linux) SP2 64-bit		Y	Y[1]		Y[2,3]

**Note:**

1. a) DPX is fully NSS compatible; b) DPX file-level backup supports most other OS-supported file systems except extended file system attributes.
2. Device / SAN Device Servers on physical nodes are supported, but device servers are not cluster-aware and will not follow failover. Please refer to the Cluster Support documentation.
3. Cluster support is limited to NSS volumes.
4. **Novel (Micro Focus) GroupWise** is mentioned separately under the Database section.

## FreeBSD

DPX Block Data Protection is **not** available for Debian GNU/Linux platforms.

OS	Master Server	Device / SAN Device Server	File Level	Management Console
FreeBSD 12.1			Y[1]	

**Note:**

1. File-level backup supports most OS supported file systems except extended file system attributes.

## IBM AIX

DPX Block Data Protection is **not** available for IBM AIX platforms.

OS	Master Server	Device / SAN Device Server	File Level	Management Console	NDMP Proxy
AIX 7.2 64bit [2]		Y	Y[1]		
AIX 7.1 64bit [3]		Y	Y[1]		

**Note:**

1. File-level backup supports most OS supported file systems except extended file system attributes.
2. Technology Level 3 – Technology Level 5 supported.
3. Technology Level 5 support only.

## Application and Database Compatibility

### Microsoft Exchange

OS	Exchange Version	File Level	Block Level	Instant Availability	Cluster Support
Windows Server 2019 [2]	Exchange 2019 64-bit		Y[1]	Y	DAG, IP-less DAG
Windows 2016 [2]	Exchange 2016 64-bit		Y[1]	Y	DAG, IP-less DAG
	Exchange 2013 64-bit (SP1)		Y[1]	Y	DAG, IP-less DAG
Windows 2012 R2 [2]	Exchange 2016 64-bit		Y[1]	Y	DAG, IP-less DAG
	Exchange 2013 64-bit (SP1)		Y[1]	Y	DAG, IP-less DAG
Windows 2012	Exchange 2016 64-bit		Y[1]	Y	DAG[2]

OS	Exchange Version	File Level	Block Level	Instant Availability	Cluster Support
	Exchange 2013 64-bit (SP1)		Y[1]	Y	DAG[2]

**Note:**

1. Recovery to alternate locations is supported.
2. Exchange on Windows NTFS and ReFS filesystems is supported.
3. Database Availability Group (DAG) without administrative access point (no IP address) is not supported. This is sometimes called "IP-less" DAG.

## Micro Focus (Novell) GroupWise

DPX Block Data Protection is **not** available for Novell GroupWise.

OS	GroupWise Version	File Level	Block Level	Instant Availability	Cluster Support
OES 2015 Linux 64-bit (SP1)	2014 R2 SP1 [2]	Y[1]			
OES 2015 Linux 64-bit	2014 [2,5]	Y[1]			
OES 11 Linux 64-bit (SP1 or later)	2014 [2,4]	Y[1]			
OES 11 Linux 64-bit (SP1 or later)	2012 [2,3]	Y[1]			

**Note:**

1. GroupWise cluster is not supported.
2. GroupWise is supported through TSAFS using the ENABLEGW switch. See [Novell Knowledgebase 7010095](#).
3. Qualified up to GroupWise 2012 SP4 on OES 11 SP2.
4. Qualified up to GroupWise 2014 SP1 on OES 11 SP2.
5. Qualified up to GroupWise 2014 SP2 and Groupwise 2014 R2 SP1 on OES 2015.

## IBM Lotus Notes / Domino

DPX Block Data Protection is **not** available for IBM Lotus Notes / Domino.

OS	Lotus Notes / Domino Version	File Level	Block Level	Instant Availability	Cluster Support
Windows 2012 R2 x64	Lotus Notes / Domino Server 9.0.x 64-bit [2,3]	Y[1]			
Windows 2012 x64	Lotus Notes / Domino Server 9.0.x 64bit [2,4]	Y[1]			

**Note:**

1. Database restore and point-in-time restore are supported; mail-level restore is not supported.
2. Qualified up to Lotus Domino 9.0.1 FP4.
3. Qualified up to Lotus Domino 9.0.1 FP5.

## Microsoft SharePoint

OS	SharePoint Version	File Level	Block Level	Instant Availability	Cluster Support
Windows 2016	SharePoint Server 2016 Feature Pack 1 (Dec. 2016), SharePoint Server 2013 / SharePoint Foundation 2013 64-bit (SP1)		Y[1,2,3]	Y	Y
Windows 2012 R2 x64	SharePoint Server 2016 Feature Pack 1 (Dec. 2016), SharePoint Server 2013 / SharePoint Foundation 2013 64-bit (SP1)		Y[1,2,3]	Y	Y
Windows 2012 x64	SharePoint Server 2013 / SharePoint Foundation 2013 64-bit (SP1)		Y[1,2]	Y	Y

### Note:

1. In a farm configuration, SQL Server can be any supported configurations (please refer to compatibility information for SQL Server).
2. SharePoint 2013 with SQL 2012 AlwaysOn Availability Groups is supported.
3. Qualified up to SharePoint 2013 SP1 with SQL 2014 SP1 AlwaysOn Availability Groups.

## Microsoft SQL Server

Microsoft SQL Server Standard and Enterprise editions are supported. Microsoft SQL Server Express is not supported.

OS	SQL Server Version	File Level	Block Level	Instant Availability	Cluster Support
Windows 2019	SQL Server 2019 64-bit	Y	Y[3,9]	Y	Y[1]
Windows 2016 [8]	SQL Server 2017 64-bit	Y	Y[3,9]	Y	Y[1]
	SQL Server 2016 64-bit	Y	Y[3,9]	Y	Y[1]
Windows 2012 R2 x64	SQL Server 2016 64-bit (SP0 or later) [6]	Y[2]	Y[3,9]	Y	Y[1]
	SQL Server 2014 64-bit (SP0 or later) [5,]	Y[2]	Y[8,9]	Y	Y[1]
	SQL Server 2012 64-bit (SP1 or later) [4,7]	Y[2]	Y[9]	Y	Y[1]
Windows 2012 x64	SQL Server 2014 64-bit (SP0 or later)	Y[2]	Y[9]	Y	Y[1]
	SQL Server 2012 64-bit (SP1 or later)	Y[2]	Y[9]	Y	Y[1]



**Note:**

1. DPX supports both Active/Active and Active/Passive clusters.
2. SQL AlwaysOn Availability Groups are not supported.
3. For block-level protection, SQL AlwaysOn Availability Groups is supported.
4. Qualified up to SQL 2012 SP2 on Windows 2012 R2.
5. Qualified up to SQL 2014 SP2 on Windows 2012 R2.
6. Qualified up to SQL 2016 with AlwaysOn Availability Groups on Windows 2012 R2 with CSV configuration. For issues related to SQL and CSV combination, refer to "Additional Considerations for CSV in DPX" under "Clustered Shared Volumes" of Reference Guide.
7. Qualified up to SQL 2012 SP3 on Windows 2012 R2.
8. SQL 2016 ReFS is supported on Windows 2016.
9. AlwaysOn Availability Groups are supported.

## Oracle

DPX Block Data Protection for Oracle is for single-node standalone Oracle instances only. Advanced storage features such as Oracle ASM are currently not supported.

OS	Oracle Version	File Level	Block Level	Instant Availability	Cluster Support
AIX 6.1	Oracle 11g R2 /11g R1 64-bit / 32-bit [1]	Y[2]			Y[3]
CentOS 8.2 x64					
CentOS 8.1 x64					
CentOS 8.0 x64					
CentOS 7.8 x64					
CentOS 7.7 x64					
CentOS 7.6 x64					
CentOS 7.5 x64	Oracle 12c 64-bit	Y[2]	Y	Y	
Oracle Linux 8.2 x64					
Oracle Linux 8.1 x64					
Oracle Linux 8.0 x64					
Oracle Linux 7.9 x64					
Oracle Linux 7.8 x64					
Oracle Linux 7.7 x64					
Oracle Linux 7.6 x64					
Oracle Linux 7.5 x64					
Oracle Linux 7.4 x64					
Oracle Linux 7.3 x64	Oracle 12c 64-bit	Y[2]	Y	Y	
Oracle Linux 7.2 x64	Oracle 12c 64-bit[6]	Y[2]			
Oracle Linux 7.1 x64	Oracle 12c 64-bit Oracle 11g R2 64-bit	Y[2]			

OS	Oracle Version	File Level	Block Level	Instant Availability	Cluster Support
Oracle Linux 6.9 x64					
Oracle Linux 6.8 x64		Y[2]			
Red Hat Enterprise Linux 8.2 x64					
Red Hat Enterprise Linux 8.1 x64					
Red Hat Enterprise Linux 8.0 x64					
Red Hat Enterprise Linux 7.8 x64					
Red Hat Enterprise Linux 7.7 x64					
Red Hat Enterprise Linux 7.6 x64					
Red Hat Enterprise Linux 7.5 x64					
Red Hat Enterprise Linux 7.4 x64	Oracle 12c 64-bit	Y[2]	Y	Y	
Red Hat Enterprise Linux 7.3 x64	Oracle 12c 64-bit	Y[2]	Y	Y	
Red Hat Enterprise Linux 7.2, 7.1, 7.0 x64	Oracle 12c 64-bit[6]	Y[2]		Y	
Red Hat Enterprise Linux 6.9, 6.8, 6.7 x64	Oracle 12c 64-bit[6]	Y[2]	Y	Y	
SUSE Linux Enterprise 15 x64 (SP1)	Oracle 12c 64-bit[6]	Y[2]	Y	Y	
SUSE Linux Enterprise 12 x64 (SP1, SP2)	Oracle 12c 64-bit[6]	Y[2]	Y	Y	
SUSE Linux Enterprise 12 x64	Oracle 12c 64-bit[6]	Y[2]	Y	Y	
SUSE Linux Enterprise 11 x64 (SP4)	Oracle 12c 64-bit [4,5]	Y[2]	Y	Y	
SUSE Linux Enterprise 11 x64 (SP3, SP2)	Oracle 12c 64-bit	Y[2]	Y	Y	Y[3]
SUSE Linux Enterprise 11 x64 (SP2, SP1)	Oracle 11g R2 and 11g R1 64-bit	Y[2]	Y	Y	Y[3]
Windows 2019	Oracle 12c and 12c R2 64-bit	Y[2]			
Windows 2016	Oracle 12c and 12c R2 64-bit	Y[2]	Y	Y	Y[3]
Windows 2012 R2 x64	Oracle 12c and 12c R2 64-bit	Y[2]	Y	Y	Y[3]
Windows 2012 64	Oracle 12c and 12cR2 64-bit	Y[2]	Y	Y	Y[3]

**Note:**

1. OCFS2 is supported.
2. Supported through RMAN. RMAN verification is not supported.
3. For DPX file-level backup only. Cluster is supported through Oracle RMAN. Oracle RAC is only supported via file-level RMAN interface.
4. Qualified up to Oracle 12.1.0.2.0.
5. Qualified up to Oracle 12.2.0.1.
6. Qualified up to Oracle 11.2.0.4.

## SAP HANA

DPX Block Data Protection is **not** available for SAP HANA.

OS	SAP HANA Version	Basic Client	Multitenant	Instant Availability	Cluster Support
SUSE Linux Enterprise Server 12 x64 SP4	SAP HANA 2.0 SP4	Y	Y	N	Y

## SAP R/3

DPX Block Data Protection is **not** available for SAP R/3.

OS	Database	SAP R/3 Version	File Level	Block Level	Instant Availability	Cluster Support
Windows 2012 R2	Oracle [1]	7.x, 6.x	Y			
Windows 2012	Oracle [1]	7.x, 6.x	Y			
AIX 6	Oracle [1]	7.x, 6.x	Y			

### Note:

1. Database versions have to be supported by DPX. Please refer to compatibility information for Oracle, DB2 or SQL Server. SAP R/3 on Oracle is supported through BRBACKUP and BRRESTORE interfaces. SAP R/3 on DB2 or SQL Server is supported through corresponding database backup

## IBM Db2

DPX Block Data Protection is **not** available for IBM Db2.

OS	DB2 Version	File Level	Block Level	Instant Availability	Cluster Support
AIX 7.1	DB2 UDB EE / EEE v9.7 64-bit	Y			
AIX 6.x	DB2 UDB EE / EEE v9.5 64-bit	Y			

OS	DB2 Version	File Level	Block Level	Instant Availability	Cluster Support
Red Hat Enterprise Linux 7.2, 7.1 x64	DB2 UDB EE / EEE v10.x 64-bit [4]	Y			
SUSE Linux Enterprise Server 12 x64 (SP1)	DB2 UDB EE / EEE v10.x 64-bit [5]	Y			
SUSE Linux Enterprise Server 11 x64 (SP4, SP3, SP2)	DB2 UDB EE / EEE v10.x 64-bit [2]	Y			
SUSE Linux Enterprise Server 11 x64 (SP1)	DB2 UDB EE / EEE v9.7 64-bit DB2 UDB EE / EEE v9.5 64-bit	Y Y			
Windows 2012 R2 x64	DB2 UDB EE / EEE v9.7 64-bit	Y[5]			

**Note:**

1. Qualified up to DB2 v10.5 FP7.
2. Qualified up to DB2 v10.5 FP6 on V7.2.
3. Qualified up to DB2 v10.5 FP7 on V12 SP1.

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