

# PoINT Storage Manager

Version 6.5

**System Requirements**

and

**Supported Storage Systems**



PoINT Software & Systems GmbH

A publication of:  
PoINT Software & Systems GmbH  
Eiserfelder Str. 316  
57080 Siegen, Germany

Phone: +49 (0) 271 / 3841 - 0  
Mail: [info@point.de](mailto:info@point.de)  
Web: [www.point.de](http://www.point.de)

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Document Version: 1.8/13.8.2020/DG  
Program Version: 6.5

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**Attention**

A functioning storage workflow requires a well configured system environment with devices working free of faults and, if applicable, flawless storage media. Therefore, it is of the essence that the user does backup all data by functions offered by PoINT software and/or (if required) by supplementary software products at adequate intervals (i.e. in accordance with the scope and frequency of changes), and thereby to facilitate the reinstatement of these data even in exceptional situations (i.e. in case of hardware malfunction).

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# History of Document

Document Version	Modification Date	Product Version	Modifications
1.0	09/11/2018	6.2 SP1	Initial version
1.1	11/20/2018	6.3	Added requirements for PoINT Web GUI.
			Updated tested software versions for NetApp FAS as Source System, NetApp StorageGRID and Sony Optical Disc Archive Software.
1.2	02/05/2019	6.3 SP1	Added Sony ODS-D77U and ODS-D280U as supported devices.
			Added IBM TS2900 as supported device.
			Added tape technologies LTO-8 and LTO-7 Type M.
1.3	03/28/2019	6.3 SP2	Added Windows Server 2019 as supported Operating System.
1.4	05/29/2019	6.4	Added requirements for client application for PoINT User Controlled Archiving.
1.5	07/29/2019	6.4 SP1	Added Oracle Cloud and Wasabi Cloud Storage as supported storage systems.
1.6	01/17/2020	6.4 SP3	Added iTernity iCAS and ObjectMatrix MatrixStore as supported storage systems.
1.7	04/06/2020	6.4 SP4	Added support for Sony ODA Gen3 and Scaleway Object Storage.
1.8	08/13/2020	6.5	Added support for IBM Jaguar tape technology; Removed Windows Server 2008 as supported operating system.

# 1 Overview

This document contains information about the system requirements of the PoINT Storage Manager components and about the supported storage devices.

It is recommended to read this document in conjunction with the PoINT Storage Manager product documentation.

For latest information of a product release please refer to the README file.

# 2 System Requirements

## 2.1 PoINT Storage Manager Server

### 2.1.1 Operating System

Supported operating systems for PoINT Storage Manager Server are:

- Windows Server 2019 (Standard, Datacenter)
- Windows Server 2016 (Standard, Datacenter)
- Windows Server 2012 SP1 and 2012 R2 (Standard, Datacenter)

#### **Prerequisites**

- The .NET Framework 4.5.1 or later is required. The PoINT Storage Manager installation package automatically tries to download and install this version, unless this or a later version is already installed. If your computer does not have internet access, you need to download and install the .NET Framework before installing PoINT Storage Manager.
- The "Update for Universal C Runtime in Windows" (KB2999226) is required for Windows Server 2012 (R2). This update will usually be installed automatically by Windows Update, but it is recommended to check if this update is present before installing or upgrading PoINT Storage Manager because it may fail to start if this update is missing.

### 2.1.2 Server Hardware

The following requirements ensure the correct operation of PoINT Storage Manager. However, if the server is also used for other use cases, like file services, you need do adopt the requirements accordingly.

#### **CPU**

PoINT Storage Manager requires a 64 bit (x64) CPU capable running one of the supported operating systems with at least 4 cores. It is recommended to provide one CPU core per Storage Vault.

#### **RAM**

At least 8 GByte plus 4 GByte per Storage Vault are required.

#### **Hard Disk**

The installation hard disk must be formatted with NTFS. Also, the partitions used for temporary Archive Volumes and the databases should not be encrypted or compressed.

#### **Program Files**

The program files require about 100 MByte of hard disk space on the system partition.

#### **Storage Vault Databases**

The databases must be located on a NTFS formatted hard disk partition with sufficient space to store database entries for all files which shall be managed by PoINT Storage Manager.

The databases require maximal 2048 Byte per file and directory, but in typical use cases it will be less than 1024 Byte.

### **Temporary Image Volumes and Volume Cache**

Archived data are first stored in a temporary image volume on the hard disk before the volume is migrated to the Archive Devices. The temporary hard disk space will be released after successful migration of the volume. While a Storage Vault Archive Job Cycle is running it requires space for at least two volumes. If multiple jobs are running simultaneously, then each of them needs sufficient disk space.

**Note:** When archiving large files, it is recommended to provide enough hard disk space so that the largest file fits into the temporary image directory.

The volume cache is used to cache data which has been read from tape or object store devices. It is located in a sub-directory of the directory for the temporary image volumes. The size of this cache is configurable using the Advanced Settings dialog of PoINT Storage Manager. After installation the size is set to 20 GByte.

## 2.2 PoINT TAFS Client

If you plan to install PoINT TAFS Client on a file server different than the PoINT Storage Manager server, that server must fulfill the aforementioned operating system, RAM and CPU requirements. Since the system will also be used as a file server, you must adapt the requirements to this application.

## 2.3 PoINT Status Monitor

If PoINT Status Monitor shall be installed on a dedicated server, that server needs to fulfill the aforementioned operating system requirements. There are no additional RAM, CPU or hard disk requirements for PoINT Status Monitor.

## 2.4 PoINT Secondary Access Server

The PoINT Secondary Access Server must be installed on a dedicated server which fulfills the aforementioned operating system, RAM and CPU requirements. The database of PoINT Secondary Access Server will be few GByte in size (less than 10 GByte) and should be stored on a fast SSD.

## 2.5 PoINT User Controlled Archiving

The client application for PoINT User Controlled Archiving can be installed on Windows 7 and Windows 10, as well as Windows Server 2008 R2 through Server 2019. Additionally, the .NET Framework 4.5.1 or later is required. If necessary, this framework will automatically be downloaded and installed during installation of the client application.

## 2.6 PoINT Storage Manager - Web GUI

The web components can optionally be installed on the same system as the PoINT Storage Manager Server. In this case, the following additional Operating System components must have been installed before installing PoINT Storage Manager:

- Internet Information Services
- Internet Information Services/Application Development/ASP
- Internet Information Services/Application Development/ASP.NET (4.5 or later)
- Internet Information Services/Common HTTP Features/Static Content

- Internet Information Services/Common HTTP Features/HTTP Errors
- Internet Information Services/Security/Windows Authentication

If multiple users will use the Web GUI to access archived data, the system requirements must be adjusted accordingly:

- Additional 2 GByte RAM per Storage Vault
- A dedicated hard disk or SSD with sufficient capacity to store all data which will be accessed by all users within one day.

## 2.6.1 Browser Compatibility

The PoINT Web GUI is compatible with all recent browser versions. It has been tested with Firefox 63 through 79, Chrome 70 through 84, Safari 12 and Microsoft Edge.

**Note:** Some browsers do not correctly report if a file download has been aborted due to a read error. In this case the downloaded file will be too short without notice. Therefore it is strongly recommended to verify the size of downloaded files. This problem has not been observed with Firefox.



# 3 Supported Storage Systems

This chapter contains information about the supported source and target systems of PoINT Storage Manager.

If your device is not in the list, refer to the information provided at [www.point.de](http://www.point.de) or contact PoINT Software & Systems ([support@point.de](mailto:support@point.de)).

## 3.1 Source Systems

This chapter gives an overview about the supported source storage systems. Typically, these source systems build the primary storage with disk/flash technology.

Vendor	Product	Tested Versions	Tiering Method
<b>(Any NAS vendor)</b>	NAS product offering CIFS or NFSv3 access <sup>(2)</sup>		Copy / Move / Web Links <sup>(6)</sup>
<b>Dell EMC</b>	Isilon	8.2.0	Copy / Move / Sym Links <sup>(7)</sup>
	Unity <sup>(3)</sup>	4.2.0	Copy / Move / Stubbing <sup>(1)</sup>
	VNX <sup>(3)</sup>	7.0.35-3	Copy / Move / Stubbing <sup>(1)</sup>
<b>NetApp</b>	FAS Series <sup>(4)</sup>	7-Mode: 7.3.2, 7.3.5, 7.3.6, 8.0.1, 8.1, 8.1.3, 8.2 Cluster Mode: 8.3, 9.0 through 9.7	Copy / Move / Stubbing <sup>(1)</sup>
<b>Microsoft</b>	Windows Server based systems <sup>(5)</sup>	Windows Server 2008 R2 SP1, 2012 SP1 and 2012 R2 (Standard, Datacenter), 2016 and 2019 (Standard, Datacenter)	Copy / Move / Sym Links <sup>(7)</sup> / Stubbing <sup>(1)</sup>

### Notes

- (1) The tiering method “Stubbing” allows policy-based migration of files from the source system (primary storage) to the target system by keeping links in the source system for transparent file system access.
- (2) The following systems have been tested:
  - NetApp E-Series formatted with Windows NTFS and CIFS share
  - Promise VessRAID 1840i
  - Promise VTrack E610f
- (3) Requires FileMover API version 1.5 or higher for stubbing.
- (4) Requires installed NetApp FAS Agent for stubbing (see separate product documentation).
- (5) Requires installed PoINT TAFS Agent for stubbing.
- (6) Allows replacing files by PoINT Web Links which enable users to download or open archived files using a web browser.
- (7) Archived files can be replaced by Symbolic Links when using a CIFS share to access the source system.

## 3.2 Target Systems

This chapter gives an overview about the supported target storage systems. Supported target systems can be configured in Capacity Tier and/or Archive Tier.

### 3.2.1 Hard Disk (WORM) Appliances and NAS Systems

Vendor	Product	Version	Capacity Tier	Archive Tier
<b>(Any NAS vendor)</b>	NAS products offering CIFS access		X	X
<b>DELL EMC</b>	Data Domain <sup>(1)</sup>	5.5.0.4		X
<b>FAST LTA</b>	Silent Cube Storage <sup>(2)</sup>		X	X
	Silent Brick <sup>(2)</sup>		X	X
<b>Fujitsu Storage</b>	ETERNUS CS Data Protection Appliance <sup>(3)</sup>			X
<b>iTernity</b>	iCAS	3.7.1.0		X
<b>NetApp</b>	AltaVault <sup>(4)</sup>	4.2P1	X	X
	FAS Series (SnapLock) <sup>(5)</sup>	7-Mode, Cluster Mode	X	X
<b>Quantum</b>	Artico / Xcellis	5.4.0.1		X
<b>StrongBox Data Solutions</b>	StrongBox T1, T3, T10, T20, T30 <sup>(6)</sup>	2.1.2.7.0		X

#### Notes

- (1) PoINT Storage Manager supports the retention functionality of EMC Data Domain. To use this functionality, make sure retention is enabled for the MTree containing the CIFS share to use and then specify the desired retention values when configuring the new Storage Vault. Retention will be applied for all volumes of this Storage Vault using the specified settings. The retention values specified in PoINT Storage Manager must be within the minimum and maximum values configured for the MTree.  
PoINT Storage Manager requires access to EMC Data Domain using a CIFS share. During configuration of the device you will be prompted to enter a user account which has access to the share. Make sure this account is known on the storage system and that it has read and write permissions to the CIFS share.
- (2) To use FAST LTA Silent Cube or Silent Brick in the Archive Tier, the volume on the FAST LTA device must be configured as "WORM with retention (RWRO triggered)" or "WORM with retention and versioning (RWRO triggered)". Additionally, the creation of the so-called "Safe files" must be enabled for the volume. They must be configured to use the extension "safe" and either the text or xml file format.  
FAST LTA appliances can be used in Capacity Tier using the mode "Original File Structure with WORM Compatibility" in PoINT Storage Manager.
- (3) Shares on ETERNUS CS Data Protection Appliances can be configured as Archive Devices in PoINT Storage Manager if this option is enabled in your License Key. PoINT Storage Manager supports retention on these devices if the "protectable" option is enabled for the file system. You may set a retention time in PoINT Storage Manager when configuring the Storage Vault. If no retention time has been set in PoINT Storage Manager, a default retention time will be used, if configured for the file system.

- (4) The NetApp AltaVault Storage Appliance can be configured as Archive Device in PoINT Storage Manager as standard HD/NAS archive device. It can also be configured as Capacity Tier for Storage Vaults if the PoINT Storage Agent Service Account has permission to access the provided CIFS network share.
- (5) A NetApp FAS volume can be configured as Archive Device in the Archive Tier if this option is enabled in your License Key. PoINT Storage Manager supports the NetApp SnapLock functionality. To use this functionality, specify the desired retention time stamp when creating a new Storage Vault. NetApp SnapLock will then be enabled for all volumes of this Storage Vault using the specified retention time stamp. The NetApp FAS volume must be shared using the CIFS file system. For further information about configuration of NetApp FAS please refer to the NetApp documentation.
- (6) If users or applications try to read purged files which have been archived to the StrongBox, they may receive read errors or network timeouts if the data must be read from tape. In this case the user or application must retry the access later. Therefore, it is strongly recommended to configure an appropriate File Cache Size on the StrongBox device so that read data will stay in the cache for a reasonable time.

## 3.2.2 Cloud and Object Stores

PoINT Storage Manager supports different types of Cloud and Object Stores as archive systems in the Archive Tier. S3 based Object Stores are also support as Capacity Tier.

The following table provides an overview about the tested and supported Cloud and Object Store systems:

Vendor	Product	Version	PoINT Connector <sup>(1)</sup>
Amazon	AWS S3 Storage		ADV
Amplidata	Himalaya <sup>(2)</sup>	3.4.1	GEN-S3
	Amplistor <sup>(2)</sup>	3.4.1	GEN-S3
Caringo	Swarm <sup>(3)</sup>	CAStor Ver 6	ADV
Cloudian	HyperStore	6.2, 7.0.1.1, 7.1.2-7.2.1	GEN-S3
DELL EMC	Atmos <sup>(4)</sup>	2.0.1	ADV
	Centera <sup>(5)</sup>	3.3	ADV
	ECS <sup>(6)</sup>	2.1, 2.2	GEN-S3
HGST	Active Archive <sup>(2)</sup>		ADV
Hitachi Data System (HDS)	HitachiCP <sup>(7)</sup>	6.1.0.113	ADV
Hitachi Vantara	Hitachi Content Platform <sup>(2)</sup>	8.0.0, 9.0.0	ADV
IBM	COS (Cloud Object Storage) <sup>(2)</sup>	3.11.1.14	GEN-S3
Microsoft	Azure <sup>(8)</sup>		ADV
NetApp	StorageGRID Webscale (CDMI) <sup>(9)</sup>	10.0, 10.1, 10.2, 10.2.1	GEN-CDMI
	StorageGRID Webscale (S3) <sup>(2)</sup>	10.3 through 11.3	GEN-S3
ObjectMatrix	MatrixStore		GEN-S3
Oracle	Oracle Cloud <sup>(11)</sup>		GEN-S3
Quantum	Lattus <sup>(2)</sup>	3.6.0	ADV
Scaleway	Object Storage		GEN-S3
Scality	RING	4.2	GEN-CDMI

<b>SUSE</b>	Enterprise Storage <sup>(2), (10)</sup>	Version 4	GEN-S3
<b>Wasabi</b>	Cloud Object Storage <sup>(2)</sup>		ADV

**Notes**

- (1) Object store connectors are a license option. The required modules will automatically be installed. Different types of connectors are available as indicated in the table above:
  - GEN-S3      Generic Connector for S3 protocol
  - GEN-CDMI    Generic Connector for CDMI protocol
  - ADV          Advanced Connector for the corresponding Cloud/Object Store system which has been especially implemented to support specific features of this system
- (2) The connector uses the Simple Storage Services (S3) protocol to communicate with the storage system.
- (3) The connector uses the Simple Content Storage Protocol (SCSP) for communication with the storage system. It has been tested with Caringo CAStor software version 6.
- (4) The connector uses the ATMOS API for communication with the storage system.
- (5) The connector uses the EMC Centera SDK 3.3 and has been tested with EMC Centera with CentraStar 4.1 and 4.2 and with EMC Atmos version 2.0.1 in Centera mode.
- (6) This connector uses the Simple Storage Services (S3) protocol to communicate with the storage system. It supports unencrypted transport (HTTP) or HTTPS using TLS 1.0, 1.1 or 1.2, depending on the configuration of the Operating System and the EMC ECS.
- (7) The connector uses the HCP Rest API for communication with the storage system.
- (8) The connector uses the Microsoft Blob Service REST API to communicate with the storage system.
- (9) The PoINT Connector for NetApp StorageGRID Webscale uses the CDMI protocol to connect to the storage system. This connector cannot be used for versions 10.3 or later.
- (10) Supported with Signature Version 2 and SSL.
- (11) Virtual Host Style Addressing must be disabled using the option 'novhs' in connection settings.

### 3.2.3 Optical Systems

The following table provides an overview about the tested and supported optical storage systems (single drives and jukeboxes):

Vendor	Product	Version	Capacity Tier	Archive Tier	PoINT Connector
<b>(Single drive vendor)</b>	CD/DVD/BD single drive products <sup>(1)</sup>			X	
<b>(Jukebox vendor)</b>	CD/DVD/BD jukebox products supported by PoINT Jukebox Manager <sup>(3)</sup>		X <sup>(2)</sup>	X	X <sup>(3)</sup>
<b>Sony</b>	ODS-L30M <sup>(4)</sup>	2.03		X	
	ODS-L60E (option to ODS-L30M)			X	
	ODS-L100E (option to ODS-L30M)			X	
	ODS-D77U standalone drive <sup>(4)</sup>			X	

	ODS-D280U standalone drive <sup>(4)</sup> <sup>(5)</sup>			X	
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### Notes

- (1) Support for a CD/DVD/BD single drive requires that the drive support the standardized Multimedia Commands (MMC).
- (2) Capacity Tier using “Original File Structure with WORM Compatibility”
- (3) Requires PoINT Jukebox Manager Connector. For details see section “PoINT Jukebox Manager Connector” in PoINT Storage Manager README.
- (4) The Sony Optical Disc Archive Software must be installed. Versions 4.0.2 through 4.4.0 and 5.0.0 of this software have been tested.
- (5) ODA cartridge generations 1, 2 and 3 are supported.

## 3.2.4 Tape Systems

The following table provides an overview about the supported tape systems (single drives, loaders and libraries) which are supported as archive systems in the Archive Tier.

The listed tape systems are supported using tape technologies LTO-2 through LTO-8 and IBM 3592 (Jaguar) generation 5 through 6.

Vendor	Product	Version
<b>actidata</b>	actilib Library 2U	
<b>BDT</b>	FlexStor II	
<b>Cristie</b>	GigaStream T8	
	GigaStream T24	
	GigaStream T48	
	GigaStream T560	
<b>DELL EMC</b>	Power Vault LTO5-140 (single drive)	
	PowerVault TL2000	
	PowerVault TL4000	
<b>HP</b>	MSL2024	
	MSL4048	
	MSL8096	
	MSL6000 Series	
	StorageWorks 1/8 G2	
	Storage Works Ultrium LTO-3/4/5/6 (single drive)	
<b>HPE</b>	StoreEver MSL6480	
<b>IBM</b>	TS2900 Tape Library	
	TS3100 Tape Library	
	TS3200 Tape Library	
	TS3500 Tape Library	
	TS4500 Tape Library	
<b>Overland</b>	NeoSeries	
<b>PivotStor</b>	AP TL2000	
	AP TL4000	
	AP TL8000	

<b>Qualstar</b>	RLS-8202	
	RLS-8204	
	RLS-8236	
	RLS-8244	
	RLS-8404	
	RLS-8444	
	RLS-8560	
	RLS-85120	
	TLS-8211	
	TLS-8222	
	TLS-8433	
	TLS-8466	
	TLS-88132	
	TLS-88264	
	XLS-810160	
	XLS-810240	
	XLS-816110	
	XLS-820500	
	XLS-832700	
	<b>Quantum<sup>(1)</sup></b>	Scalar i3
Scalar i500		
Scalar i6		FW 110G.GS185
Scalar i6000		
<b>Spectra Logic</b>	T50e	
	T120	
	T200	
	T380	
	T680	
	T950v	
	T950	
	TFinity ExaScale	
	Stack Tape Library	
<b>SUN</b>	StorageTek SL24	
	StorageTek SL48	
<b>Tandberg</b>	LTO-6 HH (single drive)	3249
	Storage Library T24	
	Storage Loader 2U LTO	

**Notes**

(1) Quantum Scalar Intelligent Libraries:

- No drivers should be installed for the robotics and the tape drives.
- "Library-Assisted Drive Unload" and "Automatic Inventory" must be enabled.
- Data and Control Path Failover are not supported. These functions must be disabled.