



Compatibility Matrix for CTE Agent with CipherTrust Manager Release 7.1.1.69

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CTE Agent for Linux

Interoperability

Table 1: Linux Interoperability with Third Party Applications

Product	Version	OS	Notes
CoSoSys Endpoint Protector	5.4.0.5	Linux	Compatible
IBM Infosphere Guardium	8.0, v9.0, v10.1	Linux	Compatible
Imperva Securesphere	9.0, v9.5, v10.5, v11.5, v12	Linux	Compatible
McAfee Enterprise Endpoint	10.6.5, 10.7.4.x	Red Hat 7 Red Hat 8	Compatible
Quantum StorNext		Red Hat 7.5+	LDT is not supported

Product	Version	OS	Notes
Red Hat Pacemaker	0.9.168 and onward	Red Hat 7 Red Hat 8	Compatible
Sentinel One	4.5.3.2	Red Hat 7 Red Hat 8	Compatible
Symantec Net-backup	7.6.1.2 7.7.3	Linux	Compatible
Trend Micro Deep Security	12.0.347	Red Hat 7 Red Hat 8	Compatible

Note

Guardium and Imperva are not supported with LDT and Docker.

ESG (Efficient Storage GuardPoint) Support

CTE Agent	CTE Agent, CM Versions Supporting ESG	Operating Systems Supported	Virtualization Platforms Supported	Storage Systems Supported
CTE for Linux	CTE Version: 7.1.1.69 and subsequent versions CM Version: 2.6.0 and subsequent versions	RHEL 7.5, 8 and subsequent versions SLES 12 SP3 - SP5 SLES 15 and subsequent versions Ubuntu 18	VMWare (RDMs and vVols)	Pure FlashArray (minimum version 5.3.7) Dell EMC PowerMax Family: PowerMax 2000 PowerMax 8000 PowerMax OS: 5978.711.711

CTE Agent	CTE Agent, CM Versions Supporting ESG	Operating Systems Supported	Virtualization Platforms Supported	Storage Systems Supported
CTE for Windows	CTE Version: 7.1.1.69 and subsequent versions CM Version: 2.6.0 and subsequent versions	Windows 2012 Windows 2016 Windows 2019	Hyper-V, VMWare (RDMs and vVols)	Pure FlashArray (minimum version 5.3.7) Dell EMC PowerMax Family: PowerMax 2000 PowerMax 8000 PowerMax OS: 5978.711.711

Notes

- For technical details and use case guidelines, see the “Efficient Storage” chapter in the *CTE Agent for Linux Advanced Configuration and Integration Guide* or the *CTE Agent for Windows Advanced Configuration and Integration Guide*.
- VMWare vVols is only supported with the Pure FlashArray. It is not with Dell EMC PowerMax Family
- For the OS, file system, and database applications supported with ESG on file system use cases, see the existing file system compatibility tables.
- For details about the compatible Pure Storage versions, the Pure Storage requirements, and other Pure Storage features supported with CTE, see your Pure Storage documentation.
- Limitations for Windows ES GuardPoint Support:
 - Windows dynamic disks are not supported.
 - DFS/DFSR with shared disk scenarios are not supported.
 - All applications accessing the Pure LUN directly must be closed during the initialization and IDT process.
 - GuardPoint may fail to apply if resources are used. User may need to reboot the system to complete the GuardPoint.
 - User must not use any tools to manage the disk during these operations.

Linux Agent Raw Device Support Matrix

- CipherTrust supports up to 6000 raw (secvm) devices.
- KVM VirtIO driver is supported from CTE 7.0.0 release and onwards.

Note

Raw devices are not supported with LDT and Docker.

Red Hat, CentOS, and OEL non-UEK 7.5-7.9 Raw Device Support

Table 2: Red Hat 7.5-7.9 | CentOS 7.5-7.9 | OEL non-UEK 7.5-7.9 (x86_64)^{1,2}

Database		
Oracle 11gR2/12c/18c/19c	DB2 9.7/10.1/10.5/11.1	Sybase ASE 16
RAW	RAW	RAW
Native LVM		
ASM/ASMlib		
ASMFD ³		

Notes:

1. CTE supports only RHEL 7.5 GA (Kernel 3.10.0-862.el7.x86_64) and later releases.
2. Support for RAW Character Devices must be configured manually.
3. ASMFD is supported from CTE 7.1.0 GA onwards Oracle 12c/18c/19c.

Red Hat, CentOS, and OEL non-UEK 8 Raw Device Support

Table 3: Red Hat 8.0-8.4 | CentOS 8.0-8.4 | OEL non-UEK 8.0-8.4 (x86_64)^{1,2}

Database	
Oracle 12c/18c/19c	DB2 10.5/11.1
RAW	RAW
Native LVM	
ASM	

Notes:

1. CTE supports only RHEL 8.0 GA and later.
2. Support for RAW Character Devices must be configured manually.

SLES 12 Raw Device Support

Table 4: SLES 12 SP3, SLES 12 SP4, and SLES 12 SP5 (x86_64)²

Database			
Oracle 11gR2/12c/18c/19c	DB2 9.7/10.1/10.5/11.1	Informix 11.5/11.7/12.1	Sybase ASE 16
RAW	RAW	RAW ¹	RAW
Native LVM		Native LVM	
ASM			

Notes:

1. Support for RAW Character Devices must be configured manually.
2. CTE supports only SLES12 SP3 (Kernel 4.4.126-94.22.1) and later.

SLES 15 Raw Device Support

Table 5: SLES 15, SLES 15 SP1, SLES 15 SP2, and SLE 15 SP3 (x86_64)

Database	
Oracle 11gR2/12c/18c/19c	DB2 9.7/10.1/10.5/11.1
RAW	RAW ¹
Native LVM	
ASM	

Note:

1. Support for RAW Character Devices must be configured manually.

Red Hat 7.5 ACFS Support with Secvm

Table 6: Oracle ACFS/Secvm Support on Red Hat 7.5 (x86_64)

Database		
OS Platform	Oracle Database Application	DSM Policy
Redhat 7.5 (x86_64)	Oracle 12c Oracle 12c RAC	Encryption-only, no access control, no auditing, and do not execute binaries stored in the ACFS file system

Note
For ACFS file systems mounted over Efficient Storage GuardPoints, see the “Efficient Storage” chapter in the *CTE Agent for Linux Advanced Configuration and Integration Guide*.

Table 7: Oracle ACFS/Secvm Stack with Red Hat 7.5 (x86_64)

Oracle RAC
Oracle ACFS (File System)
Oracle ADVM (Volume Manager)
Oracle ASM (Storage Manager)
SecVM
Block Device(s)

Linux Agent File System Support Matrix

Red Hat, CentOS, and OEL non-UEK 7.5 - 7.9 File System Support

Table 8: Red Hat 7.5-7.9 | CentOS 7.5-7.9 | OEL non-UEK 7.5-7.9 (x86_64)^{1,4,5,6}

File System	Database											
	Oracle 11gR2 12c/18c/19c	DB2 9.7 10.1 10.5 11.1 11.5	Informix 11.5 11.7 12.1 14.1	Sybase 16	MySQL 5.5 5.6 8 Maria DB 10.5	Postgre SQL	MongoDB	Cassandra	Couchbase 4.5 6.6	GreenPlum 5.21.0 Standalone & Cluster	HP Vertica 9.0.1	Enterprise DB 13.4.8
EXT3	EXT3	EXT3	EXT3		EXT3							
EXT4	EXT4	EXT4	EXT4	EXT4	EXT4		EXT4	EXT4				EXT4
NFS V4/V3	NFS V4/ V3	NFS V4/V3			NFS V4/V3							
XFS	XFS	XFS		XFS	XFS	XFS	XFS		XFS	XFS ³	XFS	XFS
AWS EFS ²												
Gluster ⁶												

Notes:

1. For supported kernel versions see the [CTE Compatibility Portal](#) or the compatibility matrix PDF available at https://packages.vormetric.com/pub/cte_compatibility_matrix.pdf.
2. AWS EFS support with and without on-premises Direct Connect.
3. GreenPlum is supported only in Red Hat 7.5 and later.
4. CTE supports only RHEL 7.5 GA (Kernel 3.10.0-862.el7.x86_64) and later.
5. Couchbase database v6.6 is supported with Red Hat 7.9.
6. The Gluster file system is supported from CTE 7.1.0 GA onward.
7. Enterprise DB v13.4.8 is supported from CTE 7.1.1 onward.

LDT Feature for Red Hat, CentOS, and OEL non-UEK 7.5-7.9 File System Support

Table 9: Red Hat 7.5-7.9 | CentOS 7.5-7.9 | OEL non-UEK 7.5-7.9 (x86_64)²

File System	Database								
	Oracle 11gR2 12c/18c/19c	DB2 9.7 10.1 10.5 11.1 11.5	Sybase 16	MySQL 5.5 5.6 8 Maria DB 10.5	Postgre SQL	MongoDB	GreenPlum 5.21.0 Standalone & Cluster	HP Vertica 9.0.1	Enterprise DB 13.4.8
EXT3	EXT3	EXT3		EXT3					
EXT4	EXT4	EXT4	EXT4	EXT4		EXT4			EXT4
XFS	XFS	XFS	XFS	XFS	XFS	XFS	XFS ¹	XFS	
NFS V4/V3 ³	NFS V4/ V3	NFS V4/ V3		NFS V4/ V3					XFS

Notes:

1. GreenPlum is supported only in Red Hat 7.5 and later.
2. CTE supports only RHEL 7.5 GA (Kernel 3.10.0-862.el7.x86_64) and later.
3. Single node reky for LDT over NFS supported in CTE 7.1.0 GA.
4. Enterprise DB v13.4.8 is supported from CTE 7.1.1 onward.

Red Hat 8 File System Support

Table 10: Red Hat 8.0-8.4 (x86_64) ^{1, 2, 3}

File System	Database				
	Oracle 11gR2 12c/18c/19c	DB2 9.7 10.1 10.5 11.1	MySQL 5.5 5.6 8 Maria DB 10.5	MongoDB	Enterprise DB 13.4.8
EXT3	EXT3	EXT3	EXT3		
EXT4	EXT4	EXT4	EXT4	EXT4	EXT4
NFS V4/V3	NFS V4/ V3	NFS V4/V3	NFS V4/V3		
XFS	XFS	XFS	XFS	XFS	XFS
Gluster					

Notes:

1. For supported kernel versions see the [CTE Compatibility Portal](#) or the compatibility matrix PDF available at https://packages.vormetric.com/pub/cte_compatibility_matrix.pdf.
2. Thales has performed validation with CTE for these databases on Red Hat 8, but the database vendors may not have completed their Red Hat validation yet.
3. The Gluster file system is supported from CTE 7.1.0 GA onward.
4. Enterprise DB v13.4.8 is supported from CTE 7.1.1 onward.

LDT Feature for Red Hat 8 File System Support

Table 11: Red Hat 8.3 - 8.4 (x86_64)

File System	Database				
Unstructured data	Oracle 12c/18c/19c	DB2 11.1	MySQL 5.5 5.6 8 Maria DB 10.5	MongoDB	Enterprise DB 13.4.8
EXT3	EXT3	EXT3	EXT3		
EXT4	EXT4	EXT4	EXT4	EXT4	EXT4
XFS	XFS	XFS	XFS		
NFS V4/V3 ¹	NFS V4/V3	NFS V4/V3	NFS V4/V3		XFS

Notes:

1. Single node reky for LDT over NFS supported in CTE 7.1.0 GA.
2. Enterprise DB v13.4.8 is supported from CTE 7.1.1 onward

HDFS Support

Table 12: Red Hat 7.5-7.9 (x86_64)

HDFS Access Control	Platform Support	File System
Hortonworks (HDP) 2.6.4 Apache Hadoop 2.7.3	RHEL 7.5	EXT4
		XFS
Hortonworks (HDP) 3.0.0 Apache Hadoop 3.1.1	RHEL 7.5	EXT4
		XFS
Hortonworks (HDP) 3.1.0 Apache Hadoop 3.1.1	RHEL 7.8	EXT4
		XFS
Cloudera (CDH) 5.14 Apache Hadoop 2.6.0	RHEL 7.8	EXT4
		XFS
Cloudera (CDH) 6.2 Apache Hadoop 3.1.1	RHEL 7.9	EXT4
		XFS

Notes:

1. HDFS/Hadoop is supported from CM 2.3 and CTE 7.1.0 and successive versions.
2. CDH 6.2 is supported from CTE 7.1.1.60 onward

SLES Support

SLES 12 File System Support

Table 13: SLES 12 SP3, SLES 12 SP4, and SLES 12 SP5 (x86_64) ^{1,3}

File System	Database						
	Oracle 11gR2 12c/18c/19c	DB2 9.7, 10.1 10.5, 11.1	Informix 11.5, 11.7, 12.1	Sybase 16	Maria DB 10.5	MongoDB	Cassandra
EXT3					EXT3		
EXT4	EXT4			EXT4	EXT4		
NFS V4/V3					NFS V4/V3		
XFS	XFS	XFS		XFS	XFS	XFS	
AWS EFS ²							

Notes:

1. For supported kernel versions see the [CTE Compatibility Portal](#) or the compatibility matrix PDF available at https://packages.vormetric.com/pub/cte_compatibility_matrix.pdf.
2. AWS EFS support with and without on-premises Direct Connect.
3. CTE only supports SLES12 SP3 (Kernel 4.4.126-94.22.1) and later.

LDT Feature for SLES 12 File System Support

Table 14: SLES 12 SP3, SLES 12 SP4, and SLES 12 SP5 (x86_64)¹

File System	Database			
Unstructured data	Oracle 11gR2/12c/18c/19c	DB2 9.7, 10.1,10.5, 11.1	Sybase 16	Maria DB 10.5
EXT3				EXT3
EXT4	EXT4		EXT4	EXT4
XFS	XFS	XFS	XFS	XFS
NFS V4/V3 ²	NFS V4/V3	NFS V4/V3	NFS V4/V3	

Note:

1. CTE only supports SLES12 SP3 (Kernel 4.4.126-94.22.1) and later.
2. Single node reky for LDT over NFS supported in CTE 7.1.0 GA.

SLES 15 File System Support

Table 15: SLES 15, SLES 15 SP1, SLES 15 SP2 and SLES 15 SP3 (x86_64)¹

File System	Database			
Unstructured data	Oracle 11gR2, 12c/18c/19c	DB2 9.7, 10.1, 10.5,11.1	Maria DB 10.5	MongoDB
EXT3			EXT3	
EXT4	EXT4		EXT4	
NFS V4/V3			NFS V4/V3	
XFS	XFS	XFS	XFS	XFS
AWS EFS ³				

Notes:

1. For supported kernel versions see the [CTE Compatibility Portal](#) or the compatibility matrix PDF available at https://packages.vormetric.com/pub/cte_compatibility_matrix.pdf.
2. AWS EFS support with and without on-premises Direct Connect.

LDT Feature for SLES 15 File System Support

Table 16: SLES 15, SLES 15 SP1, SLES 15 SP2 and SLES 15 SP3 (x86_64)

File System	Database		
Unstructured data	Oracle 11gR2, 12c/18c/19c	DB2 9.7, 10.1, 10.5, 11.1	Maria DB 10.5
EXT3			EXT3
EXT4	EXT4		EXT4
XFS	XFS	XFS	XFS
NFS V4/V3 ¹	NFS V4/V3	NFS V4/V3	NFS V4/V3

Note:

1. Single node reky for LDT over NFS supported in CTE 7.1.0 GA.

SAP HANA Support (LDT is supported on SAP HANA)

Table 17: SAP HANA Support

SAP HANA Version	Platform Support	File System
1.00.122.06.1485334242	SLES 12 SP3	EXT4 XFS
1.00.122.06.1485334242	SLES 12 SP3 Supports new CBC-CS1 key	EXT4 XFS
1.00.122.06.1485334242	RHEL 7.5	EXT4 XFS
1.00.122.06.1485334242	RHEL 7.5 Supports new CBC-CS1 key	EXT4 XFS

SAP HANA Version	Platform Support	File System
1.00.122.06.1485334242	SLES 12 SP3 (MS Azure) Supports new CBC-CS1 key	EXT4 XFS
2.00.030.00.1522210459	SLES 12 SP3 Supports new CBC-CS1 key	EXT4 XFS
2.00.030.00.1522210459	RHEL 7.5	EXT4 XFS
2.00.030.00.1522210459	RHEL 7.5 Supports new CBC-CS1 key	EXT4 XFS
2.00.030.00.1522210459	SLES 12 SP3 Supports new CBC-CS1 key	EXT4 XFS
2.00.030.00.1522210459	SLES 12 SP3 (MS Azure) Supports new CBC-CS1 key	EXT4 XFS
2.00.030.00.1522210459	SLES 12 SP4 (supported with CBC-CS1)	EXT4 XFS
2.00.040.00.1553674765	SLES 15	EXT4 XFS
2.00.040.00.1553674765	RHEL 8	EXT4 XFS

Note

Test configuration coverage included Physical, Virtual (VMWare ESX), Virtustream environment and AWS.

Ubuntu Support

Ubuntu 18.04 File System Support

Table 18: Ubuntu 18.04, 18.04.1, 18.04.2, 18.04.3, 18.04.4, 18.04.5, and 18.04.6 (x86_64)^{1,3}

File System	Database					
Unstructured data	DB2 10.1 10.5 11.1 11.5	Informix 12.1	MySQL 5.5/5.6	MongoDB	Cassandra	Couchbase 4.5
EXT4	EXT4	EXT4	EXT4	EXT4	EXT4	EXT4
NFS V3/V4	NFS V3/V4		NFS V4/V3			
XFS	XFS		XFS	XFS	XFS	
AWS EFS ²						

Notes:

1. For supported kernel versions see the [CTE Compatibility Portal](#) or the compatibility matrix PDF available at https://packages.vormetric.com/pub/cte_compatibility_matrix.pdf.
2. AWS EFS support with and without on-premise Direct Connect.
3. CTE only supports 4.15.0-20-generic and 5.3.0-19-generic kernels.

LDT Feature for Ubuntu 18.04 File System Support

Table 19: Ubuntu 18.04, 18.04.1, 18.04.2, 18.04.3, 18.04.4, 18.04.5, and 18.04.6 (x86_64)¹

File System	Database			
Unstructured data	DB2 10.1 10.5 11.1 11.5	MySQL 5.5/5.6	PostgreSQL	MongoDB
EXT3	EXT3	EXT3	EXT3	EXT3
EXT4	EXT4	EXT4	EXT4	EXT4
XFS	XFS	XFS	XFS	XFS
NFS V4/V3 ²	NFS V4/V3	NFS V4/V3		

Note:

1. CTE only supports 4.15.0-20-generic and 5.3.0-19-generic kernels.
2. Single node reky for LDT over NFS supported in CTE 7.1.0 GA.

Ubuntu 20.04 File System Support

Table 20: Ubuntu 20.04, 20.04.1, 20.04.2, 20.04.3 (x86_64)¹

File System	Database					
Unstructured data	DB2 10.1 10.5 11.1 11.5	Informix 12.1	MySQL 5.5/5.6	MongoDB	Cassandra	Couchbase 4.5
EXT4	EXT4	EXT4	EXT4	EXT4	EXT4	EXT4
NFS V3/V4	NFS V3/V4		NFS V4/V3			
XFS	XFS		XFS	XFS	XFS	
AWS EFS ²						

Notes:

1. For supported kernel versions see the [CTE Compatibility Portal](#) or the compatibility matrix PDF available at https://packages.vormetric.com/pub/cte_compatibility_matrix.pdf.
2. AWS EFS support with and without on-premise Direct Connect.

LDT Feature for Ubuntu 20.04 File System Support

Table 21: Ubuntu 20.04, 20.04.1, 20.04.2, 20.04.3 (x86_64)

File System	Database			
Unstructured data	DB2 10.1 10.5 11.1 11.5	MySQL 5.5/5.6	PostgreSQL	MongoDB
EXT3	EXT3	EXT3	EXT3	EXT3
EXT4	EXT4	EXT4	EXT4	EXT4
XFS	XFS	XFS	XFS	XFS
NFS V4/V3 ¹	NFS V4/V3	NFS V4/V3		

Note:

1. Single node reky for LDT over NFS supported in CTE 7.1.0 GA.

CTE Agent for Cloud Environment

General CTE Support for AWS AMI and Microsoft Azure on Linux:

- CTE supports Ubuntu, SLES, and Red Hat OS images/platforms given baseline support and CTE support exists.
- Please refer to Matrices/tables in section "[CTE Agent for Linux](#)" on page 4 for existing CTE-supported OS platforms and applications.

CTE Support on AWS EFS and AWS S3 File Storage Gateway

- CTE supports Amazon Elastic File System (EFS) on both AWS Cloud and AWS Direct Connect (on-premises) configurations. Refer to the Matrix tables in the section "[CTE Agent for Linux](#)" on page 4.
- CTE supports Amazon S3 File Storage Gateway on cloud tiering and hybrid cloud backup. S3 buckets and their objects are mountable NFS to clients (one or more) in the AWS or on-premises for data backup/restore with encryption protected by CTE.
- Cloud Object Storage (CTE COS) is supported with Red Hat 7 from CTE 7.0.0 GA onward and with Red Hat 8 from CTE 7.1.0 onward. For details see the *CTE Agent for Linux Advanced Configuration and Integration Guide*.

AWS AMI

Refer to the Matrix tables in the section ["CTE Agent for Cloud Environment" on the previous page](#) for AWS AMI image (distributions) and application support.

Microsoft Azure (Linux)

Refer to matrices/tables in section ["CTE Agent for Cloud Environment" on the previous page](#) for existing CTE supported OS platforms and applications for MS Azure distributions and application support.

Table 22: Azure Files Supported Linux CTE Distributions

CTE on Azure Files SMB 2.1 and 3.0 Protocol Support			
OS vs Azure Files Access	SMB 2.1 (VMs from Azure cloud only)	SMB 3.0 (VMs from Azure cloud only)	Mount Azure files from on Premises machine (SMB 3.0 only)
RHEL 7.4	YES	YES	YES ¹
SLES 11 SP4	NO	NO	NO
SLES 12 SP2/SP3	YES	YES	YES ¹

Note:

1. CTE supports Ubuntu, SLES, and Red Hat mounted in Azure File Storage assuming baseline support and that CTE supports the OS and file system combination.

The following features and configurations are not supported:

- Live Data Transformation
- Azure Blob storage
- Rest API to Azure file storage
- azcopy utility to access Blob or file storage

CTE Agent for Windows

Windows Application Interoperability

Table 23: Windows interoperability with IBM Infosphere Guardium and Imperva Securesphere

Product	Version	OS	Notes
IBM Infosphere Guardium	v10.1.4	Windows	Compatible
Imperva Securesphere	v9.0, v9.5, v10.5, v11	Windows 2012 R2	Compatible

Table 24: Windows CTE LDT Interoperability with backup applications

Product	Version	Notes
Microsoft Backup with VSS ¹	Win2012, Win2016, Win2019	Compatible
Symantec Backup Exec 2012, 2016	2012, 2016	Compatible
Symantec Net-backup	7.6.0, 7.6.1.4, 7.6.04, 8.1.1	Compatible
UltraBackup	10.0	Compatible
Veeam	11.0.0.837	Compatible with CTE 7.1.1.43 and subsequent versions

Note:

1. Thales has tested the backup applications with Volume Shadow Copy Service (VSS) for backup and restore.

Table 25: Windows CTE LDT Interoperability with Active-Passive clusters

Product	Version	Notes
Microsoft Cluster	2012 R2/2016/2019	SQL Servers, File Server Compatible with <code>vmfiltr</code> driver but not supported with <code>VMLFS</code> driver
Veritas Cluster	6.02	Compatible with <code>vmfiltr</code> driver but not supported with <code>VMLFS</code> driver

Table 26: Windows CTE Quantum StorNext Support

Product	Version	Notes
Quantum StorNext	2012 R2/2016	<ul style="list-style-type: none"> Structured data is not supported (i.e. database application) LDT is not supported CBC-CS1 key is not supported

Table 27: Windows File System Support (Vmfiltr driver)

File System		Database							Apps			
Windows	Unstructured data	Oracle 10gR1 11gR1 11gR2 12c/18c	DB2 95/9.7 10.1 10.5 11.1	Informix 11.5 11.7 12.1	MySQL 5.5 5.6 8	MS SQL 2012 ^b 2014 ^b 2016 ^b 2017 2019	MS SQL on MS AZURE 2012 2017	MongoDB 3.2, 3.4	SharePoint 2010/ 2013/ 2016/ 2019 ^d	Active Directory 2012/ 2016	Active Directory on MS Azure 2012R2	Microsoft Exchange DAG 2016
Windows 2012/R2 (x64) ^{a,c}	NTFS/CIFS/ReFS	NTFS	NTFS	NTFS	NTFS	NTFS ^b	NTFS	NTFS	NTFS	NTFS		
Windows 10 (x64) ^a	NTFS/CIFS											
Windows 2016 (x64) ^{a,c}	NTFS/CIFS/ ReFS	NTFS	NTFS	NTFS	NTFS	NTFS ^b	NTFS	NTFS	NTFS	NTFS		NTFS
Windows 2016 Core (x64) ^{a,c}	NTFS/CIFS/ ReFS	NTFS	NTFS	NTFS	NTFS	NTFS ^b	NTFS	NTFS	NTFS	NTFS		
Windows 2019 (x64) ^a	NTFS/CIFS/ ReFS	NTFS				NTFS ^b						
MS Azure Windows 2012 R2	NTFS/CIFS/ ReFS						NTFS				NTFS	

File System		Database							Apps			
Windows	Unstructured data	Oracle 10gR1 11gR1 11gR2 12c/18c	DB2 95/9.7 10.1 10.5 11.1	Informix 11.5 11.7 12.1	MySQL 5.5 5.6 8	MS SQL 2012 ^b 2014 ^b 2016 ^b 2017 2019	MS SQL on MS AZURE 2012 2017	MongoDB 3.2, 3.4	SharePoint 2010/ 2013/ 2016/ 2019 ^d	Active Directory 2012/ 2016	Active Directory on MS Azure 2012R2	Microsoft Exchange DAG 2016
MS Azure Windows 2016	NTFS/CIFS/ ReFS						NTFS					

Notes:

- a. Supports AES-NI.
- b. Always encrypted, Always on, and File Table features are tested and supported.
- c. Azure file storage is supported.
- d. SharePoint 2019/MS SQL 2019 is supported with NTFS on Windows 2016 & 2019 in CTE 7.1.1 and all succeeding versions.

LDT Feature for Windows File System Support

Table 28: Windows (Vmfiltr driver)

File System		Database							Apps		
Windows	Unstructured data	Oracle 10gR1 11gR1 11gR2 12c/18c	DB2 9.5/9.7 10.1 10.5 11.1	Informix 11.5 11.7 12.1	MySQL 5.5 5.6 8	MS SQL 2012 ^b 2014 ^b 2016 ^b 2017 2019	MS SQL on MS AZURE 2012 2017	MongoDB 3.2, 3.4	SharePoint 2010/ 2013/ 2016/ 2019 ^d	Active Directory on MS Azure 2012R2	Microsoft Exchange DAG 2016
Windows 2012/R2 (x64) ^{a,d}	NTFS/ReFS	NTFS	NTFS	NTFS	NTFS	NTFS ^b		NTFS	NTFS		
Windows 10 (x64) ^a	NTFS		NTFS	NTFS							
Windows 2016 (x64) ^{a,c}	NTFS	NTFS	NTFS	NTFS	NTFS	NTFS ^b		NTFS	NTFS		NTFS
Windows 2016 Core (x64) ^{a,c}	NTFS	NTFS	NTFS	NTFS	NTFS	NTFS ^b		NTFS	NTFS		
Windows 2019 (x64) ^{a,c}	NTFS	NTFS				NTFS ^b					
MS Azure Windows 2012 R2	NTFS						NTFS			NTFS	
MS Azure Windows 2016	NTFS						NTFS				

Notes:

- a. Supports AES-NI.
- b. Always encrypted, Always on, and File Table features are tested and supported.
- c. LDT support for Windows 2016 testing is completed but there is no ReFS support.
- d. SharePoint 2019/MS SQL 2019 is supported with NTFS on Windows 2016 & 2019 in CTE 7.1.1 and all succeeding versions.

Table 29: Windows (VMLFS Driver)

File System	
Windows	Unstructured data
Windows 2012/R2 (x64) ^{a,d}	CIFS
Windows 10 (x64) ^a	CIFS
Windows 2016 (x64) ^{a,c}	CIFS
Windows 2016 Core (x64) ^{a,c}	CIFS
Windows 2019 (x64) ^{a,c}	CIFS
MS Azure Windows 2012 R2	CIFS
MS Azure Windows 2016	CIFS

Note:

1. Thales has tested the backup applications with Volume Shadow Copy Service (VSS) for backup and restore.

Anti-Virus Support

Table 30: Anti-virus support on Windows (x64-bit)

Product	Version	OS	Notes
Symantec End Point Protection	v12.1, v14.0.1_MP2	Windows 2012R2, Windows 2016, Windows 2019	Compatible
McAfee VirusScan Enterprise + Antispyware Enterprise	8.8.0900	Windows 2012R2, Windows 2016, Windows 2019	Compatible
McAfee Endpoint Security	10.7.0	Windows 2012R2, Windows 2016, Windows 2019	Compatible
Sentinel One	v4.6.12.241	Windows 2012R2, Windows 2016, Windows 2019	Compatible
Sophos Home	3.2.2	Windows 10	
Trend Micro for Small Business	11.0		
Microsoft Defender	4.18		

Note

For DSM/VTE/CTE and CM/CTE/VTE compatibility, see <https://thalesdocs.com/ctp/cte/cte-cm/index.html>.

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