HYCU Data Protection for Enterprise Clouds v4.9.0

Compatibility Matrix

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Contents

Source environments

This section provides support information for source environments.

Nutanix AOS

The following Nutanix AOS versions are compatible with HYCU:

Nutanix AOS version[ab]	Supported
6.5	✓
6.7	✓

[a]HYCU supports AHV and ESXi.
[b]Nutanix AOS support also includes all maintenance and patch releases that are applied on top of the supported Nutanix AOS versions. For example, version 6.5 covers all 6.5.x.x versions.

VMware vSphere

The following VMware vSphere versions are compatible with HYCU:

VMware vSphere version[ab]	Supported
6.5	✓
6.7	✓
7.0	✓
8.0	✓

[a] Both your vCenter Server and ESXi hosts must be running the supported version.
[b] The supported hardware versions of virtual machines in a vSphere environment are 4 and later.

File servers

HYCU provides data protection for the following types of file servers:

File server type	Supported versions	Notes
Nutanix Files[a]	4.2, 4.3, and 4.4	• Both SMB and NFS protocols are supported.
Dell PowerScale OneFS	9.0.0.0–9.5.0.0	• SMB3 encryption is supported. • *For Nutanix Files:*
NetApp ONTAP	9.6, 9.7, 9.8, 9.9.1, 9.10.1, 9.11.1, 9.12.1, and 9.13.1	○ For the NFS protocol, the None and System authentication methods are supported. ○ HYCU does not currently support the WORM functionality in file shares.
NetApp Cloud Volumes Service for Google Cloud	N/A	○ Due to improvements related to SMB and NFS operations, it is recommended to upgrade version 4.2.1 to 4.2.1.1, version 4.3 to 4.3.0.1, and version 4.4 to 4.4.0.1.
Generic	N/A	

[a]Nutanix Files support also includes all maintenance and patch releases that are applied on top of the supported Nutanix Files versions. For example, version 4.2 covers all 4.2.x.x versions.

Virtual machines

This section provides support information for virtual machines.

Virtual machine guest operating systems

HYCU can perform backup and restore of any virtual machine regardless of the operating system that is running on it, whereas restore of applications and individual files is available only for the following virtual machine guest operating systems:

Virtual machine guest operating system	Notes
Windows Server 2016 Windows Server 2019 Windows Server 2022	• Dynamic disks are not supported. • Windows Storage Spaces (WSS) is not supported. • Windows Failover Cluster and Cluster Shared Volumes are supported. • Restoring individual files from volumes with enabled data deduplication is not supported. • WinRM must be enabled and configured by using the `winrm quickconfig` command.
Windows 10 (64-bit) Windows 11 (64-bit)	• Dynamic disks are not supported. • Windows Storage Spaces (WSS) is not supported. • Application-aware backup is not supported. • WinRM must be enabled and configured by using the `winrm quickconfig` command.

Linux	• All versions with the supported file systems are supported. For details, see "Virtual machine file systems" on the next page.
	• Standard LVM volumes and thin-provisioned LVM volumes are supported. Linux Cluster resource managers are not supported.
	• Disks without partitions are not supported.
	• Access to the virtual machine through SSH must be enabled.
	• Restoring individual files and applications with the non-root sudo user by using CIFS is supported for:
	  • CentOS 7.x
	  • Oracle Linux 7.x, 8.x, and 9.x
	  • Red Hat Enterprise Linux 7.x, 8.x, and 9.x
	• *For migrating virtual machines to cloud:* The following Linux operating systems are supported:
	  • CentOS 7.x
	  • Oracle Linux 7.x, 8.x, and 9.x
	  • Red Hat Enterprise Linux 7.x, 8.x, and 9.x

	• SUSE Linux Enterprise Server 12 SP3 and 15 SP4

Virtual machine file systems

HYCU can perform the backup and restore of any virtual machine regardless of the file systems used on the virtual machine, whereas restore of applications and individual files is available only for the following virtual machine file systems:

Virtual machine operating system	Supported virtual machine file systems
Windows	NTFS FAT FAT32 ReFS[a]
Linux	FAT32 xfs ext4/ext3/ext2 reiserfs btrfs

[a] Supported only if you are restoring applications, and not individual files.

Application awareness

HYCU can discover the following applications running on virtual machines:

Application[ab]	Supported versions	Supported on operating systems	Notes
SQL Server	2014[c] 2016 2017 2019 2022	Windows Server 2016 Windows Server 2019 Windows Server 2022	• Data protection for Always On Availability Groups and Always On Basic Availability

Application[a][b]	Supported versions	Supported on operating systems	Notes
			Groups is supported. • SQL Server failover cluster is supported.
Active Directory	N/A	Windows Server 2016 Windows Server 2019 Windows Server 2022	The following roles are supported for Active Directory: Active Directory Domain Services, Active Directory Lightweight Directory Services, Active Directory Certificate Services, Active Directory Federation Services, and Active Directory Rights Management Services.
Exchange Server	2013 2016 2019	Windows Server 2016 Windows Server 2019 Windows Server 2022	Data protection for Database Availability Groups is supported.
Oracle	12c	CentOS 7.x Oracle Linux 7.x, 8.x, and 9.x Red Hat Enterprise Linux 7.x, 8.x, and 9.x SUSE Linux Enterprise Server 12 SP3 and 15 SP4	• Data protection for Oracle Real Application Clusters is not supported. • Data protection for Oracle Automatic Storage Management is not supported.
	19c	Oracle Linux 7.x, 8.x, and 9.x Red Hat Enterprise Linux 7.x, 8.x, and 9.x	

Application[ab]	Supported versions	Supported on operating systems	Notes
		SUSE Linux Enterprise Server 12 SP3 and 15 SP4	
SAP HANA	2.0	SUSE Linux Enterprise Server 12 SP3 and 15 SP4	• Supported on Nutanix AHV clusters only. • SAP HANA single-host and multiple-host (distributed) configurations are supported.

[a] Discovery and data protection are supported only for 64-bit applications.

[b] HYCU leverages VSS technology to create application-consistent backups of Active Directory and Exchange Server. Other VSS-based applications and services are not supported.

[c] Not supported for Always On Basic Availability Groups.

Targets

The following targets are supported for storing data protected by HYCU:

Target type	Supported	Notes
NFS	✓ Versions: 3 and 4	A Nutanix Files share can be used as an NFS target.
SMB	✓ Versions: 1.0, 2.0, 2.1, 3.0, and 3.1.1	• A Nutanix Files share can be used as an SMB target. • SMB3 encryption is supported.
Nutanix	AOS versions: 6.5 and later	Storing file share data to this type of target is not supported.
Nutanix Objects[a]	✓	• Backing up data to a Nutanix Objects target that

	Versions: 3.5, 3.6, 4.0, 4.1, and 4.2	has WORM enabled is supported. • Restoring data from targets for which cloud tiering is configured is supported.
iSCSI	✓	• HYCU can use iSCSI targets with one or more storage processors for storing data. • File share protection is not supported.
AWS S3/Compatible AWS GovCloud (US) AWS China	✓	• The S3-compatible cloud storage solutions that are currently certified by HYCU are Scality, Cloudian, Minio, Tencent Cloud, Alibaba Cloud, Snowball, and Wasabi. • Using Object Lock (WORM) is supported for AWS S3, Cloudian S3-compatible, Scality S3-compatible, and Wasabi S3-compatible targets. • Storing data to an AWS S3 target in Amazon Virtual Private Cloud (VPC) is supported.
Azure Azure Government Azure China	✓	Backing up data to an Azure target that has the immutability policy (WORM) set is supported.
Google Cloud	✓	Backing up data to a Google Cloud target that has Bucket Lock (WORM) enabled is

		supported.
QStar NFS	✓	QStar ASM software version 6 or 7 must be installed on the system to which tape is connected.
QStar SMB	✓	

[a]Nutanix Objects support also includes all maintenance and patch releases that are applied on top of the supported Nutanix Objects versions. For example, version 3.6 covers all 3.6.x.x versions.

Physical machines

This section provides support information for physical machines.

Physical machine operating systems

HYCU can perform the backup and restore of physical machines (including restore of applications and individual files) that are running the following operating systems:

Physical machine operating system	Notes
Windows Server 2016 Windows Server 2019 Windows Server 2022	• The VSS service must be enabled and running, and the VSS writer status must be stable. • WinRM must be enabled and configured by using the `winrm quickconfig` command. • The latest Windows Server updates must be installed. • MBR basic disks and GPT basic disks are supported (MBR supports only primary partitions). • Dynamic disks are not supported. • Windows failover clusters are not supported. • Windows Storage Spaces (WSS) is not supported.

	• Restoring individual files from volumes with enabled data deduplication is not supported. • *For physical machines that use UEFI firmware:* Restoring individual files is supported for Windows Server 2019 and later.
Red Hat Enterprise Linux 7.x Red Hat Enterprise Linux 8.x Red Hat Enterprise Linux 9.x	• Access to the physical machine through SSH must be enabled. • Only LVM volumes are supported.[a] • Encrypted volumes are not supported.
Oracle Linux 7.x Oracle Linux 8.x Oracle Linux 9.x	
CentOS 7.x	

[a] This does not apply to the boot disk.

Physical machine file systems

HYCU can perform the backup and restore of physical machines (including restore of applications and individual files) that use the following physical machine file systems:

Physical machine operating system	Supported physical machine file system
Windows	NTFS ReFS[a]
Linux	xfs ext4/ext3/ext2

[a] Not supported for restoring individual files.

Application awareness

HYCU can discover the following applications running on physical machines:

Application[a][b]	Supported versions	Supported on operating systems	Notes
SQL Server	2014[c] 2016 2017 2019 2022	Windows Server 2016 Windows Server 2019 Windows Server 2022	• Data protection for Always On Availability Groups and Always On Basic Availability Groups is supported. • SQL Server failover cluster is not supported.
Active Directory	N/A	Windows Server 2016 Windows Server 2019 Windows Server 2022	The following roles are supported for Active Directory: Active Directory Domain Services, Active Directory Lightweight Directory Services, Active Directory Certificate Services, Active Directory Federation Services, and Active Directory Rights Management Services.
Exchange Server	2013 2016 2019	Windows Server 2016 Windows Server 2019 Windows Server 2022	Data protection for Database Availability Groups is supported.
Oracle	12c	Red Hat Enterprise Linux 7.x, 8.x, and 9.x	• Data protection for Oracle Real

Application[a][b]	Supported versions	Supported on operating systems	Notes
		Oracle Linux 7.x, 8.x, and 9.x	Application Clusters is not supported. • Data protection for Oracle Automatic Storage Management is not supported.
	19c	Oracle Linux 7.x, 8.x, and 9.x Red Hat Enterprise Linux 7.x, 8.x, and 9.x	

[a] Discovery and data protection are supported only for 64-bit applications.

[b] HYCU leverages VSS technology to create application-consistent backups of Exchange Server. Other VSS-based applications and services are not supported.

[c] Not supported for Always On Basic Availability Groups.

Targets

The following targets are supported for storing the data protected by HYCU:

Target type	Supported	Notes
NFS	✓ Versions: 3 and 4	Supported only for Linux operating systems.
SMB	✓	Supported only for Windows operating systems.
QStar NFS	✓	• Supported only for Linux operating systems. • QStar ASM software version 6 or 7 must be installed on the system to which tape is connected.
QStar SMB	✓	• Supported only for Windows operating systems. • QStar ASM software version 6 or 7 must be installed on the system to which tape is connected.

Cipher suites

HYCU supports the following cipher suites:

Cipher suite	Supported
ECDHE-ECDSA-AES128-GCM-SHA256	✓
ECDHE-ECDSA-AES256-GCM-SHA384	✓
ECDHE-ECDSA-CHACHA20-POLY1305	✓
ECDHE-RSA-AES128-GCM-SHA256	✓
ECDHE-RSA-AES256-GCM-SHA384	✓
ECDHE-RSA-CHACHA20-POLY1305	✓
DHE-RSA-AES128-GCM-SHA256	✓
DHE-RSA-AES256-GCM-SHA384	✓
AES256-GCM-SHA384	✓
AES128-GCM-SHA256	✓

Web browsers

The following web browsers can be used to access the HYCU web user interface:

Web browser	Supported
Microsoft Edge	✓
Mozilla Firefox	✓
Google Chrome	✓

Software availability in native languages

The following table lists the supported languages for HYCU:

Language	Supported	Locale code
English	√	EN
Japanese	√	JA

Provide feedback

For any suggestions and comments regarding this product or its documentation, send us an e-mail to:

info@hycu.com

We will be glad to hear from you!