

NetBackup™ Release Notes

Release 11.0

Document Version 1

NetBackup™ Release Notes

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Cohesity, Inc.
2625 Augustine Drive
Santa Clara, CA 95054

<http://www.veritas.com>

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Cohesity Services and Operations Readiness Tools (SORT)

Cohesity Services and Operations Readiness Tools (SORT) is a website that provides information and tools to automate and simplify certain time-consuming administrative tasks. Depending on the product, SORT helps you prepare for installations and upgrades, identify risks in your datacenters, and improve operational efficiency. To see what services and tools SORT provides for your product, see the data sheet:

https://sort.veritas.com/data/support/SORT_Data_Sheet.pdf

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About NetBackup 11.0

This chapter includes the following topics:

- [About the NetBackup 11.0 release](#)
- [About NetBackup Late Breaking News](#)
- [About NetBackup third-party legal notices](#)

About the NetBackup 11.0 release

The *NetBackup Release Notes* document is meant to act as a snapshot of information about a version of NetBackup at the time of its release. Old information and any information that no longer applies to a release is either removed from the release notes or migrated elsewhere in the NetBackup documentation set.

See [“About new enhancements and changes in NetBackup”](#) on page 10.

About EEBs and release content

NetBackup 11.0 incorporates fixes to many of the known issues that affected customers in previous versions of NetBackup. Some of these fixes are associated with the customer-specific issues. Several of the customer-related fixes that were incorporated into this release were also made available as emergency engineering binaries (EEBs).

Listings of the EEBs and Etracks that document the known issues that have been fixed in NetBackup 11.0 can be found on the Cohesity Operations Readiness Tools (SORT) website and in the *NetBackup Emergency Engineering Binary Guide*.

See [“About Cohesity Services and Operations Readiness Tools”](#) on page 41.

About NetBackup appliance releases

The NetBackup appliances run a software package that includes a preconfigured version of NetBackup. When a new appliance software release is developed, the

latest version of NetBackup is used as a basis on which the appliance code is built. For example, NetBackup Appliance 3.1 is based on NetBackup 8.1. This development model ensures that all applicable features, enhancements, and fixes that were released within NetBackup are included in the latest release of the appliance.

The NetBackup appliance software is released at the same time as the NetBackup release upon which it is based, or soon thereafter. If you are a NetBackup appliance customer, make sure to review the *NetBackup Release Notes* that correspond to the NetBackup appliance version that you plan to run.

Appliance-specific documentation is available at the following location:

<http://www.veritas.com/docs/000002217>

About NetBackup Late Breaking News

For the most recent NetBackup news and announcements, visit the NetBackup Late Breaking News website at the following location:

<http://www.veritas.com/docs/000040237>

Other NetBackup-specific information can be found at the following location:

https://www.veritas.com/support/en_US/15143.html

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The proprietary notices and the licenses for these third-party programs are documented in the *NetBackup Third-party Legal Notices* document, which is available at the following website:

<https://www.veritas.com/about/legal/license-agreements>

New features, enhancements, and changes

This chapter includes the following topics:

- [About new enhancements and changes in NetBackup](#)
- [NetBackup 11.0 new features, changes, and enhancements](#)

About new enhancements and changes in NetBackup

In addition to new features and product fixes, NetBackup releases often contain new customer-facing enhancements and changes. Examples of common enhancements include new platform support, upgraded internal software components, interface changes, and expanded feature support. Most new enhancements and changes are documented in the *NetBackup Release Notes* and the NetBackup compatibility lists.

Note: The *NetBackup Release Notes* only lists the new platform support that begins at a particular NetBackup version level at the time of its release. However, Cohesity routinely backdates platform support to previous versions of NetBackup. Refer to the [NetBackup Compatibility List for all Versions](#) for the most up-to-date platform support listings.

See [“About the NetBackup 11.0 release”](#) on page 8.

See [“About NetBackup compatibility lists and information”](#) on page 49.

NetBackup 11.0 new features, changes, and enhancements

New features, changes, and enhancements in NetBackup 11.0 are grouped below by category. Select a link to read more information about the topic.

New features

- [Changes in Cohesity terminology](#)
- [RESTful APIs included in NetBackup 11.0](#)
- [New features and enhancements to the NetBackup web UI](#)
- [New features and changes for NetBackup for Microsoft SQL Server](#)
- [Ansible supported playbooks for NetBackup](#)
- [Changes to Java GUI and JRE for NetBackup 11.0](#)
- [Instant access for MSDP object store support](#)
- [Support for the universal share scale out feature](#)
- [Enhanced backup performance for Cloud object store in NetBackup 11.0](#)
- [Newly supported databases for the PaaS workload](#)
- [Support for Trend Micro malware detection tool](#)
- [Merge certificates for media servers](#)
- [Minimum node configuration for cost optimization](#)
- [Support Nutanix workload for malware scanning](#)
- [Support for BYO Malware Scan Host using NetBackup Client](#)
- [Support for instant access feature for Nutanix AHV](#)

Secure communication features, changes, and enhancements

- **Note:** Before you install or upgrade to NetBackup 11.0 from a release earlier than 8.1, make sure that you read and understand the *NetBackup Read This First for Secure Communications* document. NetBackup 8.1 includes many enhancements that improve the secure communications of NetBackup components. The *NetBackup Read This First for Secure Communications* document describes the features and benefits of these enhancements:

[NetBackup Read This First for Secure Communications](#)

- Multi-person authorization support for malware scan host management and policy management operations
- Detection of database corruption in Oracle and Microsoft SQL Server
- Detection of new risk engine-based anomalies

Support changes and enhancements

- NetBackup 11.0 support additions and changes
- NetBackup 10.5.0.1 and earlier support additions and changes qualified in NetBackup 11.0
- Several shutdown commands to be deprecated in a future release
- NetBackup 11.0 uses SQLite database to store the MSDP events
- Post-Quantum Cryptography (PQC) support in NetBackup
- Support for RHOSP 16.1, 16.2, and Kolla Ussuri has been discontinued in NetBackup for OpenStack 11.0
- MSDP load balancing for multi-stream backups on MSDP cluster
- MSDP lazy delete feature retains the uploaded data in the cloud for the failed jobs
- The file hash server deployment alongside MSDP deployments
- Monitor the progress of CRC check for local LSU to understand the MSDP health
- Support for running MSDP commands with non-root users
- Support for AIR, disaster recovery, and image sharing for cold storage
- Hardware Security Module (HSM) support in NetBackup

Cloud-related changes and enhancements

- Update cloud configuration file on the primary server immediately after install or upgrade to NetBackup 11.0
- Minimum node changes and new permission required for AWS plugin
- Support for viewing and extracting the collected logs

Workload and database agent changes and enhancements

- Support for Greenplum database
- Support policy based backup of Nutanix-AHV assets
- Asset cleanup for Kubernetes assets

Changes in Cohesity terminology

To modernize our terminology, Cohesity has begun to replace certain outdated terms with more current terms.

Note: As Cohesity continues to update its terminology, the deprecated terms and the new terms may be used interchangeably.

Deprecated term	New term
Master	Primary
Slave	Secondary or media server
Whitelist or white list	Allowed list
Blacklist or black list	Blocked list
White hat	Ethical
Black hat	Unethical

RESTful APIs included in NetBackup 11.0

NetBackup 11.0 includes both updated and new RESTful application programming interfaces (APIs). These APIs are built on the Representational State Transfer (REST) architecture. They provide a web-service-based interface that lets you configure and administer NetBackup in your environments.

API documentation

You can find documentation for the NetBackup APIs in on SORT and on your primary server. Make sure to review the *Versioning* topic and the *What's New* topic in the *Getting Started* section.

- On SORT:
 NetBackup API documentation is available on SORT:
[HOME > KNOWLEDGE BASE > Documents > Product Version > 11.0](#)
 Look under **API Reference**. A *Getting Started* document provides background information about using NetBackup APIs. The API YAML files are also available for reference, however, they are not functional. You cannot test the APIs from the documents on SORT.
- On your primary server:
 APIs are stored in YAML files on the primary server:
`https://<primary_server>/api-docs/index.html`

The APIs are documented in Swagger format. This format lets you review the code and test the functionality by making actual calls with the APIs. You must have the appropriate security permissions to access the primary server and APIs to use the Swagger APIs.

Caution: Cohesity recommends that you test APIs only in a development environment. Because you can make actual API calls from the Swagger files, you should not test the APIs in a production environment.

New features and enhancements to the NetBackup web UI

In this release the NetBackup web UI contains the following new features and enhancements:

- The NetBackup web UI is updated to include the Cohesity company logo and reflect the Cohesity colors and theme.
- Users can choose from a light mode or dark mode. This setting is available in the lower left-hand corner of the web UI.
- Ability to configure drives and robots using a wizard. The wizard scans for the devices and allows to configure the devices such as robots and drives. The following actions are supported in this release:
 - Update device properties. Currently updating device type is supported.
 - Select or deselect the discovered devices that are to be configured.
 - Create tape storage units.
 - Create local rules or replace global rules for tape drives.

For more information, see the *Configuring robots and tape drives* section in the *NetBackup Web UI Administrator's Guide*.

- In the Activity monitor, the information for a job now includes a **Logs** tab where you can view all log information for that job.
- A new **Reporting** node where you can compile information to verify, manage, and troubleshoot NetBackup operations. In the NetBackup 11.0 release, this node only contains the **All log entries** report.
- The web UI supports server-directed restores for the Lotus-Notes policy type.
- When a workload administrator subscribes an asset to a protection plan, NetBackup also creates a protection plan (automated) policy and a protection plan (automated) storage lifecycle policy (SLP). The NetBackup web UI includes the following capabilities for these policies:

- View automanaged policies and automanaged SLPs.
 You cannot modify or delete automanaged policies or SLPs. You can only view the details of this type of policy.
- Copy automanaged policies to a NetBackup classic policy.
 This action is only available when a classic policy type exists that corresponds to the workload. For other protection plan types, you cannot copy the protection plan to a classic policy.

Support for Greenplum database

This release adds support for the VMware Tanzu Greenplum database.

Support policy based backup of Nutanix-AHV assets

NetBackup 11.0 now supports backup of Nutanix-AHV assets using policy along with the protection plan. For more details, refer NetBackup for Nutanix-AHV Administrator's Guide.

New features and changes for NetBackup for Microsoft SQL Server

The following features are available in this release:

- Ability to automatically assign credentials to newly discovered or unregistered instances based on the specified criteria. As part of the Credential Management System (CMS), this feature supersedes instance groups.
- Discover SQL Server instances on demand.
- Ability to automatically protect newly discovered instance databases based on the specified criteria in a SQL Server intelligent group.

Announcement of future changes:

- In an upcoming release the use of the command `nbsqladm` will be disabled. The `bp.conf` entry `ENABLE_NBSQLADM` will be disabled by default and not allow any requests from `nbsqladm`. Administrators can enable the `ENABLE_NBSQLADM` option if they choose.
- Instance groups will be removed from the NetBackup Administration Console and from policy configuration in the NetBackup web UI in a future release.

NetBackup 11.0 support additions and changes

Note: This information is subject to change. See the [NetBackup Compatibility List for all versions](#) for the most recent product and services support additions and changes.

The following products and services are supported starting with NetBackup 11.0:

Platforms

- Windows Server 2025 (x86-64)

Database agents

- MySQL 9.x - Ubuntu 22.04
- MySQL 9.x - Rocky Linux 8.x, Rocky Linux 9.x
- MySQL 9.x - Red Hat Enterprise Linux 8.10, Red Hat Enterprise Linux 9.x
- MySQL 9.x - SUSE Linux Enterprise Server 15

Virtualization

- Protection of Hewlett Packard Enterprise (HPE) VME using NetBackup Agent
- Hyper-V for Windows Server 2025

Other support and changes

- HPE Alletra Storage MP X10000 S3 compatible object storage
- Cloud Object Storage Protection (COSP) support for Nutanix Objects

NetBackup 10.5.0.1 and earlier support additions and changes qualified in NetBackup 11.0

Note: This information is subject to change. See the [NetBackup Compatibility List for all Versions](#) for the most recent product and services support additions and changes.

The following products and services are supported for NetBackup 10.5.0.1 and earlier versions and qualified with NetBackup 11.0:

Platforms

- AlmaLinux 9.4 and 9.5
- Red Hat Enterprise Linux 8.10

- Red Hat Enterprise Linux 9.5
- Rocky Linux 9.5
- InfoScale 7.4.1 - Windows 2016 (x86_64)
- InfoScale 8.0 - RHEL 8.10
- InfoScale 8.0.2 - RHEL 9.2
- InfoScale 8.0.2 - Windows 2022
- InfoScale 8.0.2U3 - RHEL 8.10
- Oracle Linux 8.10 and 9.5 - Red Hat Compatible Kernel/Unbreakable Linux Kernel (x86-64)(OCI)
- Oracle Linux 8.10
- Oracle Linux 9.5
- Windows server 2019 (Core)
- Qlogic target mode Driver patch on 11.10.03

Database

- Cassandra 5.0 - RHEL 8.x
- DB2 11.5 and 12.1 - Ubuntu 22.04
- DB2 12.1 - Red Hat Enterprise Linux 9.x
- HCL Domino 14.x - RedHat Linux Enterprise Server 9.x
- Informix 12.1 and 14.10 - Ubuntu 22.04
- MongoDB 8.0.x - Red Hat Enterprise Linux 8.x and 9.x
- MongoDB 8.0.x - Rocky Linux 8.x
- MongoDB 8.0.x - SUSE Linux Enterprise Server 15 SP6
- MySQL 9.x - Windows Server 2022
- Oracle Database 23ai - Oracle Enterprise Linux 9.x
- PostgreSQL 14.x - Ubuntu 24.04
- PostgreSQL 17.x - Ubuntu 24.04
- PostgreSQL 17.x - Oracle Enterprise Linux 8.x and 9.x
- PostgreSQL 17.x - RHEL 8.x and 9.x
- PostgreSQL 17.x - Ubuntu 22.04
- PostgreSQL 17.x - Windows Server 2019

- PostgreSQL 17.x -Oracle Enterprise Linux 8.x
- SAP HANA 2.0 SPS 06 - Red Hat Enterprise Linux 9.4 (x86_64)
- SAP HANA 2.0 SPS 06 - RedHat Enterprise Linux 9.2 POWER
- SAP HANA 2.0 SPS 07 - Red Hat Enterprise Linux 8.10 (x86_64) and 9.4 (x86_64)
- SAP HANA 2.0 SPS 07 - RedHat Enterprise Linux 9.2 POWER
- SAP HANA 2.0 SPS 07 - SUSE Linux Enterprise Server 15 SP6 (x86_64)
- SAP HANA 2.0 SPS 08 - Red Hat Enterprise Linux 9.4 (x86_64)

Other support and changes

- BMR Client/Boot Server - Oracle Enterprise Linux 8.9 (x86-64)
- PSPACE InfiniStor Object Storage
- Amazon MarketPlace
- MS-Azure MarketPlace

NDMP

- Dell EMC PowerScale OneFS 9.8 and 9.9 NDMP
- Dell EMC PowerStore 3.6 NDMP
- Dell EMC Unity OS 5.4 NDMP
- NetApp ONTAP 9.15 NDMP

NetBackup Snapshot Manager

- NetBackup Snapshot Manager - Oracle Linux 9.2, 9.3, 9.4
- NetBackup Snapshot Manager on RHEL 9.5
- NetBackup Snapshot Manager on SUSE 15 SP6
- NetBackup Snapshot Manager on Oracle Linux 8.10 (RHCK), 9.2 (RHCK)

OpenStorage

- Dell EMC Data Domain OST plug-in 8.1 and 8.3
- Epic-Large-File (ELF) policy with Data Domain STU

S3 Object Storage

- CEPH immutable Object Support
- Immutable Object Support for Fujitsu Eternus CS8000
- Immutable Object Support (Governance ONLY) for NetApp ONTAP S3

- OVHCloud S3 compatible object storage
- Anzen AnzenStore S3 Storage Support

Virtualization

- Azure Stack Hub 2406.2408
- Red Hat Enterprise Linux 9.x support for Hyper-V on Windows Server 2019/2022
- K8S - Vanilla 1.31
- Nutanix AOS 6.10
- Nutanix AOS 6.8.1
- VMWare - Oracle Linux 8.9, 9.2, 9.3 as a Backup Host (VDDK 8.0.3)
- VMWare - SUSE15SP5 as a Backup Host (VDDK 8.0.3)
- VMware - Cloud Director 10.6

Several shutdown commands to be deprecated in a future release

A new, fully documented command for shutting down NetBackup processes and daemons will be provided in an upcoming release. At that point, the following commands will no longer be available:

- `bp.kill_all`
- `bpdwn`
- `bpclusterkill`

Please plan accordingly. The new command will be announced in future release notes and in the *NetBackup Commands Reference Guide*.

Update cloud configuration file on the primary server immediately after install or upgrade to NetBackup 11.0

If you use cloud storage in your NetBackup environment, you may need to update your cloud configuration file on the NetBackup primary server immediately after you install or upgrade to NetBackup 11.0. If a cloud provider or related enhancement is not available in the cloud configuration file after you upgrade to NetBackup 11.0, related operations fail.

Cohesity continuously adds new cloud support to the cloud configuration files between releases. Updating your cloud configuration files is necessary only if your cloud storage provider was added to the cloud configuration package after version 2.13.0.

The following cloud support has been added to version 2.13.1 and later but was not included in the NetBackup 11.0 final build:

- HPE Alletra Storage MP X10000 (S3)
- Nutanix Objects S3 object lock (S3)
- Cloud Object store protection (COSP) Nutanix Objects
- Amazon (S3) – Mexico (Central) region
- Oracle Cloud (OCI) Archive tier (S3)
- DigiBoxx Megh3 (S3)

For the latest cloud configuration package, see the following technical article:

https://www.veritas.com/content/support/en_US/downloads/update.UPD971796

For additional information on adding cloud storage configuration files, refer to the following technical article:

<http://www.veritas.com/docs/100039095>

Ansible supported playbooks for NetBackup

Cohesity supports the use of specific Ansible playbooks for provisioning and configuring NetBackup. Refer to the *NetBackup Installation Guide* for further details on supported playbooks.

BMR support for Cloud VM Recovery in AWS

NetBackup supports the following in this release:

- Support for performing AWS recovery at the virtual machine image level for Windows.
- Support for backup and restore on RHEL and Windows EC2 instances with multiple network interfaces.

NetBackup 11.0 uses SQLite database to store the MSDP events

NetBackup versions before 11.0 use the file system to store the MSDP events. NetBackup 11.0 and later use SQLite database to store the events. While upgrading to NetBackup 11.0, any unprocessed event files that exist in the directory `<catalog_dir>/databases/spa/database/events` are migrated to SQLite database at `<catalog_dir>/databases/spa/database/events/database` directory.

The migration process usually completes in minutes depending on the environment. You can monitor the migration progress in the `<catalog_dir>/log/spad/spad.log`

log file. You can search the log file with the keyword **percentage of events migrated** to monitor the migration progress. After the migration completes, a log message **Events migration completed** is found in the file.

Post-Quantum Cryptography (PQC) support in NetBackup

NetBackup now supports Post-Quantum Cryptography (PQC) for TLS 1.3 communication using the Open Quantum Safe (OQS) provider. This enhancement is a step toward preparing NetBackup for a quantum-safe future.

To learn more about PQC support in NetBackup, refer to the 'Post-Quantum Cryptography (PQC) support in NetBackup' chapter in the *NetBackup Security and Encryption Guide*.

Multi-person authorization support for malware scan host management and policy management operations

Starting with NetBackup11.0, you can enable multi-person authorization for the operations that are associated with malware scan host management and policy management.

You can also receive emails for multi-person authorization ticket operations.

Asset cleanup for Kubernetes assets

The Asset cleanup feature in Kubernetes assets has been optimized. It allows you to configure the age for old assets eligible for cleanup. Further, NetBackup also displays last discovered time of namespaces and identify non-discovered resources in namespaces as deleted assets.

For more information, see *NetBackup for Kubernetes Administrator's Guide* > *Managing Kubernetes assets* > *Configure settings* > *Asset cleanup* section.

Instant access for MSDP object store support

With NetBackup 11.0, you can create instant access buckets for MSDP object store using NetBackup images.

Support for the universal share scale out feature

The universal share scale out feature enables you to use all the disk storage in a clustered environment. The file system operations across all the nodes or engines are distributed where each engine or node can access the data from a universal share cluster.

Enhanced backup performance for Cloud object store in NetBackup 11.0

NetBackup 11.0 introduces significantly improved Cloud object store backups by decentralizing object handling and backups.

NetBackup uses two distinct modules that independently exchange Cloud object store data and metadata over a staging location on the backup host. These two modules can fetch objects, manage the staging area, incorporate accelerator backup logic, and back up data to target, all independent of each other.

The new design facilitates parallel processing and object copy, which significantly reduces latency, increases throughput, and improves overall backup efficiency.

For more details, see the *NetBackup Cloud Object Store Administrator's Guide*.

Changes to Java GUI and JRE for NetBackup 11.0

The NetBackup Administration Console is optional on all NetBackup primary servers, media servers, and client computers. The JRE package is required on NetBackup primary servers, but optional for all media servers and client computers.

As with previous releases, the JRE package is installed by default on NetBackup primary servers because it's required. The NetBackup Administration Console and the JRE are not part of the default installation on Windows clients. Install the Java Remote Administration Console if you require this functionality on your Windows clients.

The various NetBackup installation methods allow the user the choice to install or not install the NetBackup Administration Console on all NetBackup computers. Additionally, users can install or not install the JRE packages on NetBackup media servers and client computers. Refer to either the *NetBackup Installation Guide* or the *NetBackup Upgrade Guide* for further details.

Support for RHOSP 16.1, 16.2, and Kolla Ussuri has been discontinued in NetBackup for OpenStack 11.0

The following OpenStack versions for the respective distributions are no longer supported:

- RHOSP 16.1
- RHOSP 16.2
- Kolla Ussuri

MSDP load balancing for multi-stream backups on MSDP cluster

In NetBackup 11.0, the new "Use multiple MSDP nodes" policy attribute is added to the policy, which simplifies load balancing across MSDP nodes for multi-stream backups in an MSDP cluster.

In previous releases, enabling multiple MSDP nodes required using the policy name prefix MSDPLB+, which may not have been the most convenient option. With the new attribute, this process becomes simpler and more user-friendly. For more information, see the *NetBackup Deduplication Guide*.

MSDP lazy delete feature retains the uploaded data in the cloud for the failed jobs

Starting with NetBackup 11.0, the MSDP lazy delete feature allows you to retain data uploaded to the cloud for failed jobs for a configurable period. NetBackup keeps track of the metadata for successfully uploaded data to the cloud and only uploads the missing fragments, which helps prevent data duplication and reduces unnecessary cloud usage.

For more details, refer to the *NetBackup Deduplication Guide*.

The file hash server deployment alongside MSDP deployments

From NetBackup 11.0, the file hash server can now be deployed on a BYO media server alongside MSDP server. This update offers a better user experience with an improved web UI for file hash search. It also supports migrating the file hash data from one server to another.

For more information, see the *NetBackup Web UI Administrator's Guide*.

Monitor the progress of CRC check for local LSU to understand the MSDP health

NetBackup sends notifications regarding the CRC status for local LSU. You can view these notifications on the NetBackup web UI. You can also use the NetBackup APIs to fetch these notifications. The APIs provide following information:

- CRC notifications for past specified days
- Warning when CRC check has not been calculated for over 24 hours
- Alert when corruption is found

Support for running MSDP commands with non-root users

NetBackup 11.0 now allows non-root users to run MSDP commands using the `msdpcmdrun` wrapper command. You no longer need `sudo` to run MSDP commands.

For more information, see the *NetBackup Deduplication Guide*.

Support for AIR, disaster recovery, and image sharing for cold storage

NetBackup 11.0 now supports auto image replication (AIR) into cold storage, disaster recovery from cold storage, and image sharing from cold storage.

For more information, see the *NetBackup Deduplication Guide*.

Support for instant access feature for Nutanix AHV

NetBackup 11.0 supports the download files and folders feature using instant access for Nutanix AHV.

For more information, refer to the *NetBackup™ for Nutanix AHV Administrator's Guide*.

Newly supported databases for the PaaS workload

New workload:	YugabyteDB Anywhere, and GitHub Repositories.
For AWS:	RDS Custom for Oracle, RDS Custom for SQL, AWS DocumentDB, and AWS Neptune.
For Azure:	Azure CosmosDB – Cassandra, Azure DevOps Git Repositories, Azure Gitlab Repositories, and Azure Cosmos DB for Table.

Minimum node changes and new permission required for AWS plugin

- NetBackup Snapshot Manager 11.0 or later requires the following permission for fetching the list of node groups in EKS cluster:
`eks:ListNodegroups`
- For NetBackup Snapshot Manager 11.0 user can set minimum node count to 0 for NetBackup Snapshot Manager nodes to save on the cost.

For more information, refer to the *NetBackup™ Snapshot Manager for Cloud Install and Upgrade Guide*.

Support for viewing and extracting the collected logs

NetBackup for Cloud Scale Technology version 11.0 and later provides support for exec into the Log-Viewer pod and viewing the logs collected by the fluentbit logging system. It also hosts APIs that provide access to extract the collected logs. This provides easier access to extract logs from a Cloud Scale environment.

For more information, refer to the *NetBackup™ Deployment Guide for Kubernetes Clusters*.

Support for Trend Micro malware detection tool

Starting from NetBackup version 11.0, NetBackup provides support for Trend Micro malware detection tool.

For more information, refer to the *NetBackup Security and Encryption Guide*.

Merge certificates for media servers

Starting from NetBackup version 11.0, elastic media servers have been enhanced to share the primary server certificate. This enhancement is a step towards creating a unified, logical media server entity in a Cloud Scale environment.

Minimum node configuration for cost optimization

NetBackup version 11.0 or later provides support for cost optimization feature by reducing the initial node requirement during deployment from 4 nodes to 3 nodes.

For more information on the minimum configuration, refer to the NetBackup Deployment Guide for Kubernetes Cluster.

Support Nutanix workload for malware scanning

NetBackup 11.0 now supports malware scanning for the Nutanix workload type.

For more information, see the *NetBackup™ for Nutanix AHV Administrator's Guide*.

Support for BYO Malware Scan Host using NetBackup Client

NetBackup version 11.x and later provides support for NetBackup client and Agentless host as the scan host to perform the malware scan.

Hardware Security Module (HSM) support in NetBackup

NetBackup now supports Hardware Security Module (HSM), a physical device that is designed to generate, store, and manage cryptographic keys securely. HSMs

are tamper-resistant and provide a robust mechanism for safeguarding sensitive cryptographic data, including private keys, digital certificates, and authentication tokens.

To learn more about HSM support and configuration in NetBackup, refer to the 'Hardware Security Module (HSM) support in NetBackup' chapter in the *NetBackup Security and Encryption Guide*.

Detection of database corruption in Oracle and Microsoft SQL Server

Starting with NetBackup 11.0, NetBackup can detect database corruption scenarios in Oracle and Microsoft SQL Server. After detecting database corruption, the associated backup job fails with status code 5464. You can refer to the status code documentation for troubleshooting the issue. To generate an alert for such a scenario, configure the **Monitor database corruption in workloads during job failures** anomaly detection option.

For more details, see the 'Configure system anomaly detection settings' topic in the *NetBackup Security and Encryption Guide*.

Detection of new risk engine-based anomalies

- **Detection of unusual user sign in**
 The NetBackup risk engine can now detect if a user attempts to sign in to the NetBackup web UI at an unusual time. NetBackup identifies deviations in the user sign-in patterns, and flags them. A notification is generated when an unusual user login is detected.
- **Detection of unusual updates to policies**
 The NetBackup risk engine can now detect an unusual deletion or update of a policy. A notification is generated when an unusual policy update is detected. For more details on risk engine-based anomalies, see the 'Configure risk engine-based anomaly detection' topic in the *NetBackup Security and Encryption Guide*.

Operational notes

This chapter includes the following topics:

- [About NetBackup 11.0 operational notes](#)
- [NetBackup installation and upgrade operational notes](#)
- [NetBackup administration and general operational notes](#)
- [NetBackup administration interface operational notes](#)
- [NetBackup Bare Metal Restore operational notes](#)
- [NetBackup Cloud Object Store Workload operational notes](#)
- [NetBackup for VMware operational notes](#)
- [NetBackup NAS operational notes](#)
- [NetBackup for OpenStack operational notes](#)
- [NetBackup Cloud workload operational notes](#)
- [NetBackup internationalization and localization operational notes](#)

About NetBackup 11.0 operational notes

NetBackup operational notes describe and explain important aspects of various NetBackup operations that may not be documented elsewhere in the NetBackup documentation set or on the Cohesity Support website. The operational notes can be found in the *NetBackup Release Notes* for each version of NetBackup. Typical operational notes include known issues, compatibility notes, and additional information about installation and upgrade.

Operational notes are often added or updated after a version of NetBackup has been released. As a result, the online versions of the *NetBackup Release Notes* or

other NetBackup documents may have been updated post-release. You can access the most up-to-date version of the documentation set for a given release of NetBackup at the following location on the Cohesity Support website:

[NetBackup Release Notes, Administration, Installation, Troubleshooting, Getting Started, and Solutions Guides](#)

NetBackup installation and upgrade operational notes

NetBackup can be installed and upgraded in heterogeneous environments using a variety of methods. NetBackup is also compatible with a mixture of servers and clients that are at various release levels in the same environment. This topic contains some of the operational notes and known issues that are associated with the installation, upgrade, and software packaging of NetBackup 11.0.

If NetBackup 11.0 upgrade fails on Windows, revert to previous log folder structure

The legacy log folder structure for non-root or non-admin invoked process logs has changed. The new folder structure is created under the process log directory name. For more information, refer to the *File name format for legacy logging* section from the [NetBackup Logging Reference Guide](#).

For Windows, if the upgrade to NetBackup 11.0 fails and rollback occurs, run the following command to continue working on an earlier NetBackup version:

```
mklogdir.bat -fixFolderPerm
```

For more information, refer to the `mklogdir` command from the [NetBackup Commands Reference Guide](#).

Native installation requirements

In NetBackup 8.2, a change was made to initial installs such that the answer file is now required. This change may have some negative effect on users who want to use the native packages to create VM templates or otherwise install the NetBackup packages without configuring the product. On Linux, one possible way of obtaining the previous behavior is with the `-noscripts` option of the RPM Package Manager. Providing this option when installing the `VRTSnbpc` package avoids the configuration steps. This option does not need to be provided when you install other packages. The answer file must still exist, but the only value that must be provided is the role of the machine, either a client or a media server. For example:

```
echo "MACHINE_ROLE=CLIENT" > /tmp/NBInstallAnswer.conf  
rpm -U --noscripts VRTSnbpck.rpm  
rpm -U VRTSpbx.rpm VRTSnbclt.rpm VRTSpddea.rpm
```

NetBackup servers must use a host name that is compliant with RFC 1123 and RFC 952

Starting with NetBackup 8.0, all NetBackup server names must use a host name that is compliant with RFC 1123 ("Requirements for Internet Hosts - Application and Support") and RFC 952 ("DOD Internet Host Table Specification") standards. These standards include the supported and unsupported characters that can be used in a host name. For example, the underscore character (`_`) is not a supported character for host names.

More information is available about these standards and about this issue:

[RFC 952](#)

[RFC 1123](#)

<http://www.veritas.com/docs/000125019>

These standards should be applied to all computing hosts, including all NetBackup hosts. To accommodate legacy environments and functionality, features of NetBackup that were implemented before 2010 continue to allow some non-compliant characters. But newer features, as well as more recently integrated 3rd-party components, are not tested with nor expected to be compatible with host names that do not adhere to the industry standards.

In some situations, it may be possible to configure name services with a network hostname alias that is standards-compliant, and then use the alias when you configure NetBackup. But using host names that are standards-compliant is the only way to ensure compatibility with all features.

About support for HP-UX Itanium vPars SRP containers

Hewlett-Packard Enterprise (HPE) introduced a new type of container for HP-UX Virtual Partitions (vPars)-enabled servers called Secure Resource Partitions (SRPs). As part of the security changes introduced by SRPs, native HP-UX install tools such as `swinstall` and `swremove` are disabled from being run within the SRP environment. The `swinstall` and `swremove` tools can only be called from the global host running vPars, which then pushes the native packages to the SRP containers.

NetBackup only supports installing into the global view. NetBackup installation fails if you try to install into an HPE Itanium SRP container (private file system, shared file system, or workload).

NetBackup administration and general operational notes

NetBackup provides a complete, flexible data protection solution for a variety of platforms. The platforms include Windows, UNIX, and Linux systems. In addition to a standard set of data protection features, NetBackup can also utilize several other licensed and non-licensed components to better protect a variety of different systems and environments. This topic contains some of the general operational notes and known issues that are associated with the administration of NetBackup 11.0.

Intelligent catalog archiving (ICA) is not supported for MSDP cloud

In NetBackup 10.5, Intelligent catalog archiving (ICA) is not available for any MSDP cloud environments.

For some workload environments, reduce the size of the job database before upgrade

Following an upgrade from NetBackup 9.0 or earlier to NetBackup 9.1 or later, existing jobs for certain workloads are assigned an asset namespace to enable access control at an asset level. This process may take some time. You should reduce the size of the jobs database before upgrade. This action minimizes the amount of processing required to perform the association and minimizes the effect on web services performance. Very large job databases may see an alert regarding high heap space usage.

The affected workloads include: Cloud, Nutanix AHV, RHV, and VMware

For further details see the following article:

<http://www.veritas.com/docs/100049808>

Policies using Replication Director fail with error code 4224

When you try to modify any existing policy with the **Use Replication Director** and **Perform snapshot backups** options selected in the NetBackup web UI, this error appears:

```
Error code 4224: Host. STS Internal Error
```

You can see the following message in the BPFIS logs:

```
15:16:13.416 [35337] <2> onlfi_vfms_logf: INF - snapshot services:  
ostfi:2023-09-26 15:16:13.416029 <Thread id - 1> Failed to wait for
```

```
operation result, Error code [2060017] and message [system call failed]
15:16:13.417 [35337] <2> onlfi_vfms_logfi: INF - snapshot services:
ostfi:2023-09-26 15:16:13.417125 <Thread id - 1> OST Library call
failed with message (STS API waitForAsyncCall failed with error
code : 2060017)
```

Workaround:

Do any of the following actions:

- In the **Policy validation** dialog displaying the error, click **Ignore errors** and save. Open the NetBackup Administration Console (Java UI), edit the policy, and then save it.
- In the **Policy validation** dialog displaying the error, click **Edit policy**. To save the policy, click **Save**. In the **Policy validation** dialog displaying topology validation options, select the topology validation option as **None** or **Basic**, instead of **Complete**, and save.

NetBackup administration interface operational notes

The NetBackup administrator has a choice of several interfaces to use to administer NetBackup. All of the interfaces have similar capabilities. This topic contains some of the operational notes and known issues that are associated with these interfaces in NetBackup 11.0.

For more information about the specific NetBackup administration interfaces, refer to the *NetBackup Web UI Administrator's Guide* or the *NetBackup Administrator's Guide, Volume I*.

For information about how to install the interfaces, refer to the *NetBackup Installation Guide*. For information about platform compatibility with the administration consoles, refer to the various NetBackup compatibility lists available on the Cohesity Support website.

See [“About NetBackup compatibility lists and information”](#) on page 49.

Delay in NetBackup web UI when adding or removing columns in Catalog area

In the **Catalog** area of the web UI, you can add or remove columns from the table of images. The more images that are displayed, the longer it takes for the interface to refresh if you add or remove columns. This issue will be fixed in an upcoming release.

Intermittent issues with X forwarding of NetBackup Administration Console

Intermittent issues may occur with X forwarding of the NetBackup Administration Console. This behavior only occurs when you use X forwarding. This issue does not occur at the local console. The issue is most commonly seen on Linux servers, but not exclusively. The issue generally occurs when older versions of X viewers are used, such as Xming and XBrowser.

The use of MobaXterm seems to minimize or eliminate the issue. If you experience issues with X forwarding, consider upgrading your X viewer and retrying the operation or access the server from the local console.

NetBackup Administration Console fails in Simplified Chinese UTF-8 locale on Solaris SPARC 64-bit systems with Solaris 10 Update 2 or later

The NetBackup Administration Console may encounter a core dump issue when the Simplified Chinese UTF-8 locale is used on a Solaris SPARC 64-bit system with Solaris 10 Update 2 and later installed. For more information, refer to Bug ID 6901233 at the following URL on the Oracle Technology Network website:

http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6901233

If you encounter this issue, apply the appropriate Solaris patches or upgrades that Oracle provides for this issue.

NetBackup Bare Metal Restore operational notes

NetBackup Bare Metal Restore (BMR) automates and streamlines the server recovery process, making it unnecessary to reinstall operating systems or configure hardware manually. This topic contains some of the operational notes and known issues that are associated with BMR in NetBackup 11.0.

After PIT restore, "The host ID does not exist" error appears

After a point in time (PIT) restore operation (which may include either a **Full File System** restore or a **BMR restore**), the error message **The host ID does not exist** appears.

In this scenario, a full backup is taken when a SERVICE_USER as root/administrator account is configured. This account takes the backup of the NetBackup installed binaries with root/administrator ownership. Before a restore, SERVICE_USER is configured with an account other than root/administrator, and then an incremental

backup is taken where the service user is backed up as part of `bp.conf`. In a PIT restore operation with the incremental backup, the `SERVICE_USER` entry gets restored. However, the binaries are restored in the root account ownership.

Workaround:

After changing the service user, you must take a full backup, whether it is a **MS-Windows\Standard Policy** for File System or **BMR** policy configuration.

AIX BMR Shared Resource Tree (SRT) creation fails in NetBackup 11.0

The following error message appears on the command-line console while creating the Shared Resource Tree (SRT):

```
lslpp: Fileset libc++.rte not installed.
```

```
ERROR: Could not resolve major version level from [].
```

```
ERROR: Detected an attempt to install incorrect platform and/or  
operating system and version client binaries on  
falcna12c3.abcus.abc.com.
```

```
Required AIX OS libc++.rte runtime is not present.
```

```
File /tmp/install_trace.xxxxxxxx contains a trace of this  
install. That file can be deleted after you are sure the  
install was successful.
```

```
Do you want to retry install of Veritas NetBackup Client? (y/n) [y] :
```

During AIX BMR SRT creation, when you install NetBackup 11.0 client, you must have `libc++` runtime version 16.1.0.7 or later inside the SRT. If a `libc++` runtime version is not present in the AIX BMR SRT when you create it, then the NetBackup 11.0 client installation fails, which leads to the SRT creation failure.

Workaround:

See this technical article for workaround details:

https://www.veritas.com/support/en_US/article.100060647

NetBackup services may not start automatically after BMR restore on a Linux client

NetBackup services may not start automatically after a Bare Metal Restore (BMR) restore operation is performed on the Linux client.

The NetBackup services may run for a while after a BMR restore operation, and the BMR post-restore scripts may complete successfully. Later, however, NetBackup services may stop.

This issue happens only if a service user is different than the root user that is defined on the NetBackup Linux client.

Workaround:

Start the NetBackup services manually on the Linux client. To start the services, run the following command:

```
/usr/opensv/netbackup/bin/bp.start_all
```

NetBackup Cloud Object Store Workload operational notes

This topic contains some of the operational notes and known issues that are associated with the NetBackup Cloud Object Store Workload in version 11.0.

Auto Image Replication (AIR) from NetBackup version 11.0 requires NetBackup 10.2 or later

You cannot run Auto Image Replication (AIR) from a computer with NetBackup version 11.0 to a target computer with a NetBackup version that is earlier than version 10.2.

Workaround:

None. Upgrade the target computer to NetBackup version 10.2 or later.

For Azure, backups fail when an older policy is updated with a new backup host

For Azure, if you update a policy that was created on a NetBackup version prior to 10.3, with a new backup host, backups fail.

The modified form of the queries in version 10.3 causes this issue.

Workaround:

Update all existing queries in the buckets to the new format.

Replicated backups cannot be restored to older NetBackup versions

If you replicate a backup image created on NetBackup 10.3 or later to an older NetBackup version, you cannot restore the buckets or containers having default retention enabled using the older version of NetBackup.

Workaround:

1. Restore with NetBackup version 10.3 or later.
2. Replicate the image to NetBackup version 10.3 or later.

Backup jobs become unresponsive and consume significant space on the temporary staging location.

NetBackup Cloud object store data protection feature uses the `ListObjects S3` API to iterate over the list of objects to further read and back up the objects in a bucket. The `ListObjects S3` API returns up to 1000 objects per request in lexicographical order, based on their key names and the `NextContinuationToken`. This `NextContinuationToken` is used for pagination. For example, for a `ListObjects S3` API call, to get the next set of 1000 objects and a new `NextContinuationToken` is used to get the subsequent page.

For certain Cloud object store providers, like Hitachi, the `NextContinuationToken` does not work correctly if the object names contain certain special characters, potentially hinders backup performance.

This behavior disrupts the `cos_sqlite` database that NetBackup uses in the temporary staging area. This database stores the object list for a backup job that is in progress. Because of this disruption, the `cos_sqlite` database drastically grows in size, filling up the disk space in the temporary staging area. This leads the NetBackup jobs to slow down and eventually fail.

Workaround:

1. Reconfigure the `NextContinuationToken` in the `ListObjects S3` API calls to return the proper value for each batch.
2. Cancel the existing backup job and retry backup.

NetBackup for VMware operational notes

In NetBackup 10.5 and later, VMware server asset discovery in the Web UI needs a backup host at NetBackup 10.5 or later

Starting with NetBackup 10.5, the host that is used for credential validation and asset discovery of a VMware server needs to be at version 10.5 or later. Otherwise, the discovery fails. By default, this value is the primary server. If you continue to use the primary server, no changes are needed.

NetBackup NAS operational notes

NetBackup Snapshot Manager and NDMP V4 snapshot extension can make snapshots of client data on a NAS host. A NAS snapshot is a point-in-time disk image. You can retain the Snapshots on the disk for any duration. Using the Instant Recovery feature in NetBackup, you can efficiently restore the data from the disk. Broadly, in NetBackup, snapshot-based data protection for NAS can be performed using NAS-Data-Protection policy and NDMP policy. This topic contains some of the operational notes and known issues that are associated with NetBackup NAS in NetBackup 11.0.

Parent directories in the path of a file may not be present in an NDMP incremental image

An issue can occur if a NetBackup Network Data Management Protocol (NDMP) backup policy is configured with the directive `set type=tar` in the backup selection. Parent directories in the path of a file that an incremental NDMP backup saves may not be present in the backup image. For more information on this issue, refer to the following tech note on the Cohesity Support website:

<http://www.veritas.com/docs/000095049>

NetBackup for OpenStack operational notes

NetBackup for OpenStack is an optional NetBackup application. This topic contains some of the operational notes and known issues that are associated with NetBackup for OpenStack in NetBackup 11.0.

NetBackup for OpenStack Datamover API (NBOSDMAPI) service times out in the haproxy connection

The NBOSDMAPI service in the haproxy connection may time out due to slow response time in highly-used environments.

The default haproxy configuration works fine with most of the environments. When the time-out issue with the NBOSDMAPI is observed, customize the haproxy configuration. For more information, see the following tech note:

https://www.veritas.com/support/en_US/article.100052551

Instance volumes in the incremental backups cannot be mounted

Newly added disks of an instance for incremental backup get backed up successfully but these disks cannot be mounted.

Restored VMs have blank metadata config_drive attached

For every restore, the metadata `config_drive` is set as blank value.

Workaround:

Delete metadata `config_drive` or set the desired value.

No operation is permitted in insecure way for SSL-enabled Keystone URL

For SSL enabled OpenStack, Backup and Restore jobs fail with missing TLS CA certificate bundle error.

Workaround:

Configure the NetBackup appliance with OpenStack CA provided.

Or provide OpenStack CA to `/etc/nbosjm/ca-chain.pem`

NBOS Backups and NBOS Backup Admin tabs disappear from Horizon UI after stack is updated

After you update the OpenStack stack, the **NBOS Backups** and **NBOS Backup Admin** tabs disappear from the NetBackup for OpenStack Horizon UI. The stack update incorrectly removes the endpoints from OpenStack. To resolve this issue, run the script `register_nbopenstack_service.sh`, which is provided with the installation package. This script registers the NetBackup for OpenStack service so

that the **NBOS Backups** and **NBOS Backup Admin** tabs appear on the Horizon UI.

For more information, see the *NetBackup for OpenStack Administrator's Guide*.

NetBackup Cloud workload operational notes

This topic contains some of the operational notes and known issues that are associated with the NetBackup Cloud workload in version 11.0.

VMs and other OCI assets with CMK-encrypted disks are marked as deleted in NetBackup UI.

If the KMS service at the OCI provider is down, the VMs and other assets with CMK-encrypted disks are marked as deleted in NetBackup UI. Once the KMS service is restored, the deleted status is cleared after a successful plug-in level discovery, and the assets or VMs become eligible for backup. No further action is required.

Workaround:

Ensure that the KMS service at the OCI provider-end is running.

NetBackup internationalization and localization operational notes

This topic contains some of the operational notes and known issues that are associated with internationalization, localization, and non-English locales in NetBackup 11.0.

Support for localized environments in database and application agents

Non-ASCII characters are supported in the following fields for NetBackup database and application agents.

- Oracle:
Datafile path, Tablespace name, TNS path
- DB2:
Datafile path, Tablespace name
- SAP:
English SAP runs on localized OS. (No specific SAP fields are localized.)

- Exchange:
Mailboxes, Mails, Attachment names and contents, Public folders, Contacts, Calendar, Folders and Database paths
- SharePoint:
Site Collection Names, Libraries and lists within the site collection
- Lotus Notes:
Emails data /.nsf files
- Enterprise Vault (EV) agent:
Vault store, Partitions, Data
- VMWare:
Username, Password, VM display name, DataCenter, Folder, Datastore, Resource pool, VApp, Network name, VM disk path

Certain NetBackup user-defined strings must not contain non-US ASCII characters

The following NetBackup user-defined strings must not contain non-US ASCII characters:

- Host name (primary server, media server, Enterprise Media Manager (EMM) server, volume database host, media host, client, instance group)
- Policy name
- Policy KEYWORD (Windows only)
- Backup, Archive, and Restore KEYWORD (Windows only)
- Storage unit name
- Storage unit disk pathname (Windows only)
- Robot name
- Device name
- Schedule name
- Media ID
- Volume group name
- Volume pool name
- Media description
- Vault policy names
- Vault report names

- BMR Shared Resource Tree (SRT) name
- Token name
- Storage lifecycle policy (SLP) names

Localized environments in NetBackup for Windows and UNIX

NetBackup in Mixed UNIX Environments

- NetBackup supports environments with different UNIX versions, but the system locales must be identical across platforms.
- Using different locales across UNIX-based systems may cause non-ASCII file names and folder names to display incorrectly and the NetBackup features may not work as expected.

Mixing Non-English Versions of Windows and UNIX Platforms

- Mix non-English Windows and Unix versions only if the primary and media servers are NetBackup appliances or system locales that are set to UTF-8.
- Differences in the encoding and architecture of the operating system may cause non-ASCII file names to display incorrectly and the NetBackup features may not work as expected.

About SORT for NetBackup Users

This appendix includes the following topics:

- [About Cohesity Services and Operations Readiness Tools](#)

About Cohesity Services and Operations Readiness Tools

Cohesity Services and Operations Readiness Tools (SORT) is a robust set of standalone and web-based tools that support enterprise products. For NetBackup, SORT provides the ability to collect, analyze, and report on host configurations across UNIX/Linux or Windows environments. This data is invaluable when you want to assess if your systems are ready for an initial NetBackup installation or for an upgrade.

Access SORT from the following webpage:

<https://sort.veritas.com/netbackup>

Once you get to the SORT page, more information is available as follows:

- **Installation and Upgrade Checklist**
Use this tool to create a checklist to see if your system is ready for a NetBackup installation or an upgrade. This report contains all the software and the hardware compatibility information specific to the information provided. The report also includes product installation or upgrade instructions, as well as links to other references.
- **Hot fix and EEB Release Auditor**
Use this tool to find out whether a release that you plan to install contains the hot fixes that you need.

- **Custom Reports**

Use this tool to get recommendations for your system.

- **NetBackup Future Platform and Feature Plans**

Use this tool to determine what items you can expect to see replaced with newer and improved functionality. The tool also provides insight about what items you can expect to see discontinued without replacement. Some of these items include certain NetBackup features, functionality, 3rd-party product integration, other product integration, applications, databases, and the OS platforms.

Help for the SORT tools is available. Click **Help** in the upper right corner of the SORT home page. You have the option to:

- Page through the contents of the help similar to a book
- Look for topics in the index
- Search the help with the search option

NetBackup installation requirements

This appendix includes the following topics:

- [About NetBackup installation requirements](#)
- [Required operating system patches and updates for NetBackup](#)
- [NetBackup 11.0 binary sizes](#)

About NetBackup installation requirements

This release of NetBackup may contain changes to the minimum system requirements and procedures that are required for installation. These changes affect the minimum system requirements for both Windows and UNIX platforms. Much of the installation instructional information in the *NetBackup Release Notes* is provided for convenience. Detailed installation instructions are found in the *NetBackup Installation Guide* and the *NetBackup Upgrade Guide*.

See [“NetBackup installation and upgrade operational notes”](#) on page 28.

- Before you upgrade the NetBackup server software, you must back up your NetBackup catalogs and verify that the catalog backup was successful.
- Before upgrading to NetBackup 11.0, you must ensure that you have the free disk space that is twice the size of the NetBackup relational database. That means for default installations of the primary server, you are required to have that amount of free space on the file system containing the `/usr/opensv/db/data` (UNIX) or `<install_path>\Veritas\NetBackupDB\data` (Windows) directories. If you have changed the location of some of the files in either of these directories, free space is required in those locations equal to or greater than the size of the

files in those locations. Refer to the *NetBackup Administrator's Guide, Volume I* for more information about storing NBDB database files in alternate locations.

Note: This free disk space requirement assumes that you have already performed the best practice of completing a successful catalog backup before you begin the upgrade.

- Primary and media servers must have a minimum soft limit of 8000 file descriptors per process for NetBackup to run correctly.
 For more information about the effects of an insufficient number of file descriptors, refer to the following articles on the Cohesity Support website:
<http://www.veritas.com/docs/000013512>
- NetBackup primary and media servers exchange server version information at startup, and every 24 hours. This exchange occurs automatically. During startup after an upgrade, the upgraded media server uses the `vmd` service to push its version information to all of the servers that are listed in its server list.
- Cohesity recommends that you have the primary server services up and available during a media server upgrade.
- All compressed files are compressed using `gzip`. The installation of these files requires `gunzip` and `gzip`, so make sure that they are installed on the computer before you attempt to install NetBackup. For all UNIX platforms except HP-UX, the binaries are expected to be in `/bin` or `/usr/bin` and that directory is a part of the root user's `PATH` variable. On HP-UX systems, the `gzip` and `gunzip` commands are expected to be in `/usr/contrib/bin`. Installation scripts add that directory to the `PATH` variable. These commands must be present to have successful UNIX installations.

Required operating system patches and updates for NetBackup

NetBackup server and client installations are only supported on a defined set of operating systems (OSs) that are listed in the [NetBackup Compatibility Lists for All Versions](#). Most OS vendors provide patches, updates, and service packs (SPs) for their products. The best practice of NetBackup Quality Engineering is to test with the latest SP or update level of the OS when a platform is tested. Therefore, NetBackup is supported on all vendor GA updates (n.1, n.2, and so on) or SPs (SP1, SP2, and so on). However, if a known compatibility issue exists on a specific SP or updated OS level, this information is identified in the compatibility lists. If no

such compatibility issues are noted, Cohesity recommends that you install the latest OS updates on your servers and clients before you install or upgrade NetBackup.

The most up-to-date required OS patch information for NetBackup 11.0 and other NetBackup releases can be found on the [Cohesity Services and Operational Readiness Tools \(SORT\) website](#) and in the [NetBackup Compatibility Lists for All Versions](#). The compatibility lists include information about the minimum OS level that is required to support a minimum NetBackup version in the latest major release line. In some cases, new releases of NetBackup may require specific vendor OS updates or patches.

See [“About NetBackup compatibility lists and information”](#) on page 49.

See [“About Cohesity Services and Operations Readiness Tools”](#) on page 41.

NetBackup 11.0 binary sizes

The following table contains the approximate binary sizes of the NetBackup 11.0 primary server, media server, and client software for the various supported operating systems. These binary sizes indicate the amount of disk space occupied by the product after an initial installation. Note that for the sizes listed in the table, 1 MB equals 1024 KB.

Note: The Java GUI is optional on all primary servers, media servers, and client computers. The JRE packages are required on primary servers, but optional for most media servers and client computers. The package sizes were calculated with the Java GUI and JRE included.

Note: The table lists only the supported operating systems. For up-to-date information about the specific operating system versions that NetBackup currently supports, check the Installation and Upgrade Checklist on the Services and Operations Readiness Tools (SORT) website, or the [NetBackup Compatibility List for all Versions](#).

Table B-1 Binary sizes

OS	CPU Architecture	64-bit client	64-bit server	Notes
AIX	64-bit client	1485 MB	No longer supported	
Alma Linux		1798 MB		

Table B-1 Binary sizes (*continued*)

OS	CPU Architecture	64-bit client	64-bit server	Notes
Amazon Linux		1798 MB		
BC-Linux		1798 MB		
Canonical Ubuntu	x86-64	1798 MB		
CentOS	x86-64	1798 MB	6775 MB	
Debian GNU/Linux	x86-64	1798 MB		
Kylin Linux Advanced Server 10.0		1798 MB		
NeoKylin Linux Advanced Server		1798 MB		
Oracle Linux	x86-64	1798 MB	6775 MB	
Red Hat Enterprise Linux Server	POWER 8/9 client	500 MB		
Red Hat Enterprise Linux Server	x86-64	1798 MB	6775 MB	
Red Hat Enterprise Linux Server	z/Architecture	682 MB	No longer supported	Media server or client compatibility only.
Rocky Linux client		1798 MB		
Solaris	SPARC	1085 MB	No longer supported	
Solaris	x86-64	1033 MB	No longer supported	

Table B-1 Binary sizes (*continued*)

OS	CPU Architecture	64-bit client	64-bit server	Notes
SUSE Linux Enterprise Server	POWER 8/9 client	499 MB		
SUSE Linux Enterprise Server	x86-64	1405 MB	6197 MB	
SUSE Linux Enterprise Server	z/Architecture	706 MB	No longer supported	Media server or client compatibility only.
Windows	x86-64	1511 MB	5862 MB	Covers all compatible Windows x64 platforms.

The following space requirements also apply to some NetBackup installations on Windows:

- If you install NetBackup in a custom location on a Windows system, some portions of the software are installed on the system drive regardless of the primary application folder location. The space that is required on the system drive generally accounts for 40 to 50 percent of the total binary size that is listed in the table.
- If you install NetBackup server on a Windows cluster, some portions of the software are installed on the cluster shared disk. Note, the space that is required on the cluster shared disk is in addition to the binary size that is listed in the table. The additional required space is equivalent to 15 to 20 percent of the total binary size.

NetBackup compatibility requirements

This appendix includes the following topics:

- [About compatibility between NetBackup versions](#)
- [About NetBackup compatibility lists and information](#)
- [About NetBackup end-of-life notifications](#)

About compatibility between NetBackup versions

You can run mixed versions of NetBackup between primary servers, media servers, and clients. This back-level support lets you upgrade NetBackup one server at a time, which minimizes the effect on overall system performance.

NetBackup supports only certain combinations of servers and clients. In mixed version environments, certain computers must be the highest version. Specifically, the version order is: NetBackup Snapshot Manager computer, primary server, media server, and then clients. For example, the scenario that is shown is supported: 10.2 NetBackup Snapshot Manager > 10.0 primary server > 9.0 media server > 8.3.0.1 client.

All NetBackup versions are four digits long. The NetBackup 10.0 release is the 10.0.0.0 release. Likewise, the NetBackup 9.1 release is the NetBackup 9.1.0.0 release. For the purposes of supportability, the fourth digit is ignored. A 9.1 primary server supports a 9.1.0.1 media server. An example of what is not supported is a 9.1 primary server with a 10.0 media server.

The NetBackup catalog resides on the primary server. Therefore, the primary server is considered to be the client for a catalog backup. If your NetBackup configuration

includes a media server, it must use the same NetBackup version as the primary server to perform a catalog backup.

For complete information about compatibility between NetBackup versions, refer to the [Cohesity SORT website](#).

Review the [End of Support Life](#) information available online.

About NetBackup compatibility lists and information

The *NetBackup Release Notes* document contains a great deal of the compatibility changes that are made between NetBackup versions. However, the most up-to-date compatibility information on platforms, peripherals, drives, and libraries can be found on the Cohesity Operations Readiness Tools (SORT) for NetBackup website.

See “[About Cohesity Services and Operations Readiness Tools](#)” on page 41.

For NetBackup, SORT provides an Installation and Upgrade Checklist report as well as the ability to collect, analyze, and report on host configurations across your environments. In addition, you can determine which release contains the hot fixes or EEBs that you may have installed in your environment. You can use this data to assess whether your systems are ready to install or upgrade to a given release.

NetBackup compatibility lists

In addition to SORT, Cohesity has made available a variety of compatibility lists to help customers quickly reference up-to-date compatibility information for NetBackup:

[NetBackup Compatibility Lists for All Versions](#)

Note: For information about which versions of NetBackup are compatible with each other, select a **Software Compatibility List (SCL)**, and then select **Compatibility Between NetBackup Versions** from within the SCL.

About NetBackup end-of-life notifications

Cohesity is committed to providing the best possible data protection experience for the widest variety of systems: platforms, operating systems, CPU architecture, databases, applications, and hardware. Cohesity continuously reviews NetBackup system support. This review ensures that the proper balance is made between maintaining support for existing versions of products, while also introducing new support for the following:

- General availability releases

- Latest versions of new software and hardware
- New NetBackup features and functionality

While Cohesity continually adds support for new features and systems, it may be necessary to improve, replace, or remove certain support in NetBackup. These support actions may affect older and lesser-used features and functionality. The affected features and functionality may include support for software, OS, databases, applications, hardware, and 3rd-party product integration. Other affected items may include the products that are no longer supported or nearing their end-of-support life with their manufacturer.

Cohesity provides advance notification to better help its customers to plan for upcoming changes to the support status of the various features in NetBackup. Cohesity intends to list older product functionality, features, systems, and the 3rd-party software products that are no longer supported in the next release of NetBackup. Cohesity makes these support listings available as soon as possible with a minimum of 6 months where feasible before major releases.

Using SORT

Advance notification of future platform and feature support including end-of-life (EOL) information is available through a widget on the Cohesity Services and Operations Readiness Tools (SORT) for NetBackup home page. The NetBackup Future Platform and Feature Plans widget on the SORT for NetBackup home page can be found directly at the following location:

<https://sort.veritas.com/nbufutureplans>

NetBackup end-of-support-life (EOSL) information is also available at the following location:

https://sort.veritas.com/eosl/show_matrix

See “[About Cohesity Services and Operations Readiness Tools](#)” on page 41.

About changes in platform compatibility

The NetBackup 11.0 release may contain changes in support for various systems. In addition to using SORT, you should make sure to review the *NetBackup Release Notes* document and the NetBackup compatibility lists before installing or upgrading NetBackup software.

See “[About new enhancements and changes in NetBackup](#)” on page 10.

<http://www.netbackup.com/compatibility>

Other NetBackup documentation and related documents

This appendix includes the following topics:

- [About related NetBackup documents](#)

About related NetBackup documents

Cohesity releases various guides that relate to NetBackup software. Unless otherwise specified, the NetBackup documents can be downloaded in PDF format or viewed in HTML format from the [NetBackup Documentation Landing Page](#).

Not all documents are published with each new release of NetBackup. In the guides, you may see references to other documents that were not published for NetBackup 11.0. In these cases, refer to the latest available version of the guide.

Note: Cohesity assumes no responsibility for the correct installation or use of PDF reader software.

All references to UNIX also apply to Linux platforms unless otherwise specified.
